SECTION 000101
PROJECT TITLE PAGE

PROJECT MANUAL

FOR

TROY SCHOOL DISTRICT

TSD BP#5 - ADMINISTRATION BUILDING RENOVATION

BID PACKAGE # 5

SEALED BID # 2526-03

Barton Malow
BUILDERS

4400 LIVERNOIS ROAD
TROY, MICHIGAN, 48098

DATE: 07-22-2025

PREPARED BY:

BARTON MALOW BUILDERS

END OF SECTION 000101

SECTION 000102
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Project: TSD BP#5 - Administration Building Renovation
B. Bid Package Number: 5
C. Sealed Bid Number: 2526-03
D. Located at: 4400 Livernois Road
E. Troy, Michigan, 48098
F. Owner: Troy School District
G. Barton Malow's Project Number: 230018-5.
H. 1140 Rankin Dr.
I. Troy, MI, 48083
J. Construction Manager: Barton Malow Builders
K. Barton Malow Builders Project Number: 230018-5
L. 26500 American Drive
M. Southfield, MI, 48034
N. Architect: TMP Architecture, Inc.
O. Architect's Project Number: 22106
   1191 W Square Lake Rd
   Bloomfield Hills, MI, 48302
   (248) 338-4561
P. The Troy School District , hereinafter referred to as Owner:
Q. Owner's Project Manager: Michelle Kerns

1.02 NOTICE TO PROSPECTIVE DESIGN-BUILDERS

A. These documents constitute an invitation to prospective Design-Builders to submit qualifications and proposals for the design and construction of the project described below.

1.03 PROJECT DESCRIPTION

A. Summary Project Description: Administration Building Renovation
B. Contract Scope:
C. Contract Terms: Lump sum (fixed price, stipulated sum).

1.04 PROJECT CONSULTANTS

A. The Architect and Engineer, hereinafter referred to as Architect/Engineer: TMP Architecture, Inc..
   1. Address: 1191 W Square Lake Rd
   2. City, State, Zip: Bloomfield Hills, MI 48302
   3. Phone/Fax: (248) 338-4561

1.05 PROCUREMENT TIMETABLE

A. RFP Documents Available: https://app.buildingconnected.com/public/55a1292ff1a96708004a19dc.
B. Pre-Construction Meeting: 07-29-2025 12:30 PM at 4400 Livernois Rd, Troy, MI, 48098 .

C. Last Request for Information Due: 7 days prior to due date of proposals.

D. Proposal Due Date: 07-22-2025, before 2 PM local time.

E. Proposal Opening: Same day, 2:30 PM local time.

F. Post-Bid Interviews: 08-13-2025-08-15-2025.

G. Notice of Award: 09-16-25.

H. Proposals May Not Be Withdrawn Until: 90 days after due date.

I. Desired Construction Start: Not later than 11-4-2025.

J. Desired Substantial Completion Date: Not later than 03-16-2026.

K. Final Completion date is critical due to requirements of Owner's operations.

L. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

1.06 PROCUREMENT DOCUMENTS

A. Availability of Documents: Complete sets of procurement documents may be viewed & downloaded via Building Connected.

B. Documents may be viewed at:
https://app.buildingconnected.com/public/55a1292ff1a96708004a19dc

C. Documents are on display at the offices of the following construction plan rooms:
1. CAM
2. CAM and Dodge
3. Building Connected and Barton Malow Plan Room

1.07 BID SECURITY

A. Bids shall be accompanied by a security deposit as follows:
1. Bid Bond of a sum no less than 5 percent of the Bid Amount on AIA A310 Bid Bond Form.
2. Certified check in the amount of a sum no less than 5 percent of the Bid Amount

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 000102

SECTION 000103
PROJECT DIRECTORY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Identification of project team members and their contact information.

1.02 OWNER:

A. Name: Troy School District
   1. Address Line: 4400 Livernois Rd, Troy, MI, 48098 .
   2. City: Troy
   3. State: MI
   4. Zip Code: 48098

1.03 CONSULTANTS:

A. TMP Architecture, Inc.: Design Professional of Record. All correspondence from Construction Manager regarding construction documents authored by Architect/Engineer's consultants will be through Barton Malow Builders, unless alternate arrangements are mutually agreed upon at pre-construction meeting.
   1. Company Name: TMP Architecture, Inc..
      a. Address Line 1: 1191 W Square Lake Rd.
      b. City, State Zip Code: Bloomfield Hills, MI 48302.
      c. Telephone: (248) 338-4561.
   2. Primary Contact: John Waldrop.
      a. Title: Vice President
      b. Name: John Waldrop.

B. Mechanical Engineering Consultant
   1. Company Name: Peter Basso Associates Inc.
      a. Address: 5145 Livernois Road, Suite 100, Troy, MI, 48098
      b. Phone: 248-879-5666
   2. Primary Contact
      a. Title: Project Manager
      b. Katie Hentrich

C. Electrical Engineering Consultant
   1. Company Name: Peter Basso Associates Inc.
      a. Address: 5145 Livernois Road, Suite 100, Troy, MI, 48098
      b. Phone: 248-879-5666
   2. Primary Contact
      a. Title: Project Manager
      b. Katie Hentrich

1.04 BARTON MALOW:

A. Company Name: Barton Malow Builders
   1. Address Line 1: 26500 American Drive
   2. City, State & Zip Code: Southfield, Mi 48034

B. Primary Contact:
   1. Name: Adam Lewis.
   2. Email: adam.lewis@bartonmalow.com.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 000103

SECTION 000110
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END OF SECTION 000110

SECTION 001113
ADVERTISEMENT FOR BIDS

FROM:

1.01 BARTON MALOW (HEREINAFTER REFERRED TO AS BARTON MALOW BUILDERS):

A. Address:

1140 Rankin St

Troy, MI, 48083

1.02 AND THE ARCHITECT/ENGINEER (HEREINAFTER REFERRED TO AS TMP ARCHITECTURE, INC.):

A. Address:

1191 W Square Lake Rd
Bloomfield Hills, MI 48302

1.03 AND THE OWNER (HEREINAFTER REFERRED TO AS TROY SCHOOL DISTRICT:

1.04 DATE: 07-22-2025

1.05 TO: POTENTIAL BIDDERS

1.06 TO: POTENTIAL BIDDERS

A. Barton Malow Builders requests Bid Proposals on behalf of Owner for the construction of TSD BP#5 - Administration Building Renovation for Bid Package # 5 work. Bid Proposals will be received:
   1. By electronic, physical hand, or mail delivery by 2 pm local standard time on 07-22-2025.
   2. Electronic bids are to be submitted via Building Connected.
      a. A bid opening will be held via live stream and physical bid opening.
         1) Live stream can be viewed at https://tinyurl.com/a54txu7j .
         2) Physical Bid Opening will be at:
            (a) 4400 Livernois Road
            (b) Project Location Address 2
            (c) Troy Michigan 48098
   3. Alternatively, Bidder's may submit a paper bid form in person at:
      a. To the attention of:
         1) Barton Malow Builders
         2) 4400 Livernois Road
         3) Project Location Address 2
         4) Troy , Michigan 48098
         5) Proposals must be sealed with Bidder's name on the outside of the envelope and designated as follows:
            Sealed Proposal Bid # 2526-03
            Project Name: TSD BP#5 - Administration Building Renovation
            Bid Package Number:5
            Bid Category:
            Subcontractor/Vendor Name, Address, Phone Number

B. Proposals shall be based on the requirements set forth in the Barton Malow Builders project manual dated Design Professional's Project Number and construction bidding documents prepared by TMP Architecture, Inc. project drawings and specifications dated 07-22-2025 for:
   1. Bid Category: Demolition
   2. Bid Category: Architectural/General Trades
   3. Bid Category: Rough Carpentry
   4. Bid Category: Aluminum Entrances
   5. Bid Category: Flooring

6. Bid Category: Painting
7. Bid Category: Mechanical
8. Bid Category: Electrical

C. Bidding Documents will be available for examination and distribution on or after 12 am local standard time on 07-22-2025 . Examination may be made at: Barton Malow Builders's Site Office, Building Connected, or CAM.

D. Building Connected Link to copy & paste:
https://app.buildingconnected.com/public/55a1292ff1a96708004a19dc

E. BuildingConnected Link Click Here

F. Accepted Bidders will be required, as a condition precedent to award of Contract, to furnish, satisfactory Performance Bond and Payment Bond and Certificates of Insurance as required in the Project Manual

G. Project is subject to state sales and/or use taxes and Bidder is required to include such taxes in its Bid Proposal.

H. Project is not subject to prevailing wage rates.

I. Barton Malow Builders has been contracted by the Owner in the capacity of Construction Manager for the Project, and shall act as representative of the Owner to the extent required/allowed under its Owner contract.

J. A optional pre-bid conference and site visit/tour will be held for all trades on 07-29-2025 am local standard time at: July 29th, 2025 @ 12:30 PM. All Bidders are responsible for attendance at the pre-bid conference. Pre-bid conference minutes will be distributed to all attendees and invited bidders. Information disclosed in the pre-bid conference minutes will be considered part of the Bidding and Contract Documents.

TSD BP#5 - Administration Building Renovation
4400 Livernois Road
Troy , Michigan 48098

K. Barton Malow Builders Project Number: 230018-5

L. Bidders may be required to be pre-qualified to the requirements described in Document 002113 - Instructions to Bidders for this bid package by Barton Malow Builders before document distribution or receipt of bids per the Instructions to Bidders. Barton Malow Builders reserve the right to request qualification forms or additional information from any Bidder before issuing Bidding Documents, receiving Bid Proposals or awarding the Agreement.

M. Refer to other bidding requirements described in Document 002113 - Instructions to Bidders and Document 003100 - Available Project Information.

N. Bid Proposals shall be on forms furnished by Barton Malow Builders via Building Connected. Bidders shall not withdraw or revoke Bid Proposals for a period of 90 Days after date for receipt of Bid Proposals.

O. Bidders will be required to submit with their Bid Proposals a Bid Security, in the amount of 5% of base bid, by a qualified surety authorized to do business in the state where the Project is located.

P. Bidders with an Experience Modification Rate (EMR) greater than 1.0 may not be considered for contract award.

Q. The successful bidder will be required to enter into a contract with Troy School District on the AIA Document A132-2019 Standard Form of Agreement between Owner and Contractor, Construction Manager as Advisor Edition.

R. The Owner reserves the right to accept or reject any or all offers.

1.07 SIGNATURE

A. For: Troy School District

B. By: Barton Malow Builders

END OF SECTION 001113

SECTION 002113
INSTRUCTIONS TO BIDDERS

SUMMARY

1.01 DOCUMENT INCLUDES

A. Invitation
   1. Bid Submission

B. Bidding Documents and Contract Documents
   1. Definitions
   2. Contract Documents Identification
   3. Availability
   4. Pre-bid RFI's, Inquiries, and Addenda
   5. Product/Assembly/System Substitutions

C. Site Assessment
   1. Site Examination
   2. Prebid Conference

D. Qualifications
   1. Qualifications
   2. Prequalification
   3. Subcontractors/Suppliers/Others

E. Bid Submission
   1. Submission Procedure

F. Bid Enclosures/Requirements
   1. Consent of Surety
   2. Performance Assurance
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   4. Bid Form Requirements
   5. Fees for Changes in the work
   6. Bid Form Signature
   7. Additional Bid Information
   8. Selection and Award of Alternates

G. Offer Acceptance/Rejection
   1. Duration of Offer
   2. Acceptance of Offer

1.02 RELATED DOCUMENTS

A. Document 011000 - Use of Premises.

B. Document 001113 - Advertisement for Bids.

C. Document 003100 - Available Project Information.

INVITATION

2.01 BID SUBMISSION

A. By making its bid, all bidders represent that:
   1. Bidder has carefully read, reviewed and understands the Bidding Documents and its Bid Proposal is made in accordance therewith.
   2. Bidder’s Bid Proposal is based upon the materials, systems, equipment, terms and conditions required by the Bidding Documents without exception.
   3. Bidder certifies that it:
      a. has visited and examined the project site.

b. has carefully reviewed the Bidding Documents.
c. has compared its examination of the project site with the Bidding Documents.
d. is satisfied as to the condition of the project site, any surface or subsurface obstruction, the actual levels, and all excavating, filling in, removal and demolition, measurements and quantities involved in the Work.
e. is familiar with weather conditions of the Project area.
f. has taken account of all of these factors in preparing and presenting its Bid Proposal.

4. Bidder further certifies that it:
   a. has fully acquainted itself with the character and extent of the Owner's, Barton Malow Builders's and other Contractor's operations in the area of the Work.
   b. has taken account of coordination of operations of others in its construction plans set forth in the Bid Proposal.
5. No change orders will be issued to the Contractor for or on account of costs or expenses occasioned by its failure to comply with the provisions of this paragraph, or by reason of error or oversight on the part of the Contractor, or on account of interferences by the Owner's, Barton Malow Builders's or other contractor's activities.
6. The Bidder, by submitting its Bid Proposal, represents that it has carefully reviewed the project schedule, along with the related requirements of the Project's Schedule and Phasing, and acknowledges that these are acceptable and have been taken into account in preparing its Bid Proposal.

B. Bids signed, executed, and dated will be received via Building Connected before 2 PM. local standard time on 07-22-2025.
   1. Alternatively, Bidder's may, but shall not be obligated to, submit bids electronically via Building Connected. If a Bidder chooses to submit an electronic bid, it assumes any and all risk related to software, connectivity, or any other issues related to the electronic bidding process. It is further recommended, but not required, that any electronic bids be submitted at least two hours before the deadline for bid submission to confirm that the bid has been timely, accurately, and completely received.

C. Offers submitted after the above time shall not be opened.

D. Offers will be opened publicly immediately after the time for receipt of bids.
   1. A live stream bid opening will be held via live stream and a physical bid opening will still be available.

2.02 INTENT

A. The intent of this Bid request is to obtain an offer to perform Work to complete TSD BP#5 - Administration Building Renovation located at 4400 Livernois Road, Troy, Michigan, 48098 for a Stipulated Sum contract, in accordance with Contract Documents.

2.03 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

A. Work of this proposed Contract comprises building construction, including demolition, general construction, finishes, mechanical, and electrical work.

2.04 CONTRACT TIME

A. Perform the work within the Preliminary Project Schedule time stated in section 013216-Schedule & Phasing.

BID DOCUMENTS AND CONTRACT DOCUMENTS

3.01 DEFINITIONS

A. "**Addenda**" means the written and graphic instruments issued by the Architect and/or Barton Malow prior to the execution of the Agreement that modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.

B. "**Agreement**" means the document defined in the Project Manual, including all other documents incorporated by reference in the Agreement.

C. **"An Alternate Bid"** (or **"Alternate"**) is an amount stated in the Bid Proposal to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

D. "**Architect**" means the person or entity listed in section 00030 of the Project Manual and may include professional engineers if so designated.

E. "**Base Bid**" is the sum stated in the Bid Proposal for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which work may be added to or deducted from for sums stated in Alternate Bids.

F. A "**Bidder**" is a person or legal entity that submits a Bid Proposal in conformance with the Bidding Documents. After award of the Agreement, the Bidder will be referred to as the Contractor. All Contractors on this project are considered prime/principal contractors.

G. "**Bid Categories**" are units of work performed by a Contractor and its Subordinate Parties which form part of the total Project. The term "Bid Category" should not be confused with the term "**Technical Section**". Technical Sections of the Specification establish quality and performance criteria, and the Bid Categories designate work scope and assignment.

H. "**Bidding Documents**" means the Bidding Requirements, the Contract Documents, and the Reference Documents collectively.

I. A "**Bid Package**" means a series of Bid Categories that are released for bidding in the same set of Bidding Documents.

J. "**Bidding Requirements**" include the Instructions to Bidders, Information Available to Bidders, and Bid forms and supplements.

K. "**Bid Proposal**" is a complete and properly signed proposal to do the work of an individual Bid Category(ies) for the sums stipulated therein, submitted in accordance with the Bidding Documents.

L. The "**Contract Documents**" consist of all Contracting Requirements set forth in the Project Manual, including, but not limited to, the Contract Forms (the Agreement, Performance/Payment Bonds, and Certificates), the Conditions of the Contract (General, Supplementary or Special), the General Requirements of the Project Manual, the Technical Specifications, Drawings, and all other documents incorporated into the Agreement by reference, all Addenda issued prior to and all modifications issued after execution of the Agreement.

M. **"Contractor"** means the entity to which the Owner issues a contract for performance of the Work.

N. "**Day**" means calendar day, unless otherwise defined in the particular Contract Document.

O. "**Hazard Communications Program**" means Contractor's own hazard communications program that will govern project safety for its work. The Hazard Communications Program must be submitted to Barton Malow Builders by each successful Bidder before commencing work and be no less stringent than the Barton Malow Builders Safety Manual.

P. "**Hazardous Materials**" means asbestos; asbestos containing material; lead (including lead-based paint); PCB; molds; any other chemical, material, or substance subject to regulation as a hazardous material, hazardous substance, toxic substance, or otherwise, under applicable federal, state, or local law; and any other chemical, material, or substance that may have adverse effects on human health or the environment.

Q. "**Lowest Responsive, Responsible Bidder**" means a Bidder who's Bid Proposal conforms in all material aspects to the contract documents, terms, conditions, specifications and requirements of the solicitations and who has demonstrated the ability to properly perform the Work.

R. "**MBE/WBE/SBE**" means Minority Owned Business Enterprise/Women Owned Business Enterprise/ Small Business Enterprise as these terms are defined in the applicable ordinances and laws governing the Project.

S. "**Project Safety Program**" means the Contractor's site safety program that will govern project safety for its work. The Project Safety Program must be submitted to Barton Malow Builders by each successful Bidder before commencing work and be no less stringent than the Barton Malow Builders Safety Manual.

T. "**Reference Documents**" are drawings that do not form a part of the Contract Documents and are included in the Bidding Documents as a courtesy only. The Bidder is not entitled to rely upon the accuracy of the Resource Drawings and they are not warranted to be correct or reliable by the Owner or Barton Malow Builders. The Bidder is expected to have conducted its own investigation into the reliability or accuracy of any Reference Documents, and no adjustment to the Base Bid shall be made if such request arises or results from the Bidder's failure to conduct such investigation.

U. "**Contractor**" means the entity to whom Troy School District issues a contract for the Work.

V. "**Subordinate Parties**" means all of Contractor's employees, workers, laborers, agents, consultants, suppliers or subcontractors, at any tier, who perform, assist with, or otherwise are involved in any of the Work.

W. A "**Unit Price**" is an amount stated in the Bid Proposal as a price per unit of measurement for materials or services as described in the Bidding Documents or in the proposed Contract Documents.

X. The "**work**" includes all work and responsibilities performed or to be performed by Contractor under the Contract Agreement.

Y. Bid Documents: Contract Documents supplemented with Invitation To Bid, Instructions to Bidders, Information Available to Bidders, Bid Form Supplements To Bid Forms and Appendices identified.

3.02 CONTRACT DOCUMENTS IDENTIFICATION

A. Contract Documents are identified as Barton Malow Builders Project Manual Project Number: 230018-5, as prepared by Barton Malow Builders, Architect's Drawings & Specifications Project Number: 22106, as prepared by TMP Architecture, Inc. and with contents as identified in the Table of Contents.

3.03 AVAILABILITY

A. Bid documents may be obtained via:

B. Building Connected

C. Bid Documents are made available only for the purpose of obtaining Bid Proposals for this project. Their use does not grant a license for other purposes.

D. Bidders shall use complete sets of Bidding Documents in preparing Bid Proposals. Neither the Owner, CM nor the Architect shall be responsible for errors, omissions or misinterpretations resulting from the Bidder's use of partial sets of Bidding Documents.

3.04 EXAMINATION

A. Bid Documents may be viewed at the office of Owner at 1140 Rankin Dr. Troy, MI, 48083

B. Bid Documents may be viewed at:
   1. Copy and paste link in browser:
      a. https://app.buildingconnected.com/public/55a1292ff1a96708004a19dc

C. Bid Documents are on display at the offices of the following construction plan rooms:
   1. CAM
   2. Dodge

3. Building Connected

D. Upon receipt of Bid Documents verify that documents are complete. Notify Barton Malow Builders should the documents be incomplete.

E. Immediately notify Barton Malow Builders in writing upon finding discrepancies or omissions in the Bid Documents.

3.05 PRE-BID RFI'S, INQUIRIES, AND ADDENDA

A. Bidder shall promptly notify Barton Malow Builders in writing of all ambiguities, inconsistencies, or errors that it may discover upon examination of the Bidding Documents or upon examination of the Project site and local conditions. Bidders requesting clarification or interpretation of the Bidding Documents shall make a written request, which shall reach Barton Malow Builders at least 7 days prior to the date for receipt of Bid Proposals. Direct all questions to:

B. Barton Malow Builders Representative Name: Adam Lewis, email adam.lewis@bartonmalow.com , telephone (248) 953-5682.

C. Addenda may be issued during the bidding period. All Addenda become part of Contract Documents. Include resultant costs in the Bid Amount.

D. Any interpretation, correction, or change of the Bidding Documents will be made by Addendum and/or Bid Clarification. Interpretations, corrections, or changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon such interpretations, corrections and changes.

E. Addenda and/or Bid Clarifications will be distributed to all who are known by CM to have received a complete set of Bidding Documents. Copies of Addenda and/or Bid Clarifications will be made available for inspection wherever Bidding Documents are on file for that purpose.

F. No Addenda or Bid Clarifications will be issued later than 5 days prior to the date for receipt of Bids except an Addendum or Bid Clarification withdrawing or postponing the request for Bid Proposals.

G. Verbal answers are not binding on any party.

H. Clarifications requested by bidders must be in writing not less than 10 days before date set for receipt of bids.

3.06 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

A. General Requirements for Substitution Requests:

B. Substitution Request Form:

C. Review and Acceptance of Request:

SITE ASSESSMENT

4.01 SITE EXAMINATION

A. Examine the project site before submitting a bid.

B. A visit to the project site has been arranged for Bidders as follows: During the pre-bid meeting on 07-29-2025.

4.02 PRE-BID CONFERENCE

A. A Bidders Conference has been scheduled for 10 a.m. on 07-29-2025 at the location of 4400 Livernois Rd, Troy, MI, 48098.

B. All Contract bidders are invited.

C. Representatives of Architect/Engineer and Owner may be in attendance.

D. Summarized minutes of this meeting will be circulated to attendees. These minutes will form part of Contract Documents.

E. Information relevant to the Bid Documents will be recorded and issued to Bid Document recipients via Building Connected.

QUALIFICATION OF BIDDER

5.01 EVIDENCE OF QUALIFICATIONS

A. To demonstrate qualification for performing the work of this Contract, bidders may be requested to submit written evidence of financial position, license to perform work in the State and project references of equivalent size and scope .

5.02 PREQUALIFICATION

A. Bidders shall complete the Barton Malow Prequalification prior to execution of the Contract Agreement.

B. Reference Section 003200 for Prequalification Procedures

C. The Owner and/or Barton Malow Builders may require Bidders to be prequalified prior to bids.

D. Completed Barton Malow Builders Contractors Qualification Form can be found at: **http://www.bartonmalow.com/subcontractors/subcontractors.htm**

E. The Barton Malow Builders and Owner reserve the right to request qualification forms or additional information from any Bidder before issuing documents, receiving Bid Proposals or awarding an Agreement. The Barton Malow Builders and Owner may, at their sole discretion, accept or reject Bidders as qualified. The right to waive any informalities or irregularities in qualification materials is reserved by the Barton Malow Builders and Owner.

5.03 CONTRACTORS/SUBCONTRACTOR/SUPPLIERS/OTHERS

A. Troy School District reserves the right to reject a proposed Contractor and or subordinate party for reasonable cause.

BID SUBMISSION

6.01 SUBMISSION PROCEDURE

A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.

B. Improperly completed information, irregularities in Bid Form, Security Deposit, Bid Bond, Familiar Disclosure Affidavit, or Iran Sanctions Affidavit, may be cause not to accept the Bid and declare the bid invalid or informal.

C. Improperly completed information, irregularities in Security Deposit, Bid Bond, Familiar Disclosure Affidavit, or Iran Sanctions Affidavit, may be cause not read the Bid Form and declare the bid invalid or informal.

D. An abstract summary of submitted bids will be made available to all bidders following bid opening.

6.02 BID INELIGIBILITY

A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.

BID ENCLOSURES/REQUIREMENTS

7.01 SECURITY DEPOSIT

A. Bids shall be accompanied by a security deposit as follows:
   1. Bid Bond of a sum no less than 5 percent of the Bid Amount on AIA A310 Bid Bond Form.
   2. Certified check in the amount of a sum no less than 5 percent of the Bid Amount

B. Endorse the Bid Bond in the name of the Troy School District as obligee and Barton Malow Builders as dual obligee, signed and sealed by the principal Contractor and surety.

C. Endorse the certified check in the name of Troy School District.

D. The security deposit will be returned after delivery to the Owner of the required Performance and Payment Bond(s) by the accepted bidder.

E. The cost of bid security in the Bid Amount.

F. If no contract is awarded, all security deposits will be returned.

7.02 PERFORMANCE ASSURANCE

A. Include the cost of performance assurance bonds in the Bid Amount.

7.03 INSURANCE

A. Provide an executed "Undertaking of Insurance" on the form provided stating their intention to provide insurance to the bidder in accordance with the insurance requirements of Contract Documents.

7.04 BID FORM REQUIREMENTS

A. Complete all requested information in the Bid Form and Appendices.

7.05 BID FORM SIGNATURE

A. The Bid Form shall be signed by the bidder, as follows (except when submitted electronically via BuildingConnected):
   1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
   2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
   3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.

7.06 ADDITIONAL BID INFORMATION

7.07 SELECTION AND AWARD OF ALTERNATES/VOLUNTARY ALTERNATES

A. See Section 012300 Alternates

B. Indicate variation of bid price for Alternates/voluntary alternates listed on the Bid Form.

C. Bids will be evaluated on the total of the base bid price and all of the Alternates and Voluntary Alternates. After determination of the successful bidder, consideration will be given to which Alternates or Voluntary Alternates will be included in the work accepted by the Owner.

OFFER ACCEPTANCE/REJECTION

8.01 DURATION OF OFFER

A. Bids shall remain open to acceptance and shall be irrevocable for a period of 90 days after the bid closing date.

8.02 ACCEPTANCE OF OFFER

A. Owner reserves the right to accept or reject any or all offers.

B. After acceptance by Owner, Barton Malow Builders on behalf of Owner, will issue to the successful bidder, a written Letter of Intent (LOI) or Notice to Proceed (NTP).

END OF SECTION 002113

SECTION 002202.01
DEMOLITION - SCOPE OF WORK

BID PACKAGE 5

BID CATEGORY – DEMOLITION

PART 1 GENERAL

1.01 THE WORK OF THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO PROVIDING ALL SUPERVISION, LABOR, EQUIPMENT, MATERIALS, TAXES, BONDS, INSURANCE, SCAFFOLDING, HOISTING AND INCIDENTALS TO COMPLETE THE WORK PER ALL CONTRACT DOCUMENTS FOR THE TSD BP#5 - ADMINISTRATION BUILDING RENOVATION AS DEFINED BY THE BID PACKAGE NO. 5 BID/WORK SCOPE DOCUMENT INCLUDING ITS SUPPLEMENTARY DOCUMENTS AND IN ACCORDANCE WITH ANY APPLICABLE CODES. ALL WORK IS TO BE PERFORMED AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE FOLLOWING TECHNICAL SPECIFICATION SECTIONS:

A. Division 0 - Procurement and Contracting Complete
B. Division 01 – General Requirements Complete
C. Division 02 – Existing Conditions
    1. 02 4100 – Demolition Complete
D. Division 07 – Thermal and Moisture Protection
    1. 07 8400 - Firestopping As Applicable
    2. 07 9200 - Joint Sealants As Applicable

1.02 IN ADDITION TO THE ABOVE, THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO THE BIDDING DOCUMENTS, THE BIDDING AND CONTRACT REQUIREMENTS AND DIVISION 1 GENERAL REQUIREMENTS OF THE BARTON MALOW BUILDERS PROJECT MANUAL AND VARIOUS OTHER DOCUMENTS AND TECHNICAL SPECIFICATIONS INTERFACING WITH THIS WORK PROVIDED BY THE OWNER, ARCHITECT AND/OR ENGINEERS. THE BIDDER IS ADVISED TO REVIEW THE WORK DESCRIPTIONS OF THE OTHER CATEGORIES SO AS NOT TO MISUNDERSTAND SCOPE RESPONSIBILITIES.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

THE SCOPE OF WORK WILL INCLUDED AND IS NOT LIMITED TO THE FOLLOWING ITEMS:

A. Performance of the Work shall be in accordance with all Division 01 – General Requirements.
B. Refer to the Project Manual for additional bidding and project general requirements and conditions.
C. In addition to the requirements set forth in Division 01 – General Requirements, the Work shall include the following:
    1. Additional Meetings & Quality Control Requirements:
        a. Additional Photographic documentation, etc
D. **Submittals/Close Out:**
    1. Submit all start-up documents, and product submittals on materials & products within two (2) weeks after Notice to Proceed (NTP).
    2. Submit all shop drawings in accordance with the contract documents and all code requirements within four (4) weeks after Notice to Proceed (NTP).

3. All equipment, products, & materials that are installed without submittal approval and not acceptable by the Architect/Engineer and Owner will be removed at the installing Contractors cost. Contractor will be held responsible for all back charges caused by the project delay to the Owner and Trades working onsite due to no specified material/equipment install and/or lack of or late submittal approvals.
4. Engineered shoring drawings must be signed and sealed by a Registered Engineer in accordance with contract documents and state law.
5. Contractor shall include all cost necessary for as-built, asset sheet data spreadsheet, closeout documents (including O&M manuals, valve charts, guarantees or warranties on equipment and/or materials, testing and system check-out or approval, and Owner's training as required) per the Contract Documents.
6. Contractor to provide additional manpower dedicated to Barton Malow Builders to complete Barton Malow Builders punch list work for a minimum of ten (10) working days prior to the listed Architect/Engineer project punch list in the project schedule. This manpower will be under the direction of the Barton Malow Builders Superintendent to complete punch list work of their bid category and will report directly to the Barton Malow Builders each day. Failure to provide required manpower may result in a delay in receiving the Contractor’s progress payment from Barton Malow Builders.
7. Architect/Engineer's punch list will not start until all work has been completed.
8. Contractor may not drop retainage to 5% until work of this bid category is substantially complete according to the contract documents. In addition, all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been completed, turned over, accepted, and documented. Contractors must also have up to date partial and final waivers from all Subcontractors, suppliers, and other Subordinate Parties including a AIA G707a Consent of Surety to partial reduction in retainage form signed and sealed by the Surety.
9. To bill out the remainder of retainage (from 5% to 0%), the Contractor must set up a meeting with Barton Malow Builders to go over and/or collect the remaining closeout items for final payment as specified in the project manual and submit a AIA G707 Consent of Surety for final payment form signed and sealed by the Surety.

E. **General Scope:**
1. Required PPE for every Contractor, Subcontractor, & Delivery Drivers onsite:
   a. Class II hardhats
   b. Cut level four gloves
   c. Eye protection
   d. High visibility reflective safety vests
   e. Work boots
   f. Sleeved shirts
2. Contractor is to incorporate all project bidding documents into their subordinate party agreements.
3. All bidders are required to review the General Conditions of the Contract located in the project manual.
4. Contractor is to be licensed to perform work in the State of Michigan. This includes all Contractors and 2nd or 3rd (etc.) tiered subcontractors.
5. Contractor shall maintain on site, a copy of all applicable code books specifically pertaining to this scope of work. These code books are to follow the city, state, and all other authorities having jurisdiction per the specific year each authority has designated for this particular project. This Contractor is responsible for all research and compliance with all applicable regulations.
6. This Contractor is responsible to coordinate with Barton Malow Builders to schedule inspections with the Local Governing Agency and/or the State of Michigan as well as the testing agency. Inspection results and records will be kept in the Barton Malow Builders

jobsite office. During all inspections each Contractor is to have a Foreman/Superintendent on site.

7. Contractor must verify that work installed by others, complies in its entirety with the contract documents prior to commencing their work, which ties in, overlays and/or follows the installed work. Any non-conforming work shall be identified in writing to Barton Malow Builders immediately.
8. Anyone listed on the National Sex Offender List is not allowed to be a part of this project and anyone who is convicted of a listed offense will be immediately dismissed from project. Provide photo identification upon arriving to the site and badges are to be worn by Contractor's field personnel at all times.
9. Contractor shall have their Superintendent/Foreperson attend a daily coordination meeting every morning from 6:45am - 7:00am. Participation is mandatory.
10. Project daily working hours are Monday – Friday, Site Opens @ 5:30am and closes at 2:30pm. There will be a 5-day minimum work week. Should scheduled workdays or production be lost due to inclement weather or this Contractor's delays, overtime during the work week and weekends will be required to maintain the project schedule at this Contractor's expense. Any work performed outside normal working hours requires approval from Barton Malow Builders.
11. Contractor is only to take direction from Barton Malow Builders.
12. Review all specifications and project drawings, drawing notes, schedules, and schedule notes for areas requiring work described by this bid category and coordinate work with the respective contractors, include all costs in base bid.
13. Include all manpower, overtime, composite crews and mobilizations in base bid to complete work per the project schedule. All mobilizations required to complete this Scope of Work have been included in the base contract price, unless specifically addressed otherwise in this Contract Agreement. It is understood and agreed that this work may not be performed in a continuous operation and during normal business hours. This contractor has included the cost of the multiple mobilizations/remobilizations and cost to work during non-normal business hours.
14. Contractor will be required to perform after-hours and overtime work as necessary to minimize disruption to Troy School District.
15. If Contractor is behind schedule and is notified by Barton Malow Builders, the Contractor shall be required to accelerate the work at its own expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, and shall continue to do so until the progress of the work, in the opinion of Barton Malow Builders, is in conformance with the master project construction schedule.
16. Provide and install all materials per the construction documents. Bid proposals must be per plan and specs. Bids not conforming to plans and specifications will be rejected. Substitutions must be pre-approved in writing prior to bids or be submitted as voluntary alternates on the bid form.
17. Contractor must include costs and utilize Autodesk Build and Textura for this project. Information and cost for Textura can be found in section 012000-Price and Payment Procedures and AutoDesk Build in section 013000-Administrative Requirements.
18. All contractors are to field verify all existing conditions prior to submitting a bid. Submitting a bid is acceptance of all field conditions. Do NOT scale the drawings.
19. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
20. This project surrounded by Troy School District staff and students. Contractor is to take proper measures to ensure minimal disruptions to the roads and sidewalks around the project. Contractor is responsible for proper barricading and signage if his work activity interrupts the normal flow of operations around the facility. All Contractor employees and subordinate parties are to conduct themselves in a manner not to offend nor interfere with the staff, students, or any other public person. Barton Malow Builders and Troy School

District Code of Conduct includes immediate termination for foul language/derogatory conversation. Those who are not in compliance will be asked to leave the project and not return.

21. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor's responsibility.
22. Minimize disturbances to landscape areas. Excessive or malicious (as deemed by) Barton Malow Builders landscape disturbance will be the responsibility of this contractor to restore at own expense.
23. Protect equipment and finish items to remain during construction including roof, ceilings, walls, flooring, and landscaping during work of this bid category. In addition, all work being performed through ceilings, be it grid, ceiling pads, drywall or plaster, etc. must be protected from damage during work of this bid category. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
24. Deliveries must occur after 7am and prior to 2pm and not between noon and 1pm, unless scheduled with a Barton Malow Builders Superintendent or risk having the delivery turned away. Unloading, hoisting, transport of materials out of truck to staging location, and delivery acceptance is by the Contractor who is responsible for the material.
25. Contractor is responsible for storage of all materials. Deliver materials to the site as needed. Storage in the building will be limited. Materials in building must be on pallets or material/pipe carts.
26. Stocking of material on floors will be limited to a three (3) day maximum in the area of work, if approved by Barton Malow Builders Superintendent. No other material storage will be allowed in the building.
27. All materials used are to be new, unused and undamaged. Any damaged or questionable material is to be removed and replaced at no cost to the Owner or Barton Malow Builders.
28. Include all rigging and hoisting to deliver, install, and remove materials to / from all floor levels complete.
29. All crane and boom truck lifts must be properly barricaded to keep public at a safe distance. Provide ground spotters and barricading to keep public out of the swing radius of the crane or boom truck.
30. The use of the existing and/or new elevator will not be permitted.
31. This contractor is responsible for all lifts and scaffolding, if required, for work of this bid category. Coordinate use of your lifts and scaffolding with other trades.
32. Scaffolding and staging as required. Engineered installation drawings, as required.
33. Include field layout for work of this bid category, also included is field time for this contract to survey existing conditions prior to beginning each phase of work. Any discrepancies between existing conditions and the contract drawings are to be reported to Barton Malow Builders immediately.
34. Coordination drawing meetings will be scheduled. Contractor understands that Barton Malow Builders is not issuing change orders for items not coordinated with other trades. Contractor also understands any conflicts of existing structure with their new work must be brought to Barton Malow Builders and Architect/Engineer attention in advance of start of work.
35. Contractor shall have no claims for additional cost because Contractor has failed to install work in proper sequence and not in accordance with Coordination drawings. Likewise, any cost for removal of materials or damage caused by Contractors who have failed to perform their Work in the proper sequence will be borne by that Contractor.
36. Participation in coordination meeting/s, weekly progress meetings, and drawings process is mandatory. Minimum eight (8) hours per week shall be included for meetings and coordination with Barton Malow Builders. Representative must be able to make all decisions for their Company and Subcontractors.
37. Contractor to have one (1) full time on-site superintendent, for the duration of the project. The assigned personnel will be responsible to manage the "entire" scope of work

including their Subcontractors/Suppliers and will be the single point of contact for this scope of work. Contractor will be responsible to complete the daily report & JHA form each day including for their Subcontractors regardless if the Contractor has self-perform crews on site or not. Representative must be able to make all field & financial decisions. If full time supervision is not onsite by the Contractor, their Subcontractors will be told to leave the site until the next calendar working day. Contractor will be held responsible for delays and back charged due to lack of project supervision.

38. Contractor is to provide site Supervision and Foreman an Apple iPad with unlimited data/cellular plan service. It is required that Contractor download BluebeamRevu and Autodesk Build via the app store on each device. Contractor may access Owner guest Wi-Fi network if available.
39. Contractor must complete and submit electronic daily Flypaper reports and pre-task plans via Autodesk Build to Barton Malow Builders on a daily basis. These reports must show total number of manpower, total number of hours, and each day's specific activities. If this is not done, Barton Malow Builders reserves the right to withhold this Contractor's monthly payments until satisfied with this Contractor's response.
40. Items shown to be turned over on the project documents and for closeout attic stock to Owner must be accompanied by a transmittal and copied with signature of receipt to Barton Malow Builders. If a transmittal is not provided and Owner's items are missing, it is this contractor's responsibility to purchase and replace with new materials.
41. Contractor is responsible for the quality control for work of this bid category (including for their subordinate parties). Contractor is to strictly observe tolerances and to maintain strict quality control throughout the execution of his work. All work is to be checked for compliance at each stage of completion per applicable codes, project drawings, specifications, and manufactures shop drawings/written instructions. Any work that is not within specified tolerances is to be removed and replaced.
42. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication , and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.
            (c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.
43. Ticket work is to be signed by Barton Malow Builders at the end of each workday. Tickets not reviewed or signed by the Barton Malow Builders Superintendent will not be accepted or processed. Pricing is to have detailed explanations of work performed. Barton Malow Builders directed ticket work shall NOT include foreman time, work/service truck, cartage, or overhead and profit mark-up. Tickets shall include only approved labor and materials used. Signature from Barton Malow Builders Superintendent does not necessarily equal additional funds. Barton Malow Builders Project Manager will decide if ticket work is added scope to the contract.
44. All change pricing is to be submitted within ten (10) days from receipt of the change vehicle, unless otherwise agreed by Barton Malow Builders or Owner. All change order pricing is to include a detailed breakdown of costs – Material, Labor, Equipment, etc.

along with any signed work orders. No lump sum pricing allowed. Change order pricing will not be accepted without a detailed breakdown. Failure to submit change order pricing within ten (10) days will result in a $0 change order.

45. Provide all cutting/patching, coring, patching of penetrations, and block-outs for work of this bid category. This is to include but not limited to cutting and patching of all openings in deck (concrete or metal) if required. Patch walls where adjacent existing walls were removed. Patch and repair work is to be done professionally by trained, skilled craftsmen.
46. Provide and install temporary protection for all excavations, floor, or roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. 'Hole below - do not remove') covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
47. Contractor is responsible for all dewatering and snow/ice removal necessary to complete this Scope of Work.
48. Cleanup is to be performed continuously as work is progressing. This means cleaning up each and every hour. This includes the removal of debris, sweeping (Contractor to provide sweeping compound), wiping down of all finished surfaces, and the proper storage of unused equipment and materials. Cleanup not performed by the Contractor will be completed by a third party (chosen by Barton Malow Builders) and back charged accordingly. Written warnings will not be issued.
49. Contractor shall participate in the Composite Cleanup Crew as described in the project manual. These requirements are in addition to normal daily cleaning responsibilities and costs for this are included in the contract price.
50. Include all cost in base bid to comply with the latest Federal mandate, State of Michigan Executive Order, OSHA requirements, Local Jurisdiction Requirements, Owners Requirements, whichever is more stringent related to Covid-19: testing, PPE, social distancing, and all other requirements for your workers and subordinate parties. This shall include identifying your competent Covid 19 supervisor that will review, monitor, record, and enforce all requirements. In addition, each worker onsite is required to sign in each day prior to work using the Barton Malow QR Reader Questionnaire on a smart phone or tablet.

F. **Specific Scope:**

1. Contractor shall include multiple mobilizations to complete the Work.
2. Coordinate demolition with all trades to allow work of other trades to be completed safely.
3. Temporary Measures:
   a. Provide, maintain, and remove temporary systems upon completion and activation for use of the permanent systems
   b. Protect all materials from damage prior to installation.
4. Temporary Lighting:
   a. Contractor shall provide task lighting and temporary light stands as necessary.
5. Temporary Guardrail Systems:
   a. Maintain all temporary guardrail system during the course of construction. At such time when it can or must be removed to perform work, appropriate safety precautions are to be implemented. After this Contractor completes areas of work, which do not offer appropriate fall protection due to gaps or openings, this Contractor is to provide appropriate temporary guardrails across openings.
6. Coordination and Layout
   a. This Contractor is responsible for all detailed layout required for proper location and coordination of work of this bid category.
7. This Contractor is responsible for all phases of Selective Building Demolition as shown, specified and as required to complete the entire Scope of Work.

8. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
9. Contractor shall attend all meetings as required to properly coordinate its Work with that of Others. Coordination efforts should be focused on minimizing any post-installation damage and quality issues.
    a. Contractor to participate in pre-installation conferences as requested by Barton Malow Builders, Architect, Owner, or per the specifications
10. Contractor shall coordinate and schedule a pre-demolition meeting. Attendees are to include the Owner, the Architect, Engineers, Specialty Third Party Inspectors, Representatives of the Building Department, Representatives of the local Utility Companies. During the meeting, the Contractor shall set-forth their plan for the safe completion of the Work. Contractor shall submit an Agenda for the meeting two (2) weeks in advance for review and comment. Minimum Agenda items are to include, a complete review of the Scope of Work, a review of any required existing condition or adjacent structure inspections, key dates, equipment, safety measures, special measures for the protection of adjacent work, location of barricades or other measures to secure the work areas, removal of debris plan, discussions on any hazardous materials, and any other relevant special requirements such as the identification of work scheduled to remain or participation/coordination required by/from other separate Contractors.
11. In the event that the demolition is “Selective” in nature, and certain portions of the Existing Facility are to remain, Contractor shall schedule and coordinate a walk-through with the other separate Contractors to identify, mark, and discuss the items that are to remain. If appropriate, the discussion should include any special requirements for protection of the items to remain. In addition, the Contractor shall review and discuss with Barton Malow Builders the fit & finish expected of all remaining items. This meeting shall be documented and all attendees shall sign the minutes to confirm that they have reviewed and marked their items.
12. Contractor is responsible for the removal, hauling and disposal of all items as indicated in the Contract Documents.
13. Contractor shall include any and all required signage, barricading, flagmen, etc., necessary for the safe performance of the Work. This includes any required road closures. Note that all barricades are to be either fencing or other “rigid” type barricades. Caution or Hazard Tape will not be acceptable.
14. If deemed required by Barton Malow Builders, Contractor shall provide employees dedicated to the monitoring and control of unauthorized personnel entry into its work areas.
15. Contractor shall control all dust and debris generated during the Work.
16. Contractor shall provide, install and remove all required temporary shoring for the Work.
17. Contractor shall ensure that no damage occurs to items scheduled to remain. This includes taking any and all precautions and measures required to ensure that no damage occurs to the surfaces left behind and in-place by the Work. Any costs for the patching or other surface repair treatments required to return an item scheduled to remain to an acceptable condition, will be the responsibility of this Contractor.
18. Provide and install temporary protection for all floor/ roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. ‘Hole below - do not remove’) covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
19. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor’s responsibility.
20. Provide and install all temporary protection on existing flooring shown to remain with Masonite board over Plastic sheeting. Joints of Masonite and Plastic board shall be taped. Protection shall be wall to wall including the pathway to the dumpsters. Contractor

shall maintain temp protection until demolition activities are complete. Remove at the direction of Barton Malow Builders.

21. This Contractor shall perform any required existing structure or adjacent structure condition inspections or surveys. This includes inspections before and after the completion of the Work.
22. Provide and install all shoring required.
23. Contractor is responsible for all clean-up of any slurry or other similar residue from its activities.
24. Salvaged items shown to be for reinstallation shall be turned over to the installing Contractor. Turned over items must be accompanied by a transmittal and copied with signature of receipt from the installing Contractor. If a transmittal is not provided and items are missing, it is this Contractor's responsibility to purchase and replace with new materials.
25. The Work includes the demolition of all Architectural items, including architectural material and equipment as indicated in the Contract Documents.
26. The Work includes the removal of all flooring and wall finishes from slabs or walls scheduled to remain. This includes any tile or setting beds.
27. Legally dispose of all materials removed and demoed. Barton Malow Builders will not provide dumpsters for demolition. Provide protective plywood beneath Contractor provided dumpster wheels.
28. Dry cutting of masonry and concrete will not be permitted. Contractor is to follow the new OSHA silica standards.
29. No gas-powered equipment is allowed in the building. Demolition contractor will exhaust all fumes generated during demolition of the building and all equipment used must have scrubbers installed on them.
30. Contractor shall include all dust remediation equipment during demolition. This will include but is not limited to mechanical dust removal equipment and sweeping compound for daily clean-up.
31. Contractor shall allow Owner's third party Abatement Contractor time to abate asbestos materials when and if they are exposed.
32. Locate all underground utilities (public and private) prior to any excavation and temporary road/staging area install. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities. Damage to existing utilities, public or private, including communication and parking/walkway lighting lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
33. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.

(c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.

34. Saw cut and remove concrete floor slab, concrete roof slab, ceilings, and walls as shown to receive new work. See mechanical and electrical drawings for additional areas of additional sawcutting. Demo contractor responsible for all sawcutting shown on all drawings. Mechanical contractor responsible for infill. Coordinate layout with the Mechanical and Electrical Contractors. Demo contractor responsible for removal and disposal of sawcut concrete.
35. Demo of interior and exterior entrance hollow metal doors and frames are to be coordinated with the Architectural Contractor for temporary entrances.
36. Contractor is responsible for removing all exterior curtain wall/storefront openings from the alll floor levels. Coordinate with the Glazing and Architectural Contractors.
37. Contractor is responsible for removing/demoing exterior storefront complete where new curtain wall is called out for (masonry & glazing). Coordinate with the General Trades and Glazing Contractors.
38. Complete all Architectural demolition shown or noted on the demo drawings. The demolition work shall include all supporting items and hangers, ect. unless shown to remain.
39. Remove all sealants, glue, nails, screws, hangars, supports, and wall residue from existing walls, ceilings, and columns shown to remain.
40. Remove all interior signage shown to be removed on drawings.
41. Demo of all interior storefront & glazing is work of this bid category.
42. Demo of the existing reinforced concrete floor complete.
43. Walls shown to remain shall have all debris removed complete to accept new finishes.
44. All sealants shall be removed complete.
45. Remove floor finishes completely to concrete slab including all adhesive residue and mortar setting beds. Leave concrete floor in a smooth condition to receive new finishes.
46. Turn over salvaged equipment to Owner as noted.

G. **Exclusions:**
1. Mechanical Demolition
2. Electrical Demolition
3. Demolition of telcom material, equipment, and system

3.01 SPECIAL CONSIDERATIONS:

A. Labor Rates/Unit Prices/Alternates: Provide the following information on the bid form:

B. Labor/Equipment Rates:
1. This Contractor is to provide as a part of his proposal a fully detailed labor rates for Barton Malow Builders approval for work associated with this Contractor's and for each of their Subordinate Parties Trades. In addition, labor rates will be required for all equipment involved with the performance of the work required by this Bid Category.

C. Allowances: This Contractor must obtain written authorization from Barton Malow Builders prior to performing the associated work below. Include in this Contractor’s bid, allowances for work as follows.
1. Provide Allowance for the following
a. Include an allowance of $5,000 in this Contractor’s bid for additional unidentified Demolition work. Allowance is to be used at the direction of Barton Malow Builders.

D. Alternates: This bidder shall be required to submit alternate prices identified in the contract documents which pertain to their work. These alternate prices shall be separate from their base bid on the bid proposal form.

END OF SECTION 002202.01

SECTION 002206.01
FINISH CARPENTRY AND ARCHITECTURAL WOODWORK - SCOPE OF WORK

BID PACKAGE 5

BID CATEGORY – FINISH CARPENTRY

PART 1 GENERAL

1.01 THE WORK OF THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO PROVIDING ALL SUPERVISION, LABOR, EQUIPMENT, MATERIALS, TAXES, BONDS, INSURANCE, SCAFFOLDING, HOISTING AND INCIDENTALS TO COMPLETE THE WORK PER ALL CONTRACT DOCUMENTS FOR THE TSD BP#5 - ADMINISTRATION BUILDING RENOVATION AS DEFINED BY THE BID PACKAGE NO. 5, BID SCOPE DOCUMENT INCLUDING ITS SUPPLEMENTARY DOCUMENTS AND IN ACCORDANCE WITH ANY APPLICABLE CODES. ALL WORK IS TO BE PERFORMED AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE FOLLOWING TECHNICAL SPECIFICATION SECTIONS:

A. Division 0 - Procurement and Contracting Complete
B. Division 01 – General Requirements Complete
C. Division 05 – Metals
    1. 05 5000 – Metal Fabrications As Applicable
D. Division 06 – Wood, Plastics, and Composites
    1. 06 1000 – Rough Carpentry Complete
E. Division 07 – Thermal and Moisture Protection
    1. 07 8400 - Firestopping As Applicable
    2. 07 9200 - Joint Sealants As Applicable
F. Division 08 – Openings
    1. 08 1113 – Hollow Metal Doors and Frames Complete
    2. 08 1416 – Flush Wood Doors Complete
    3. 08 3100 – Access Doors and Panels Complete
    4. 08 7100 – Door Hardware Complete
G. Division 09 – Finishes
    1. 09 2900 – Gypsum Board Complete
    2. 09 5100 – Acoustical Ceilings Complete
    3. 09 2216 – Non-Structural Metal Framing Complete
    4.
H. Division 10 – Specialties
    1. 10 2600 – Wall and Door Protection Complete

IN ADDITION TO THE ABOVE, THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO THE BIDDING DOCUMENTS, THE BIDDING AND CONTRACT REQUIREMENTS AND DIVISION 1 GENERAL REQUIREMENTS OF THE BARTON MALOW BUILDERS PROJECT MANUAL AND VARIOUS OTHER DOCUMENTS AND TECHNICAL SPECIFICATIONS INTERFACING WITH THIS WORK PROVIDED BY THE OWNER, ARCHITECT AND/OR ENGINEERS. THE BIDDER IS ADVISED TO REVIEW THE WORK DESCRIPTIONS OF THE OTHER CATEGORIES SO AS NOT TO MISUNDERSTAND SCOPE RESPONSIBILITIES.

1.02 PART 2 PRODUCTS – NOT USED

1.03 PART 3 EXECUTION

THE SCOPE OF WORK WILL INCLUDED AND IS NOT LIMITED TO THE FOLLOWING ITEMS:

A. Performance of the Work shall be in accordance with all Division 01 – General Requirements.

B. Refer to the Project Manual for additional bidding and project general requirements and conditions.

C. In addition to the requirements set forth in Division 01 – General Requirements, the Work shall include the following:
   1. Additional Meetings & Quality Control Requirements:
      a. Mockups
      b. Additional Photographic documentation, etc

D. **Submittals/Close Out:**
   1. Submit all start-up documents, and product submittals on materials & products within two (2) weeks after Notice to Proceed (NTP).
   2. Submit all shop drawings in accordance with the contract documents and all code requirements within four (4) weeks after Notice to Proceed (NTP).
   3. Contractor is to submit a long lead item log to Barton Malow Builders for materials and equipment with lead times of 6 weeks or more. The long lead item log shall include submitted date, submittal approval date, lead time, order date, & approximate delivery date. Contractor shall update and submit weekly to Barton Malow Builders.
   4. All equipment, products, & materials that are installed without submittal approval and not acceptable by the Architect/Engineer and Owner will be removed at the installing Contractors cost. Contractor will be held responsible for all back charges caused by the project delay to the Owner and Trades working onsite due to no specified material/equipment install and/or lack of or late submittal approvals.
   5. Contractor shall include all cost necessary for as-built, asset sheet data spreadsheet, closeout documents (including O&M manuals, valve charts, guarantees or warranties on equipment and/or materials, testing and system check-out or approval, and Owner's training as required) per the Contract Documents.
   6. Contractor to provide additional manpower dedicated to Barton Malow Builders to complete Barton Malow Builders punch list work for a minimum of ten (10) working days prior to the listed Architect/Engineer project punch list in the project schedule. This manpower will be under the direction of the Barton Malow Builders Superintendent to complete punch list work of their bid category and will report directly to the Barton Malow Builders each day. Failure to provide required manpower may result in a delay in receiving the Contractor’s progress payment from Barton Malow Builders.
   7. Architect/Engineer's punch list will not start until all work has been completed.
   8. Contractor may not drop retainage to 5% until work of this bid category is substantially complete according to the contract documents. In addition, all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been completed, turned over, accepted, and documented. Contractors must also have up to date partial and final waivers from all Contractors, suppliers, and other Subordinate Parties including a AIA G707a Consent of Surety to partial reduction in retainage form signed and sealed by the Surety.

9. To bill out the remainder of retainage (from 5% to 0%), the Contractor must set up a meeting with Barton Malow Builders to go over and/or collect the remaining closeout items for final payment as specified in the project manual and submit a AIA G707 Consent of Surety for final payment form signed and sealed by the Surety.

E. **General Scope:**

1. Required PPE for every Contractor, Subcontractor, & Delivery Drivers onsite:
   a. Class II hardhats
   b. Cut level four gloves
   c. Eye protection
   d. High visibility reflective safety vests
   e. Work boots
   f. Sleeved shirts
2. Contractor is to incorporate all project bidding documents into their subordinate party agreements.
3. All bidders are required to review the General Conditions of the Contract located in the project manual.
4. Contractor is to be licensed to perform work in the State of Michigan. This includes all Contractors and 2nd or 3rd (etc.) tiered Contractors.
5. Contractor shall maintain on site, a copy of all applicable code books specifically pertaining to this scope of work. These code books are to follow the city, state, and all other authorities having jurisdiction per the specific year each authority has designated for this particular project. This Contractor is responsible for all research and compliance with all applicable regulations.
6. This Contractor is responsible to coordinate with Barton Malow Builders to schedule inspections with the Local Governing Agency and/or the State of Michigan as well as the testing agency. Inspection results and records will be kept in the Barton Malow Builders jobsite office. During all inspections each Contractor is to have a Foreman/Superintendent on site.
7. Contractor must verify that work installed by others, complies in its entirety with the contract documents prior to commencing their work, which ties in, overlays and/or follows the installed work. Any non-conforming work shall be identified in writing to Barton Malow Builders immediately.
8. Anyone listed on the National Sex Offender List is not allowed to be a part of this project and anyone who is convicted of a listed offense will be immediately dismissed from project. Provide photo identification upon arriving to the site and badges are to be worn by Contractor's field personnel at all times.
9. Contractor shall have their Superintendent/Foreperson attend a daily coordination meeting every morning from 6:45am - 7:00am. Participation is mandatory.
10. Project daily working hours are Monday – Friday, Site Opens @ 5:30am and closes at 2:30pm. There will be a 5-day minimum work week. Should scheduled workdays or production be lost due to inclement weather or this Contractor's delays, overtime during the work week and weekends will be required to maintain the project schedule at this Contractor's expense. Any work performed outside normal working hours requires approval from Barton Malow Builders.
11. Contractor is only to take direction from Barton Malow Builders.
12. Review all specifications and project drawings, drawing notes, schedules, and schedule notes for areas requiring work described by this bid category and coordinate work with the respective contractors, include all costs in base bid.
13. Include all manpower, overtime, composite crews and mobilizations in base bid to complete work per the project schedule. All mobilizations required to complete this Scope of Work have been included in the base contract price, unless specifically addressed otherwise in this Contract Agreement. It is understood and agreed that this work may not be performed in a continuous operation and during normal business hours. This

contractor has included the cost of the multiple mobilizations/remobilizations and cost to work during non-normal business hours.

14. Contractor will be required to perform after-hours and overtime work as necessary to minimize disruption to Troy School District.
15. If Contractor is behind schedule and is notified by Barton Malow Builders, the Contractor shall be required to accelerate the work at its own expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, and shall continue to do so until the progress of the work, in the opinion of Barton Malow Builders, is in conformance with the master project construction schedule.
16. Provide and install all materials per the construction documents. Bid proposals must be per plan and specs. Bids not conforming to plans and specifications will be rejected. Substitutions must be pre-approved in writing prior to bids or be submitted as voluntary alternates on the bid form.
17. Contractor must include costs and utilize Autodesk Build and Textura for this project. Information and cost for Textura can be found in section 012000-Price and Payment Procedures and AutoDesk Build in section 013000-Administrative Requirements.
18. All contractors are to field verify all existing conditions prior to submitting a bid. Submitting a bid is acceptance of all field conditions. Do NOT scale the drawings.
19. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
20. This project surrounded by Troy School District staff and students. Contractor is to take proper measures to ensure minimal disruptions to the roads and sidewalks around the project. Contractor is responsible for proper barricading and signage if his work activity interrupts the normal flow of operations around the facility. All Contractor employees and subordinate parties are to conduct themselves in a manner not to offend nor interfere with the staff, students, or any other public person. Barton Malow Builders and Troy School District Code of Conduct includes immediate termination for foul language/derogatory conversation. Those who are not in compliance will be asked to leave the project and not return.
21. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor’s responsibility.
22. Minimize disturbances to landscape areas. Excessive or malicious (as deemed by) Barton Malow Builders landscape disturbance will be the responsibility of this contractor to restore at own expense.
23. Protect equipment and finish items to remain during construction including roof, ceilings, walls, flooring, and landscaping during work of this bid category. In addition, all work being performed through ceilings, be it grid, ceiling pads, drywall or plaster, etc. must be protected from damage during work of this bid category. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
24. Deliveries must occur after 7am and prior to 2pm and not between noon and 1pm, unless scheduled with a Barton Malow Builders Superintendent or risk having the delivery turned away. Unloading, hoisting, transport of materials out of truck to staging location, and delivery acceptance is by the Contractor who is responsible for the material.
25. Contractor is responsible for storage of all materials. Deliver materials to the site as needed. Storage in the building will be limited. Materials in building must be on pallets or material/pipe carts.
26. Stocking of material on floors will be limited to a three (3) day maximum in the area of work, if approved by Barton Malow Builders Superintendent. No other material storage will be allowed in the building.
27. All materials used are to be new, unused and undamaged. Any damaged or questionable material is to be removed and replaced at no cost to the Owner or Barton Malow Builders.

28. Include all rigging and hoisting to deliver, install, and remove materials to / from all floor levels complete.
29. All crane and boom truck lifts must be properly barricaded to keep public at a safe distance. Provide ground spotters and barricading to keep public out of the swing radius of the crane or boom truck.
30. The use of the existing and/or new elevator will not be permitted.
31. This contractor is responsible for all lifts and scaffolding, if required, for work of this bid category. Coordinate use of your lifts and scaffolding with other trades.
32. Scaffolding and staging as required. Engineered installation drawings, as required.
33. Include field layout for work of this bid category, also included is field time for this contract to survey existing conditions prior to beginning each phase of work. Any discrepancies between existing conditions and the contract drawings are to be reported to Barton Malow Builders immediately.
34. Coordination drawing meetings will be scheduled. Contractor understands that Barton Malow Builders is not issuing change orders for items not coordinated with other trades. Contractor also understands any conflicts of existing structure with their new work must be brought to Barton Malow Builders and Architect/Engineer attention in advance of start of work.
35. Contractor shall have no claims for additional cost because Contractor has failed to install work in proper sequence and not in accordance with Coordination drawings. Likewise, any cost for removal of materials or damage caused by Contractors who have failed to perform their Work in the proper sequence will be borne by that Contractor.
36. Participation in coordination meeting/s, weekly progress meetings, and drawings process is mandatory. Minimum eight (8) hours per week shall be included for meetings and coordination with Barton Malow Builders. Representative must be able to make all decisions for their Company and Contractors.
37. Contractor to have one (1) full time on-site superintendent, for the duration of the project. The assigned personnel will be responsible to manage the “entire” scope of work including their Subcontractors/Suppliers and will be the single point of contact for this scope of work. Contractor will be responsibly to complete the daily report & JHA form each day including for their Subcontractors regardless if the Contractor has self-perform crews on site or not. Representative must be able to make all field & financial decisions. If full time supervision is not onsite by the Contractor, their Subcontractors will be told to leave the site until the next calendar working day. Contractor will be held responsible for delays and back charged due to lack of project supervision.
38. Contractor is to provide site Supervision and Foreman an Apple iPad with unlimited data/cellular plan service. It is required that Contractor download BluebeamRevu and Autodesk Build via the app store on each device. Contractor may access Owner guest Wi-Fi network if available.
39. Contractor must complete and submit electronic daily Flypaper reports and pre-task plans via Autodesk Build to Barton Malow Builders on a daily basis. These reports must show total number of manpower, total number of hours, and each day’s specific activities. If this is not done, Barton Malow Builders reserves the right to withhold this Contractor’s monthly payments until satisfied with this Contractor’s response.
40. Items shown to be turned over on the project documents and for closeout attic stock to Owner must be accompanied by a transmittal and copied with signature of receipt to Barton Malow Builders. If a transmittal is not provided and Owner's items are missing, it is this contractor’s responsibility to purchase and replace with new materials.
41. Contractor is responsible for the quality control for work of this bid category (including for their subordinate parties). Contractor is to strictly observe tolerances and to maintain strict quality control throughout the execution of his work. All work is to be checked for compliance at each stage of completion per applicable codes, project drawings, specifications, and manufactures shop drawings/written instructions. Any work that is not within specified tolerances is to be removed and replaced.

42. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.
            (c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.
43. Ticket work is to be signed by Barton Malow Builders at the end of each workday. Tickets not reviewed or signed by the Barton Malow Builders Superintendent will not be accepted or processed. Pricing is to have detailed explanations of work performed. Barton Malow Builders directed ticket work shall NOT include foreman time, work/service truck, cartage, or overhead and profit mark-up. Tickets shall include only approved labor and materials used. Signature from Barton Malow Builders Superintendent does not necessarily equal additional funds. Barton Malow Builders Project Manager will decide if ticket work is added scope to the contract.
44. All change pricing is to be submitted within ten (10) days from receipt of the change vehicle, unless otherwise agreed by Barton Malow Builders or Owner. All change order pricing is to include a detailed breakdown of costs – Material, Labor, Equipment, etc. along with any signed work orders. No lump sum pricing allowed. Change order pricing will not be accepted without a detailed breakdown. Failure to submit change order pricing within ten (10) days will result in a $0 change order.
45. Provide all cutting/patching, coring, patching of penetrations, and block-outs for work of this bid category. This is to include but not limited to cutting and patching of all openings in deck (concrete or metal) if required. Patch walls where adjacent existing walls were removed. Patch and repair work is to be done professionally by trained, skilled craftsmen.
46. Provide and install temporary protection for all excavations, floor, or roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. ‘Hole below - do not remove’) covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
47. Contractor is responsible for all dewatering and snow/ice removal necessary to complete this Scope of Work.
48. Cleanup is to be performed continuously as work is progressing. This means cleaning up each and every hour. This includes the removal of debris, sweeping (Contractor to provide sweeping compound), wiping down of all finished surfaces, and the proper storage of unused equipment and materials. Cleanup not performed by the Contractor will be completed by a third party (chosen by Barton Malow Builders) and back charged accordingly. Written warnings will not be issued.
49. Contractor shall participate in the Composite Cleanup Crew as described in the project manual. These requirements are in addition to normal daily cleaning responsibilities and costs for this are included in the contract price.
50. Include all cost in base bid to comply with the latest Federal mandate, State of Michigan Executive Order, OSHA requirements, Local Jurisdiction Requirements, Owners Requirements, whichever is more stringent related to Covid-19: testing, PPE, social

distancing, and all other requirements for your workers and subordinate parties. This shall include identifying your competent Covid 19 supervisor that will review, monitor, record, and enforce all requirements. In addition, each worker onsite is required to sign in each day prior to work using the Barton Malow QR Reader Questionnaire on a smart phone or tablet.

F. **Specific Scope:**
1. Temporary Measures:
   a. Protect all materials from damage prior to installation.
2. Temporary Clean Up:
   a. Provide daily identifiable cleanup for this Contractor's work.
   b. Provide all dumpsters required for this Contractor's work.
3. Coordination and Layout
   a. Contractor will be responsible for the complete coordination of work of this bid category with all other trades to identify and resolve conflicts. Any and all financial implications emanating from this Contractor's lack of planning and coordination will be borne by this Contractor. This shall include blocking, backing conduits, sleeves, penetrations, and any other appurtenances which may not be specifically identified by the contract documents but are required to complete this scope of work.
   b. This Contractor is responsible for all detailed layout required for proper location and coordination of work.
   c. Contractor shall review the critical dimensions and elevations of all work and shall otherwise verify the conformity of existing work to the Contract Documents and to its suitability. Contractor shall promptly submit a written statement to Barton Malow Builders and Architect/Engineer noting any discrepancies or unacceptable conditions as they relate to its work
   d. Contractor shall attend all meetings as required to properly coordinate its Work with that of Others. Coordination efforts should be focused on minimizing any post-installation damage and quality issues.
      1) Contractor to participate in pre-installation conferences as requested by Barton Malow Builders, Architect, Owner, or per the specifications
   e. Contractor shall visit the site and attend meetings as required to properly coordinate the Work.
      1) Coordination efforts should be focused on minimizing any post-installation damage and required patching operations.
   f. Initial benchmarks are shown on the project drawings.
4. Contractor shall include multiple mobilizations to complete the Work.
5. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
6. Work in New and Existing Buildings
   a. Removal, salvage, and storage of existing ceilings or reinstallation by this Contractor shown on the Demolition, Mechanical Demolition, Electrical Demolition, and Architectural drawings.
7. Work in New and Existing Buildings
   a. Provide and install all hollow metal doors, wood doors, and all hardware as scheduled and as required to provide a complete and fully functioning opening.
   b. Protect all permanent doors in main egress pathway with card board.
   c. Contractor shall assume that there is insufficient space within the Project for it to store its material. Accordingly, Contractor shall either include either multiple deliveries or a storage container to minimize the amount of material staged for installation.
   d. Hardware shortages after delivery/inventory shall be expedited to the jobsite.

e. Barton Malow Builders is to be notified of any discrepancies of hardware delivery tickets within 24 hours of delivery.
f. Prior to commencing the Work in any specific area or location, Contractor shall provide separate site inspections to survey the openings and verify that the frames are plumb and that they are properly installed as required to receive doors and hardware. Contractor shall notify Barton Malow Builders in the event any issues are identified.
g. Provide and install all hollow metal door frames. Frames are to be properly labeled and factory prepped to receive the scheduled hardware.
    1) Labels are to be mechanically fastened to frames (welded or screwed).
h. Fire Rated hollow metal door frames are to have the appropriate rating label affixed as required by Code.
    1) Labels are to be mechanically fastened to frames (welded or screwed).
i. Provide all hollow metal interior or exterior window frames.
j. All hollow metal doors and frames scheduled to receive glazing are to be provided with all required glazing stops. The stops are to be pre-drilled and located as required to receive the scheduled glass thickness.
k. Contractor is responsible for the coordination of door bottoms with the door details and scheduled floor finish.
l. Undercut doors as needed to comply with door details and specifications.
m. All edges of wood doors are to be sealed using the type of sealer recommended by the door manufacturer.
n. This Contractor shall install exterior thresholds for work of this bid category within a bed of silicone caulk. Responsible for water intrusion if installed improperly.
o. Any door louver kits are to be installed at the factory.
p. Glazing in wood doors is to be provided by this Contractor.
q. Doors specified to be factory glazed is to be provided by this Contractor.
r. Contractor is to coordinate with the Painting Contractor as required to ensure that the doors are properly finished. This includes the painting of the door tops and bottoms. If required, Contractor shall deliver the doors to the Painting Contractor’s shop so they may be pre-finished before being installed. Contractor shall include all loading and unloading of the doors, in addition to the pick-up and delivery of the doors to the Project.
s. Contractor shall include providing and installing a complete set of construction cores and permanent cores, keyed as required, for all door openings. This includes coordinating and providing cores for any Aluminum Doors that are being provided by others.
    1) Coordinate final core info between hardware manufacture and Owner.
t. Contractor to include separate mobilizations for the providing, installation of temporary doors and hardware, as required to provide a fully functioning and lockable opening and appropriate rating, at the following locations:
    1) All Elevator Machine, Equipment Rooms, and Front Entrance
u. Include the removal of any provided temporary doors when ready to install the permanent door and hardware.
v. Contractor shall include two (2) separate service calls to the Project, to perform doors checks and adjustments, during the 1 year warranty period.
w. Account for door adjusting trips and repairs for final inspections. Final adjust all doors as necessary prior to Owner acceptance.
x. Complete hardware manufacturer’s adjustment and inspection as specified.
y. All excess parts will be inventoried and turned over to the Owner as attic stock.

8. Woods, Plastics, and Composites
    a. Provide and install all in wall blocking for casework, millwork, shelving, and Toilet Partitions.

1) Coordinate and schedule the installation of all backing with the Architectural Contractor.

b. Provide and install all backing for Owner provided casework and millwork. Reference equipment drawings for locations and quantities.
c. Compliance with Architectural Woodwork Institute (AWI) quality standards.
d. Provide and install all Rough Carpentry items as shown, specified or required to complete all work related to this bid category
e. Coordinate and provide all cut-outs and chases for mechanical and electrical work fitting into this contractor's work.
f. Provide and install all wood blocking, plywood, paneling, wood preservative and fire treated materials shown on the Contract Documents including related fastening and anchoring for work of this bid category.
g. Coordinate and provide all cut-outs and chases for mechanical and electrical work fitting into this Trade Contractor's work.

9. Openings
   a. Provide and install all hollow metal and wooden doors as indicated on the Construction Documents.
   b. Provide and install fire rated plywood at tele/data closets. Plywood to be full applied at all 3 open walls (walls without door opening) and applied from 6" AFF to 8'-6" (length of sheet) in rooms without finished ceilings. Sheets to be cut 1" below finished ceiling should the requirement apply.
   c. Provide labor and material to install a lockable temporary entrance at front entrance once Demo is complete.
10. Metal Studs, Framing and Drywall
   a. Replaced in its entirety all fireproofing disturbed by this Contractor's installations. Patching material shall match the material used by the Fireproofing Contractor.
   b. Contractor shall provide and install backing and shims for all work related to their bid category as shown, specified or required. This includes but is not limited to plywood, paneling, backing, wood preservative and fire treated materials including related fastening and anchoring.
   c. Provide 8 sheets of ¾" plywood for dumpster wheels.
   d. Provide, install, and maintain temporary weather protection for exterior wall openings. Openings shall be protected by weather tight secure plywood with doublewide lockable doors. Temporary protection on wall openings above the first floor shall be removable stick & reinforced visqueen panels that include top, mid, and toe kick protection. Remove and dispose as requested by construction manager. Coordinate with the demo and glazing contractor.
   e. Provide, install, and maintain temporary protection (dust proof) for IDF/MDF room. Protection shall be stick & reinforced visqueen removable panels. Remove and dispose as requested by Barton Malow Builders.
   f. Contractor shall provide and install all wood blocking for work of this bid category.
   g. Provide and install all in wall blocking and nailers necessary for roofing, glazing, mechanical, electrical, toilet partitions, toilet accessories, monitor locations, A/V monitors, and/or required for work of this bid category. Some of the items may not be indicated on the contract documents, but this Contractor is expected to include all backing within reason. All backing/blocking to be fire treated plywood, 2 x 6 or metal strapping as directed by Barton Malow Builders.
   h. Provide and install all in wall blocking for Owner furnished equipment shown on the project drawings. I.E. Paper towel dispensers, soap dispensers, monitors, etc. See drawing schedules.
   i. Provide and install all in wall blocking for casework, lockers, and shelving.
   j. Provide and install backing related to all interior handrails. Handrail backing shall be provideed and installed as shown, specified or required to allow for a complete

handrail installation. Close coordination with the structural steel trade contractor required.

k. Provide and install all Interior Expansion Joint Cover Assemblies, complete with all accessories
l. Contractor shall provide and install all expansion control within the interior of the building. This includes all interior expansion control for walls, floors and ceilings. Coordination with flooring and ceiling trade contractors required.
m. All walls are to go to deck unless otherwise noted and to be fire or smoke rated/sealed. Provide and install all fire stopping and acoustical sealant to make gypsum board walls fire rated and/or smoke tight. This means all top of wall exposed insulation and/or joints are to receive fire or joint sealant based on rating. Both sides of the walls at the deck are to be fire or acoustical sprayed to the deck.
n. Install joint sealants at the bottom of walls as shown and/or required.
o. Joint sealants that abut work of this bid category or adjoining dissimilar materials is the responsibility of this contractor. This shall include but not limited to casework, block, all hollow metal frames, and where drywall abuts to dissimilar materials.
p. All soffits shown on the reflected ceiling and elevations (coordinate with casework/millwork lighting and mechanical equipment).
q. Coordinate rough openings in gypsum board walls/soffits and ceilings with the mechanical and electrical trades.
r. Frame for all transfer grills and ductwork above ceiling. Coordinate with the mechanical contractor. Mechanical Contractor to provide layout on floor.
s. Provide and install access panels in ceiling and walls shown on the drawings.
t. Frame and install for access panels provided by other trades.
u. Install control joints in drywall ceilings/walls shown, specified, and/or required. Coordinate control joints with the Architect/Engineer prior to installation.
v. Install control joints above door frames on the strike side (both sides of door).
w. Contractor is to guarantee dimensions for all storefront openings based on approved aluminum shop drawings.
x. All light fixture openings are to be framed and hung in strict accordance with the manufacturer’s instructions. Coordinate locations with Electrical Contractor. Electrical Contractor to provide layout on floor.

11. Metal Studs and Framing
    a. Contractor shall provide and install all non-structural metal framing as detailed in the Contract Documents. This shall include but not be limited to non-load bearing steel framing systems and suspension systems for interior gypsum ceilings, gypsum soffits and gypsum grid systems.
    b. Provide and install framing to box around beams or bar joists on walls that are shown or required to go to the deck.
    c. Provide and install interior and exterior wall and ceiling insulation (sound and thermal) shown or specified for work of this bid category.
    d. Insulate all box headers and between double jamb studs at door/window and other wall openings.
    e. Coordinate all overhead & soffit framing and clearances with the mechanical and electrical contractors. Participate in overhead coordination meetings and drawings.
    f. Provide and Install all hollow metal door frames that reside within its framed openings.
    g. HM Frames to be grouted solid prior to install. Coordinate electrical raceways with the Electrical and Security Contractor prior to grouting.

    Drywall
    a. Contractor shall provide and install all drywall walls and ceilings as shown. Coordinate with all required trades for placement of overhead and ceiling mounted items within drywall/hard lid ceilings. Ceilings shall not be installed until all related

MEP trades have completed work in each respective area. Coordination with each Contractor and Barton Malow Builders required. Establish work points and layout references.

b. Provide and install all drywall ceilings, bulkheads, and soffits per contract documents. Provide all cut-outs for light fixtures, sprinklers, mechanical duct, and other penetrations through drywall ceilings, soffits and bulkheads.
c. Drywall to meet UL assembly requirements for penetrations or abutments.
d. Provide and install drywall around beams or bar joists on walls that are shown to go to the deck.
e. Provide and install all access panels/doors shown on the drawings. Minimum door size shall be 2' X 2' unless approved by Barton Malow Builders or the Owner.
f. Studs will be placed prior to prior to mechanical and electrical overhead work.
    1) Stud wall installation will include installation of wall framing and one side drywall topout. Top-outs shall be taped and fire/smoke sealed immediately after installation prior to mechanical and electrical overhead installation.
g. Priority Studs/Drywall will be required, however, anticipate that mechanical and electrical overhead utilities will be in place prior to stud wall framing.
    1) Door frames will not be installed with priority walls.
    2) Assume approximately 20% of walls throughout the building are priority walls.
    3) Priority wall installation will include installation of wall framing and one side drywall topout. All shaft walls and priority wall top-outs shall be composed of moisture and mold resistant gypsum board
h. Provide and install complete gypsum board assemblies for the project including, but not limited to metal studs, gypsum wallboards, and walls soffits and ceiling assemblies. Include trim accessories, exterior soffit plaster work, fiberglass sound attenuation blankets, acoustical sealants, fire resistive sealants, isolation strips and security mesh as shown, specified or required.
i. Provide all Shaft-Wall Assemblies both horizontal and vertical including all supports.
j. Contractor shall provide and install all backing required for equipment installation. Coordination with equipment Contractors as required.
k. Provide all Finishing of Gypsum Board assemblies to the levels specified.
l. Contractor will remove all excess drywall compound from floors, windows, etc.
m. Prep walls for prime paint by the date indicated on the schedule and notifying the Painting Contractor as to when walls and ceilings are ready to be primed. The painter will then notify the Architectural contractor of areas that require rework prior to priming. All imperfections are to be corrected prior to the application of any prime coats or finish wall coverings.
n. Contractor shall provide all drywall patching as shown, specified or required, regardless of any occurrence or condition which precipitated the patch. This Contractor shall include patching prior to, during and following the first coat of paint. Any additional patching required after the second coat of paint shall be assumed as outside of scope.

12. Finishes
    a. Comply with AWI standards.
    b. Work in New and Existing Buildings
        1) Provide and install any structural steel or unistrut work necessary to span between or extend from the basis building structure in order to install ceiling system hangers, anchors, or supports.
        2) Replaced in its entirety all fireproofing disturbed by this Contractor's installations. Patching material shall match the material used by the Fireproofing Contractor.
    c. Acoustical Ceilings

1) Provide and install all acoustical, wood, and metal panel ceilings as shown, specified or required. Installation shall include but not be limited to acoustical, wood, and metal panel ceiling panels, ceiling grid, grid suspension system, moldings, specialty edge treatments such as Armstrong Axiom, trim, gasket systems, direct-hung systems, and any and all other accessories or items required to provide a complete system.
2) Contractor shall prepare coordinated ceiling Shop Drawings. The drawings shall depict all devices and items scheduled to be installed in the ceiling. This includes, but is not limited to, HVAC Grills, Diffusers, Sprinkler Heads, Fire Alarm Devices, Light Fixtures, Lighting Control Devices, HVAC sensors, and any other devices. Coordinated drawings shall also address any additional supports that may be required to accommodate any items. These additional supports shall be included within the Scope of Work.
3) Contractor is responsible for including equipment or scaffolding systems as required to access the Work. Any scaffolding systems shall be engineered, erected, maintained, inspected and removed by this Contractor.
4) Provide and install additional hangers for light fixtures and other devices that are required to have separate and independent supports.
   (a) Provide and install separate additional wire hangers at each corner (4) to support light fixtures and additional hanger wires for other similar items all devices that reside in the grid system.
5) Provide & install metal grid of each type and size indicated or specified.
6) Provide & install acoustical, wood, and metal panel ceiling and specialty ceilings of each type and size indicated or specified.
7) Install ceiling grid to accommodate ceiling expansion joints. Coordinate work with the Specialties contractor.
8) Coordinate installation of lighting and diffusers in acoustical, wood, and metal ceilings with the mechanical and electrical trades.
9) Mechanical and electrical equipment, ducts, conduits and devices may not be used to support work of this bid category. Where mechanical, electrical or other items above the ceiling interfere with the normal spacing of your ceiling hangers install supplemental suspension angle iron or other support members as required.
10) In the event that that Contract Documents do not permit the direct attachment of the ceiling support system to the metal deck above, Contractor shall include a secondary support system suspended from the structural members, as required.
11) Contractor shall treat any “cut” edges of tiles in accordance with the requirements of the Contract Documents.
12) Make required cuts and install all acoustical, wood, and metal panel ceiling tiles for other trades for installation of devices in the grid system (dome lights, sprinklers, can fixtures, etc.) immediately upon installation of grid system. Note that this will occur prior to mass installation of the balance of acoustical ceiling tile after overhead inspections have been completed. Install edge cuts of ceiling tiles at the same time prior to mass installation.
13) Cut out ceiling tiles for all other trades including but not limited to light fixtures, sprinkler heads, fire alarm devices, etc. Scribe and cut panels at borders and penetrations to provide a neat, precise fit. Paint exposed edges of where cuts or scribes were made and are visible. Coordinate layout and installation with all trades with ceiling penetrations. Cut-outs for lights are by others.
14) Contractor, if requested, shall leave out any tiles required for above ceiling inspections, or test & balance activities, or to access valves, etc. Upon completion of the inspections or other activities, Contractor shall install the tiles.

15) Contractor shall vacuum carpet or sweep floors in any spaces where it cuts-in borders.
16) Provide and install any ceiling expansion joint assemblies that are not within drywall ceiling systems.
17) Provide and install any joint sealants at the perimeter edge molding and drywall assemblies.
18) Caulk any gaps that are visible between your grid system and the adjacent wall or soffits.
19) Seal all panel gaskets per the specifications.
20) Provide and install any horizontal batt insulation scheduled to be placed on the ceiling system after completion of device installation.
21) Clean grid and tile upon completion. Touch-up wipe down and final clean exposed surfaces including ceiling grid, edge moldings, suspension-system members, ceiling tiles prior to acceptance by Owner. Replace ceiling components that cannot be successfully cleaned and/or repaired. Remove excess material/trash from above ceiling prior to close.
22) All adjusting and cleaning shall be performed as specified at the end of each spec section.

1.04 SPECIAL CONSIDERATIONS:

A. Labor Rates/Unit Prices/Alternates: Provide the following information on the bid form:

B. Labor/Equipment Rates:

C. This Contractor is to provide as a part of his proposal a fully detailed labor rates for Barton Malow Builders approval for work associated with this Contractor's and for each of their Subordinate Parties Trades. In addition, labor rates will be required for all equipment involved with the performance of the work required by this Bid Category.

D. Allowances: This Contractor must obtain written authorization from Barton Malow Builders prior to performing the associated work below. Include in this Contractor’s bid, allowances for work as follows.

E. Provide Allowance for the following
   1. Include an allowance of $5,000 in this Contractor’s bid for additional unidentified FINISH CARPENTRY work. Allowance is to be used at the direction of Barton Malow Builders.

F. Alternates: This bidder shall be required to submit alternate prices identified in the contract documents which pertain to their work. These alternate prices shall be separate from their base bid on the bid proposal form.

END OF SECTION 002206.01

SECTION 002208.01
GLASS AND GLAZING - SCOPE OF WORK

BID PACKAGE 5

BID CATEGORY – STOREFRONT, CURTAINWALL, & GLAZING

PART 1 GENERAL

1.01 THE WORK OF THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO PROVIDING ALL SUPERVISION, LABOR, EQUIPMENT, MATERIALS, TAXES, BONDS, INSURANCE, SCAFFOLDING, HOISTING AND INCIDENTALS TO COMPLETE THE WORK PER ALL CONTRACT DOCUMENTS FOR THE TSD BP#5 - ADMINISTRATION BUILDING RENOVATION AS DEFINED BY THE BID PACKAGE NO. 5 BID/WORK SCOPE DOCUMENT INCLUDING ITS SUPPLEMENTARY DOCUMENTS AND IN ACCORDANCE WITH ANY APPLICABLE CODES. ALL WORK IS TO BE PERFORMED AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE FOLLOWING TECHNICAL SPECIFICATION SECTIONS:

A. Division 0 - Procurement and Contracting Complete
B. Division 01 – General Requirements Complete
C. Division 05 – Metals
    1. 05 5000 – Metal Fabrications As Applicable
D. Division 07 – Thermal and Moisture Protection
    1. 07 8400 - Firestopping As Applicable
    2. 07 9200 - Joint Sealants As Applicable
E. Division 08 – Openings
    1. 08 1610 – FRP-Faced Aluminum Doors Complete
    2. 08 4313 – Aluminum-Frames Storefronts Complete
    3. 08 5800 – Aluminum Interior Sliding Service Window Complete
    4. 08 7100 – Door Hardware As Applicable
    5. 08 8000 – Glazing Complete

IN ADDITION TO THE ABOVE, THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO THE BIDDING DOCUMENTS, THE BIDDING AND CONTRACT REQUIREMENTS AND DIVISION 1 GENERAL REQUIREMENTS OF THE BARTON MALOW BUILDERS PROJECT MANUAL AND VARIOUS OTHER DOCUMENTS AND TECHNICAL SPECIFICATIONS INTERFACING WITH THIS WORK PROVIDED BY THE OWNER, ARCHITECT AND/OR ENGINEERS. THE BIDDER IS ADVISED TO REVIEW THE WORK DESCRIPTIONS OF THE OTHER CATEGORIES SO AS NOT TO MISUNDERSTAND SCOPE RESPONSIBILITIES.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

THE SCOPE OF WORK WILL INCLUDED AND IS NOT LIMITED TO THE FOLLOWING ITEMS:

A. Performance of the Work shall be in accordance with all Division 01 – General Requirements.
B. Refer to the Project Manual for additional bidding and project general requirements and conditions.
C. In addition to the requirements set forth in Division 01 – General Requirements, the Work shall include the following:
    1. Additional Meetings & Quality Control Requirements:

a. Pre-Install Conferences
b. Mockups
c. Additional Photographic documentation, etc

D. **Submittals/Close Out:**
1. Submit all start-up documents, and product submittals on materials & products within two (2) weeks after Notice to Proceed (NTP).
2. Submit all shop drawings in accordance with the contract documents and all code requirements within four (4) weeks after Notice to Proceed (NTP).
3. Contractor is to submit a long lead item log to Barton Malow Builders for materials and equipment with lead times of 6 weeks or more. The long lead item log shall include submitted date, submittal approval date, lead time, order date, & approximate delivery date. Contractor shall update and submit weekly to Barton Malow Builders.
4. All equipment, products, & materials that are installed without submittal approval and not acceptable by the Architect/Engineer and Owner will be removed at the installing Contractors cost. Contractor will be held responsible for all back charges caused by the project delay to the Owner and Trades working onsite due to no specified material/equipment install and/or lack of or late submittal approvals.
5. Contractor shall include all cost necessary for as-built, asset sheet data spreadsheet, closeout documents (including O&M manuals, valve charts, guarantees or warranties on equipment and/or materials, testing and system check-out or approval, and Owner's training as required) per the Contract Documents.
6. Contractor to provide additional manpower dedicated to Barton Malow Builders to complete Barton Malow Builders punch list work for a minimum of ten (10) working days prior to the listed Architect/Engineer project punch list in the project schedule. This manpower will be under the direction of the Barton Malow Builders Superintendent to complete punch list work of their bid category and will report directly to the Barton Malow Builders each day. Failure to provide required manpower may result in a delay in receiving the Contractor’s progress payment from Barton Malow Builders.
7. Architect/Engineer's punch list will not start until all work has been completed.
8. Contractor may not drop retainage to 5% until work of this bid category is substantially complete according to the contract documents. In addition, all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been completed, turned over, accepted, and documented. Contractors must also have up to date partial and final waivers from all Contractors, suppliers, and other Subordinate Parties including a AIA G707a Consent of Surety to partial reduction in retainage form signed and sealed by the Surety.
9. To bill out the remainder of retainage (from 5% to 0%), the Contractor must set up a meeting with Barton Malow Builders to go over and/or collect the remaining closeout items for final payment as specified in the project manual and submit a AIA G707 Consent of Surety for final payment form signed and sealed by the Surety.

E. **General Scope:**
1. Required PPE for every Contractor, Subcontractor, & Delivery Drivers onsite:
   a. Class II hardhats
   b. Cut level four gloves
   c. Eye protection
   d. High visibility reflective safety vests
   e. Work boots
   f. Sleeved shirts
2. Contractor is to incorporate all project bidding documents into their subordinate party agreements.
3. All bidders are required to review the General Conditions of the Contract located in the project manual.

4. Contractor is to be licensed to perform work in the State of Michigan. This includes all Contractors and 2nd or 3rd (etc.) tiered Contractors.
5. Contractor shall maintain on site, a copy of all applicable code books specifically pertaining to this scope of work. These code books are to follow the city, state, and all other authorities having jurisdiction per the specific year each authority has designated for this particular project. This Contractor is responsible for all research and compliance with all applicable regulations.
6. This Contractor is responsible to coordinate with Barton Malow Builders to schedule inspections with the Local Governing Agency and/or the State of Michigan as well as the testing agency. Inspection results and records will be kept in the Barton Malow Builders jobsite office. During all inspections each Contractor is to have a Foreman/Superintendent on site.
7. Contractor must verify that work installed by others, complies in its entirety with the contract documents prior to commencing their work, which ties in, overlays and/or follows the installed work. Any non-conforming work shall be identified in writing to Barton Malow Builders immediately.
8. Anyone listed on the National Sex Offender List is not allowed to be a part of this project and anyone who is convicted of a listed offense will be immediately dismissed from project. Provide photo identification upon arriving to the site and badges are to be worn by Contractor's field personnel at all times.
9. Contractor shall have their Superintendent/Foreperson attend a daily coordination meeting every morning from 6:45am - 7:00am. Participation is mandatory.
10. Project daily working hours are Monday – Friday, Site Opens @ 5:30am and closes at 2:30pm. There will be a 5-day minimum work week. Should scheduled workdays or production be lost due to inclement weather or this Contractor's delays, overtime during the work week and weekends will be required to maintain the project schedule at this Contractor's expense. Any work performed outside normal working hours requires approval from Barton Malow Builders.
11. Contractor is only to take direction from Barton Malow Builders.
12. Review all specifications and project drawings, drawing notes, schedules, and schedule notes for areas requiring work described by this bid category and coordinate work with the respective contractors, include all costs in base bid.
13. Include all manpower, overtime, composite crews and mobilizations in base bid to complete work per the project schedule. All mobilizations required to complete this Scope of Work have been included in the base contract price, unless specifically addressed otherwise in this Contract Agreement. It is understood and agreed that this work may not be performed in a continuous operation and during normal business hours. This contractor has included the cost of the multiple mobilizations/remobilizations and cost to work during non-normal business hours.
14. Contractor will be required to perform after-hours and overtime work as necessary to minimize disruption to Troy School District.
15. If Contractor is behind schedule and is notified by Barton Malow Builders, the Contractor shall be required to accelerate the work at its own expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, and shall continue to do so until the progress of the work, in the opinion of Barton Malow Builders, is in conformance with the master project construction schedule.
16. Provide and install all materials per the construction documents. Bid proposals must be per plan and specs. Bids not conforming to plans and specifications will be rejected. Substitutions must be pre-approved in writing prior to bids or be submitted as voluntary alternates on the bid form.
17. Contractor must include costs and utilize Autodesk Build and Textura for this project. Information and cost for Textura can be found in section 012000-Price and Payment Procedures and AutoDesk Build in section 013000-Administrative Requirements.

18. All contractors are to field verify all existing conditions prior to submitting a bid. Submitting a bid is acceptance of all field conditions. Do NOT scale the drawings.
19. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
20. This project surrounded by Troy School District staff and students. Contractor is to take proper measures to ensure minimal disruptions to the roads and sidewalks around the project. Contractor is responsible for proper barricading and signage if his work activity interrupts the normal flow of operations around the facility. All Contractor employees and subordinate parties are to conduct themselves in a manner not to offend nor interfere with the staff, students, or any other public person. Barton Malow Builders and Troy School District Code of Conduct includes immediate termination for foul language/derogatory conversation. Those who are not in compliance will be asked to leave the project and not return.
21. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor's responsibility.
22. Minimize disturbances to landscape areas. Excessive or malicious (as deemed by) Barton Malow Builders landscape disturbance will be the responsibility of this contractor to restore at own expense.
23. Protect equipment and finish items to remain during construction including roof, ceilings, walls, flooring, and landscaping during work of this bid category. In addition, all work being performed through ceilings, be it grid, ceiling pads, drywall or plaster, etc. must be protected from damage during work of this bid category. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
24. Deliveries must occur after 7am and prior to 2pm and not between noon and 1pm, unless scheduled with a Barton Malow Builders Superintendent or risk having the delivery turned away. Unloading, hoisting, transport of materials out of truck to staging location, and delivery acceptance is by the Contractor who is responsible for the material.
25. Contractor is responsible for storage of all materials. Deliver materials to the site as needed. Storage in the building will be limited. Materials in building must be on pallets or material/pipe carts.
26. Stocking of material on floors will be limited to a three (3) day maximum in the area of work, if approved by Barton Malow Builders Superintendent. No other material storage will be allowed in the building.
27. All materials used are to be new, unused and undamaged. Any damaged or questionable material is to be removed and replaced at no cost to the Owner or Barton Malow Builders.
28. Include all rigging and hoisting to deliver, install, and remove materials to / from all floor levels complete.
29. All crane and boom truck lifts must be properly barricaded to keep public at a safe distance. Provide ground spotters and barricading to keep public out of the swing radius of the crane or boom truck.
30. The use of the existing and/or new elevator will not be permitted.
31. This contractor is responsible for all lifts and scaffolding, if required, for work of this bid category. Coordinate use of your lifts and scaffolding with other trades.
32. Scaffolding and staging as required. Engineered installation drawings, as required.
33. Include field layout for work of this bid category, also included is field time for this contract to survey existing conditions prior to beginning each phase of work. Any discrepancies between existing conditions and the contract drawings are to be reported to Barton Malow Builders immediately.
34. Coordination drawing meetings will be scheduled. Contractor understands that Barton Malow Builders is not issuing change orders for items not coordinated with other trades. Contractor also understands any conflicts of existing structure with their new work

must be brought to Barton Malow Builders and Architect/Engineer attention in advance of start of work.

35. Contractor shall have no claims for additional cost because Contractor has failed to install work in proper sequence and not in accordance with Coordination drawings. Likewise, any cost for removal of materials or damage caused by Contractors who have failed to perform their Work in the proper sequence will be borne by that Contractor.
36. Participation in coordination meeting/s, weekly progress meetings, and drawings process is mandatory. Minimum eight (8) hours per week shall be included for meetings and coordination with Barton Malow Builders. Representative must be able to make all decisions for their Company and Contractors.
37. Contractor to have one (1) full time on-site superintendent, for the duration of the project. The assigned personnel will be responsible to manage the “entire” scope of work including their Subcontractors/Suppliers and will be the single point of contact for this scope of work. Contractor will be responsible to complete the daily report & JHA form each day including for their Subcontractors regardless if the Contractor has self-perform crews on site or not. Representative must be able to make all field & financial decisions. If full time supervision is not onsite by the Contractor, their Subcontractors will be told to leave the site until the next calendar working day. Contractor will be held responsible for delays and back charged due to lack of project supervision.
38. Contractor is to provide site Supervision and Foreman an Apple iPad with unlimited data/cellular plan service. It is required that Contractor download BluebeamRevu and Autodesk Build via the app store on each device. Contractor may access Owner guest Wi-Fi network if available.
39. Contractor must complete and submit electronic daily Flypaper reports and pre-task plans via Autodesk Build to Barton Malow Builders on a daily basis. These reports must show total number of manpower, total number of hours, and each day’s specific activities. If this is not done, Barton Malow Builders reserves the right to withhold this Contractor’s monthly payments until satisfied with this Contractor’s response.
40. Items shown to be turned over on the project documents and for closeout attic stock to Owner must be accompanied by a transmittal and copied with signature of receipt to Barton Malow Builders. If a transmittal is not provided and Owner's items are missing, it is this contractor’s responsibility to purchase and replace with new materials.
41. Contractor is responsible for the quality control for work of this bid category (including for their subordinate parties). Contractor is to strictly observe tolerances and to maintain strict quality control throughout the execution of his work. All work is to be checked for compliance at each stage of completion per applicable codes, project drawings, specifications, and manufactures shop drawings/written instructions. Any work that is not within specified tolerances is to be removed and replaced.
42. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.

(c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.

43. Ticket work is to be signed by Barton Malow Builders at the end of each workday. Tickets not reviewed or signed by the Barton Malow Builders Superintendent will not be accepted or processed. Pricing is to have detailed explanations of work performed. Barton Malow Builders directed ticket work shall NOT include foreman time, work/service truck, cartage, or overhead and profit mark-up. Tickets shall include only approved labor and materials used. Signature from Barton Malow Builders Superintendent does not necessarily equal additional funds. Barton Malow Builders Project Manager will decide if ticket work is added scope to the contract.
44. All change pricing is to be submitted within ten (10) days from receipt of the change vehicle, unless otherwise agreed by Barton Malow Builders or Owner. All change order pricing is to include a detailed breakdown of costs – Material, Labor, Equipment, etc. along with any signed work orders. No lump sum pricing allowed. Change order pricing will not be accepted without a detailed breakdown. Failure to submit change order pricing within ten (10) days will result in a $0 change order.
45. Provide all cutting/patching, coring, patching of penetrations, and block-outs for work of this bid category. This is to include but not limited to cutting and patching of all openings in deck (concrete or metal) if required. Patch walls where adjacent existing walls were removed. Patch and repair work is to be done professionally by trained, skilled craftsmen.
46. Provide and install temporary protection for all excavations, floor, or roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. ‘Hole below - do not remove’) covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
47. Contractor is responsible for all dewatering and snow/ice removal necessary to complete this Scope of Work.
48. Cleanup is to be performed continuously as work is progressing. This means cleaning up each and every hour. This includes the removal of debris, sweeping (Contractor to provide sweeping compound), wiping down of all finished surfaces, and the proper storage of unused equipment and materials. Cleanup not performed by the Contractor will be completed by a third party (chosen by Barton Malow Builders) and back charged accordingly. Written warnings will not be issued.
49. Contractor shall participate in the Composite Cleanup Crew as described in the project manual. These requirements are in addition to normal daily cleaning responsibilities and costs for this are included in the contract price.
50. Include all cost in base bid to comply with the latest Federal mandate, State of Michigan Executive Order, OSHA requirements, Local Jurisdiction Requirements, Owners Requirements, whichever is more stringent related to Covid-19: testing, PPE, social distancing, and all other requirements for your workers and subordinate parties. This shall include identifying your competent Covid 19 supervisor that will review, monitor, record, and enforce all requirements. In addition, each worker onsite is required to sign in each day prior to work using the Barton Malow QR Reader Questionnaire on a smart phone or tablet.

F. **Specific Scope:**
1. Temporary Measures:
   a. Protect all materials from damage prior to installation.
2. Coordination and Layout
   a. Contractor will be responsible for the complete coordination of work of this bid category with all other trades to identify and resolve conflicts. Any and all financial implications emanating from this Contractor’s lack of planning and coordination will be borne by this Contractor. This shall include blocking, backing conduits, sleeves,

penetrations, and any other appurtenances which may not be specifically identified by the contract documents but are required to complete this scope of work.

b. This Contractor is responsible for all detailed layout required for proper location and coordination of work.
c. Contractor shall review the critical dimensions and elevations of all work and shall otherwise verify the conformity of existing work to the Contract Documents and to its suitability. Contractor shall promptly submit a written statement to Barton Malow Builders and Architect/Engineer noting any discrepancies or unacceptable conditions as they relate to its work
d. Contractor shall attend all meetings as required to properly coordinate its Work with that of Others. Coordination efforts should be focused on minimizing any post-installation damage and quality issues.
    1) Contractor to participate in pre-installation conferences as requested by Barton Malow Builders, Architect, Owner, or per the specifications
e. Contractor shall visit the site and attend meetings as required to properly coordinate the Work.
    1) Coordination efforts should be focused on minimizing any post-installation damage and required patching operations.
f. Initial benchmarks are shown on the project drawings.
g. Coordinate installation of conduit and wiring with the Electrical and Secutity Contractors in new storefront & curtainwalls.

3. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
4. Contractor shall include multiple mobilizations to complete the Work.
    a. Contractor shall include multiple mobilizations for the Work as required. Multiple mobilizations include those required for the installation of any required deck edge embedded or welded clips prior to the installation of the Curtain Wall system.
5. Work in New and Existing Buildings
    a. Provide any required temporary infill of openings that are scheduled to receive new Work in existing Buildings.
    b. Replaced in its entirety all fireproofing disturbed by this Contractor’s installations. Patching material shall match the material used by the Fireproofing Contractor.
    c. Provide and install any structural steel work necessary to span between or extend from the basis building structure in order to install curtain wall.
6. Openings:
    a. Contractor shall provide and install all interior and exterior Glass & Glazing Work as specified by the Contract Documents and as clarified herein.
7. Interior Glass & Glazing:
    a. Provide and install all interior glazed aluminum doors, including frames, and hardware, as required to provide a fully functioning opening.
    b. Provide and install all interior glass and glazing in all interior doors and frames including aluminum doors in aluminum glazing systems. This includes, but is not limited to any transom glazing, side-lites, borrowed lites, and fire rated glass that is scheduled to be field installed.
    c. Provide and install glazing in all interior wood and hollow metal doors.
    d. Provide and install all rated and non-rated glazing in all door types.
    e. Glazing in wood doors that is specified to be factory installed, will be provided by others.
    f. Provide and install all typical miscellaneous items that may, or may not, be shown for work of this bid category including but not limited to glazing, mullions, thresholds,

cores, hardware, fillers, drip edge, trim, and all components necessary for a complete installation as shown or as required.

g. Provide and install all Aluminum and FRP doors and frames in punched opening storefront systems.
h. Provide and install all Aluminum and FRP doors in storefront and curtainwall sytems.glazing, mullions, thresholds, cores, hardware, fillers, drip edge, trim, and all components necessary for a complete installation as shown or as required.
i. Complete hardware manufacturer’s adjustment and inspection as specified.
j. Coordinate raceway in aluminum framing with the Electrical and Security Contractor.
k. Coordinate raceway and installation of low volt wiring for the security door controller.
l. Provide and install all blocking and shims shown or required.
m. Provide and install all interior framed rated and non-rated glass windows.
n. Provide and install all window film shown or specified in the contract documents.
o. Provide and install Transaction windows including glazing, any drawers, integral counter tops, pass through, speakers and microphones.
p. All adjusting and cleaning shall be performed as specified.
q. Contractor shall remove any factory applied decals or labels from its work and clean any surfaces as required upon completion of its Work.
r. Provide a final cleaning of new interior and exterior glazing & aluminum framing at the direction of Barton Malow Builders including removal of any factory applied decals or labels.

8. Exterior Aluminum Framed Curtainwall & Storefront Systems:
   a. Provide and install all Aluminum Framed Curtain Wall and Storefront assemblies, including all glass, vision glass, spandrel glass, insulation or insulated panels behind spandrel or vision glass, break metal, flashings, sealants, accessories, and mounting clips, internal steel framing, doors, as required to provide a complete system.
   b. Complete hardware manufacturer’s adjustment and inspection as specified.
   c. Provide and install all Aluminum and FRP doors and frames in punched opening storefront, and curtainwall systems.
   d. Complete hardware manufacturer’s adjustment and inspection as specified.
   e. Coordinate raceway in aluminum framing with the Electrical and Security Contractor.
   f. Coordinate raceway and installation of low volt wiring for the security door controller.
   g. Provide and install all blocking and shims shown or required.
   h. Provide and install all rated and non-rated glazing in all door types.
   i. Provide and install all window film shown or specified in the contract documents.
   j. Provide and install any required insulated aluminum closure panels (mullion mates) where interior partitions intersect the Curtain Wall or Storefront systems.
   k. All adjusting and cleaning shall be performed as specified.
   l. Contractor shall remove any factory applied decals or labels from its work and clean any surfaces as required upon completion of its Work.
   m. Provide a final cleaning of new interior and exterior glazing & aluminum framing at the direction of Barton Malow Builders including removal of any factory applied decals or labels.
   n. Coordinate with card access (access control) contractor for cabling pathways throughout the aluminum framing as required to facilitate card access installation. This includes pathways for door contacts, electronic power transfer hinges, card readers, and electric strikes as needed.
   o. Coordinate with door hardware installer to ensure there is an adequate cabling pathway from the electronic power transfer hinge(s) to the electronic latch retraction (ELR) devices(s).
9. Sealants:
   a. Provide and install joint sealants shown on the contract documents and where work of this bid category meets dissimilar materials. This includes interior and exterior

perimeter sealants and fire rated sealants in fire rated assemblies. Verify exterior joint width and include in base bid. Complete a sample for approval before proceeding with joint sealants.

G. **Exclusions:**
   1. Wood door hardware.

3.01 SPECIAL CONSIDERATIONS:

A. Labor Rates/Unit Prices/Alternates: Provide the following information on the bid form:

B. Labor/Equipment Rates:
   1. This Contractor is to provide as a part of his proposal a fully detailed labor rates for Barton Malow Builders approval for work associated with this Contractor's and for each of their Subordinate Parties Trades. In addition, labor rates will be required for all equipment involved with the performance of the work required by this Bid Category.

C. Alternates: This bidder shall be required to submit alternate prices identified in the contract documents which pertain to their work. These alternate prices shall be separate from their base bid on the bid proposal form.

END OF SECTION 002208.01

SECTION 002209.01
PAINT AND WALL COVERINGS - SCOPE OF WORK

BID CATEGORY 5

BID CATEGORY – PAINTING & WALL COVERINGS

PART 1 GENERAL

1.01 THE WORK OF THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO PROVIDING ALL SUPERVISION, LABOR, EQUIPMENT, MATERIALS, TAXES, BONDS, INSURANCE, SCAFFOLDING, HOISTING AND INCIDENTALS TO COMPLETE THE WORK PER ALL CONTRACT DOCUMENTS FOR THE TSD BP#5 - ADMINISTRATION BUILDING RENOVATION AS DEFINED BY THE BID PACKAGE NO. 5 BID/WORK SCOPE DOCUMENT INCLUDING ITS SUPPLEMENTARY DOCUMENTS AND IN ACCORDANCE WITH ANY APPLICABLE CODES. ALL WORK IS TO BE PERFORMED AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE FOLLOWING TECHNICAL SPECIFICATION SECTIONS:

A. Division 0 - Procurement and Contracting Complete
B. Division 01 – General Requirements Complete
C. Division 07 – Thermal and Moisture Protection
    1. 07 8400 - Firestopping As Applicable
    2. 07 9200 - Joint Sealants As Applicable
D. Division 09 – Finishes
    1. 09 7200 – Wall Coverings Complete
    2. 09 9123 – Interior Painting Complete

IN ADDITION TO THE ABOVE, THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO THE BIDDING DOCUMENTS, THE BIDDING AND CONTRACT REQUIREMENTS AND DIVISION 1 GENERAL REQUIREMENTS OF THE BARTON MALOW BUILDERS PROJECT MANUAL AND VARIOUS OTHER DOCUMENTS AND TECHNICAL SPECIFICATIONS INTERFACING WITH THIS WORK PROVIDED BY THE OWNER, ARCHITECT AND/OR ENGINEERS. THE BIDDER IS ADVISED TO REVIEW THE WORK DESCRIPTIONS OF THE OTHER CATEGORIES SO AS NOT TO MISUNDERSTAND SCOPE RESPONSIBILITIES.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

THE SCOPE OF WORK WILL INCLUDED AND IS NOT LIMITED TO THE FOLLOWING ITEMS:

A. Performance of the Work shall be in accordance with all Division 01 – General Requirements.
B. Refer to the Project Manual for additional bidding and project general requirements and conditions.
C. In addition to the requirements set forth in Division 01 – General Requirements, the Work shall include the following:
    1. Additional Meetings & Quality Control Requirements:
        a. Pre-Install Conferences
        b. Mockups
        c. Additional Photographic documentation, etc
D. **Submittals/Close Out:**

1. Submit all start-up documents, and product submittals on materials & products within two (2) weeksafter Notice to Proceed (NTP).
2. Submit all shop drawings in accordance with the contract documents and all code requirements within four (4) weeks after Notice to Proceed (NTP).
3. Contractor is to submit a long lead item log to Barton Malow Builders for materials and equipment with lead times of 6 weeks or more. The long lead item log shall include submitted date, submittal approval date, lead time, order date, & approximate delivery date. Contractor shall update and submit weekly to Barton Malow Builders.
4. All equipment, products, & materials that are installed without submittal approval and not acceptable by the Architect/Engineer and Owner will be removed at the installing Contractors cost. Contractor will be held responsible for all back charges caused by the project delay to the Owner and Trades working onsite due to no specified material/equipment install and/or lack of or late submittal approvals.
5. Contractor shall include all cost necessary for closeout documents (including O&M manuals, guarantees or warranties on materials) per the Contract Documents.
6. Contractor to provide additional manpower dedicated to Barton Malow Builders to complete Barton Malow Builders punch list work for a minimum of ten (10) working days prior to the listed Architect/Engineer project punch list in the project schedule. This manpower will be under the direction of the Barton Malow Builders Superintendent to complete punch list work of their bid category and will report directly to the Barton Malow Builders each day. Failure to provide required manpower may result in a delay in receiving the Contractor’s progress payment from Barton Malow Builders.
7. Architect/Engineer's punch list will not start until all work has been completed.
8. Contractor may not drop retainage to 5% until work of this bid category is substantially complete according to the contract documents. In addition, all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been completed, turned over, accepted, and documented. Contractors must also have up to date partial and final waivers from all Contractors, suppliers, and other Subordinate Parties including a AIA G707a Consent of Surety to partial reduction in retainage form signed and sealed by the Surety.
9. To bill out the remainder of retainage (from 5% to 0%), the Contractor must set up a meeting with Barton Malow Builders to go over and/or collect the remaining closeout items for final payment as specified in the project manual and submit a AIA G707 Consent of Surety for final payment form signed and sealed by the Surety.

E. **General Scope:**

1. Required PPE for every Contractor, Subcontractor, & Delivery Drivers onsite:
   a. Class II hardhats
   b. Cut level four gloves
   c. Eye protection
   d. High visibility reflective safety vests
   e. Work boots
   f. Sleeved shirts
2. Contractor is to incorporate all project bidding documents into their subordinate party agreements.
3. All bidders are required to review the General Conditions of the Contract located in the project manual.
4. Contractor is to be licensed to perform work in the State of Michigan. This includes all Contractors and 2nd or 3rd (etc.) tiered Contractors.
5. Contractor shall maintain on site, a copy of all applicable code books specifically pertaining to this scope of work. These code books are to follow the city, state, and all other authorities having jurisdiction per the specific year each authority has designated for this particular project. This Contractor is responsible for all research and compliance with all applicable regulations.

6. This Contractor is responsible to coordinate with Barton Malow Builders to schedule inspections with the Local Governing Agency and/or the State of Michigan as well as the testing agency. Inspection results and records will be kept in the Barton Malow Builders jobsite office. During all inspections each Contractor is to have a Foreman/Superintendent on site.
7. Contractor must verify that work installed by others, complies in its entirety with the contract documents prior to commencing their work, which ties in, overlays and/or follows the installed work. Any non-conforming work shall be identified in writing to Barton Malow Builders immediately.
8. Anyone listed on the National Sex Offender List is not allowed to be a part of this project and anyone who is convicted of a listed offense will be immediately dismissed from project. Provide photo identification upon arriving to the site and badges are to be worn by Contractor's field personnel at all times.
9. Contractor shall have their Superintendent/Foreperson attend a daily coordination meeting every morning from 6:45am - 7:00am. Participation is mandatory.
10. Project daily working hours are Monday – Friday, Site Opens @ 5:30am and closes at 2:30pm. There will be a 5-day minimum work week. Should scheduled workdays or production be lost due to inclement weather or this Contractor's delays, overtime during the work week and weekends will be required to maintain the project schedule at this Contractor's expense. Any work performed outside normal working hours requires approval from Barton Malow Builders.
11. Contractor is only to take direction from Barton Malow Builders.
12. Review all specifications and project drawings, drawing notes, schedules, and schedule notes for areas requiring work described by this bid category and coordinate work with the respective contractors, include all costs in base bid.
13. Include all manpower, overtime, composite crews and mobilizations in base bid to complete work per the project schedule. All mobilizations required to complete this Scope of Work have been included in the base contract price, unless specifically addressed otherwise in this Contract Agreement. It is understood and agreed that this work may not be performed in a continuous operation and during normal business hours. This contractor has included the cost of the multiple mobilizations/remobilizations and cost to work during non-normal business hours.
14. Contractor will be required to perform after-hours and overtime work as necessary to minimize disruption to Troy School District.
15. If Contractor is behind schedule and is notified by Barton Malow Builders, the Contractor shall be required to accelerate the work at its own expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, and shall continue to do so until the progress of the work, in the opinion of Barton Malow Builders, is in conformance with the master project construction schedule.
16. Provide and install all materials per the construction documents. Bid proposals must be per plan and specs. Bids not conforming to plans and specifications will be rejected. Substitutions must be pre-approved in writing prior to bids or be submitted as voluntary alternates on the bid form.
17. Contractor must include costs and utilize Autodesk Build and Textura for this project. Information and cost for Textura can be found in section 012000-Price and Payment Procedures and AutoDesk Build in section 013000-Administrative Requirements.
18. All contractors are to field verify all existing conditions prior to submitting a bid. Submitting a bid is acceptance of all field conditions. Do NOT scale the drawings.
19. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
20. This project surrounded by Troy School District staff and students. Contractor is to take proper measures to ensure minimal disruptions to the roads and sidewalks around the project. Contractor is responsible for proper barricading and signage if his work activity

interrupts the normal flow of operations around the facility. All Contractor employees and subordinate parties are to conduct themselves in a manner not to offend nor interfere with the staff, students, or any other public person. Barton Malow Builders and Troy School District Code of Conduct includes immediate termination for foul language/derogatory conversation. Those who are not in compliance will be asked to leave the project and not return.

21. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor's responsibility.
22. Minimize disturbances to landscape areas. Excessive or malicious (as deemed by) Barton Malow Builders landscape disturbance will be the responsibility of this contractor to restore at own expense.
23. Protect equipment and finish items to remain during construction including roof, ceilings, walls, flooring, and landscaping during work of this bid category. In addition, all work being performed through ceilings, be it grid, ceiling pads, drywall or plaster, etc. must be protected from damage during work of this bid category. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
24. Deliveries must occur after 7am and prior to 2pm and not between noon and 1pm, unless scheduled with a Barton Malow Builders Superintendent or risk having the delivery turned away. Unloading, hoisting, transport of materials out of truck to staging location, and delivery acceptance is by the Contractor who is responsible for the material.
25. Contractor is responsible for storage of all materials. Deliver materials to the site as needed. Storage in the building will be limited. Materials in building must be on pallets or material/pipe carts.
26. Stocking of material on floors will be limited to a three (3) day maximum in the area of work, if approved by Barton Malow Builders Superintendent. No other material storage will be allowed in the building.
27. All materials used are to be new, unused and undamaged. Any damaged or questionable material is to be removed and replaced at no cost to the Owner or Barton Malow Builders.
28. Include all rigging and hoisting to deliver, install, and remove materials to / from all floor levels complete.
29. All crane and boom truck lifts must be properly barricaded to keep public at a safe distance. Provide ground spotters and barricading to keep public out of the swing radius of the crane or boom truck.
30. The use of the existing and/or new elevator will not be permitted.
31. This contractor is responsible for all lifts and scaffolding, if required, for work of this bid category. Coordinate use of your lifts and scaffolding with other trades.
32. Scaffolding and staging as required. Engineered installation drawings, as required.
33. Include field layout for work of this bid category, also included is field time for this contract to survey existing conditions prior to beginning each phase of work. Any discrepancies between existing conditions and the contract drawings are to be reported to Barton Malow Builders immediately.
34. Coordination drawing meetings will be scheduled. Contractor understands that Barton Malow Builders is not issuing change orders for items not coordinated with other trades. Contractor also understands any conflicts of existing structure with their new work must be brought to Barton Malow Builders and Architect/Engineer attention in advance of start of work.
35. Contractor shall have no claims for additional cost because Contractor has failed to install work in proper sequence and not in accordance with Coordination drawings. Likewise, any cost for removal of materials or damage caused by Contractors who have failed to perform their Work in the proper sequence will be borne by that Contractor.
36. Participation in coordination meeting/s, weekly progress meetings, and drawings process is mandatory. Minimum eight (8) hours per week shall be included for meetings and

coordination with Barton Malow Builders. Representative must be able to make all decisions for their Company and Contractors.

37. Contractor to have one (1) full time on-site superintendent, for the duration of the project. The assigned personnel will be responsible to manage the “entire” scope of work including their Subcontractors/Suppliers and will be the single point of contact for this scope of work. Contractor will be responsible to complete the daily report & JHA form each day including for their Subcontractors regardless if the Contractor has self-perform crews on site or not. Representative must be able to make all field & financial decisions. If full time supervision is not onsite by the Contractor, their Subcontractors will be told to leave the site until the next calendar working day. Contractor will be held responsible for delays and back charged due to lack of project supervision.
38. Contractor is to provide site Supervision and Foreman an Apple iPad with unlimited data/cellular plan service. It is required that Contractor download BluebeamRevu and Autodesk Build via the app store on each device. Contractor may access Owner guest Wi-Fi network if available.
39. Contractor must complete and submit electronic daily Flypaper reports and pre-task plans via Autodesk Build to Barton Malow Builders on a daily basis. These reports must show total number of manpower, total number of hours, and each day’s specific activities. If this is not done, Barton Malow Builders reserves the right to withhold this Contractor’s monthly payments until satisfied with this Contractor’s response.
40. Items shown to be turned over on the project documents and for closeout attic stock to Owner must be accompanied by a transmittal and copied with signature of receipt to Barton Malow Builders. If a transmittal is not provided and Owner's items are missing, it is this contractor’s responsibility to purchase and replace with new materials.
41. Contractor is responsible for the quality control for work of this bid category (including for their subordinate parties). Contractor is to strictly observe tolerances and to maintain strict quality control throughout the execution of his work. All work is to be checked for compliance at each stage of completion per applicable codes, project drawings, specifications, and manufactures shop drawings/written instructions. Any work that is not within specified tolerances is to be removed and replaced.
42. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.
            (c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.
43. Ticket work is to be signed by Barton Malow Builders at the end of each workday. Tickets not reviewed or signed by the Barton Malow Builders Superintendent will not be accepted or processed. Pricing is to have detailed explanations of work performed. Barton Malow Builders directed ticket work shall NOT include foreman time, work/service truck, cartage, or overhead and profit mark-up. Tickets shall include only approved labor and materials used. Signature from Barton Malow Builders Superintendent does not necessarily equal

additional funds. Barton Malow Builders Project Manager will decide if ticket work is added scope to the contract.

44. All change pricing is to be submitted within ten (10) days from receipt of the change vehicle, unless otherwise agreed by Barton Malow Builders or Owner. All change order pricing is to include a detailed breakdown of costs – Material, Labor, Equipment, etc. along with any signed work orders. No lump sum pricing allowed. Change order pricing will not be accepted without a detailed breakdown. Failure to submit change order pricing within ten (10) days will result in a $0 change order.
45. Provide all cutting/patching, coring, patching of penetrations, and block-outs for work of this bid category. This is to include but not limited to cutting and patching of all openings in deck (concrete or metal) if required. Patch walls where adjacent existing walls were removed. Patch and repair work is to be done professionally by trained, skilled craftsmen.
46. Provide and install temporary protection for all excavations, floor, or roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. 'Hole below - do not remove') covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
47. Contractor is responsible for all dewatering and snow/ice removal necessary to complete this Scope of Work.
48. Cleanup is to be performed continuously as work is progressing. This means cleaning up each and every hour. This includes the removal of debris, sweeping (Contractor to provide sweeping compound), wiping down of all finished surfaces, and the proper storage of unused equipment and materials. Cleanup not performed by the Contractor will be completed by a third party (chosen by Barton Malow Builders) and back charged accordingly. Written warnings will not be issued.
49. Contractor shall participate in the Composite Cleanup Crew as described in the project manual. These requirements are in addition to normal daily cleaning responsibilities and costs for this are included in the contract price.
50. Include all cost in base bid to comply with the latest Federal mandate, State of Michigan Executive Order, OSHA requirements, Local Jurisdiction Requirements, Owners Requirements, whichever is more stringent related to Covid-19: testing, PPE, social distancing, and all other requirements for your workers and subordinate parties. This shall include identifying your competent Covid 19 supervisor that will review, monitor, record, and enforce all requirements. In addition, each worker onsite is required to sign in each day prior to work using the Barton Malow QR Reader Questionnaire on a smart phone or tablet.

F. **Specific Scope:**

1. Temporary Measures:
   a. Protect all materials from damage prior to installation. This includes installing protection measures needed to protect adjacent surfaces from any overspray. Removal of protective measures is to occur upon completion of the Work.
2. Temporary Ventilation Requirements:
   a. Provide, install, maintain and remove any ventilation equipment required to maintain air quality due to fumes/odors generated by this work. OSHA approved ventilation is required to be provided by this Contractor when high VOC and epoxy paint is used.
3. Coordination and Layout
   a. Contractor will be responsible for the complete coordination of work of this bid category with all other trades to identify and resolve conflicts. Any and all financial implications emanating from this Contractor's lack of planning and coordination will be borne by this Contractor. This shall include blocking, backing conduits, sleeves, penetrations, and any other appurtenances which may not be specifically identified by the contract documents but are required to complete this scope of work.

b. This Contractor is responsible for all detailed layout required for proper location and coordination of work.
c. Contractor shall review the critical dimensions and elevations of all work and shall otherwise verify the conformity of existing work to the Contract Documents and to its suitability. Contractor shall promptly submit a written statement to Barton Malow Builders and Architect/Engineer noting any discrepancies or unacceptable conditions as they relate to its work
d. Contractor shall attend all meetings as required to properly coordinate its Work with that of Others. Coordination efforts should be focused on minimizing any post-installation damage and quality issues.
    1) Contractor to participate in pre-installation conferences as requested by Barton Malow Builders, Architect, Owner, or per the specifications
e. Contractor shall visit the site and attend meetings as required to properly coordinate the Work.
    1) Coordination efforts should be focused on minimizing any post-installation damage and required patching operations.

4. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
5. Contractor shall include multiple mobilizations to complete the Work.
6. Painting & Wall Coverings
    a. Provide and install all interior and exterior painting, including the painting of all items as scheduled or shown within the Contract Documents. This includes, but is not limited to the surface preparation, priming, first coating, and finish coating of, all Hollow Metal Frames and Doors, drywall partitions, deck, CMU, Drywall Ceilings, and exposed structural steel.
    b. Properly prep all surfaces as specified and as required by the manufacturer’s written instructions.
    c. Include moisture and pH testing of both exterior and interior surfaces prior to painting.
    d. Contractor shall review drywall surfaces and advise if the surface is not acceptable, prior to applying finish coats.
    e. Where finish drawings, finish schedule, or specification discrepancies occur, notify Barton Malow Builders and issue an RFI and proceed when answered.
    f. Provide all primers, block fillers, intermediate coat, and final finish coat as specified and per the schedule. Contractor will not be allowed to tint the primer.
    g. Contractor is to provide multiple coats of block filler until all voids in block are filled.
    h. Review items not to be painted listed on the project drawings and in the specification. Damage done by painting non specified items will be the responsibility of this Contractor and back charged accordingly for replacement.
        1) In addition to items not to be painted listed in the specifications, Contractor is not to paint low volt cabling including but not limited to Fire Alarm Cabling, Network Data Cabling, A/V Cabling, or Temperature Control Cabling. Cables painted by work of this bid category will be the responsibility of this Contractor and will be removed and replaced and back charged accordingly.
    i. Review surfaces to be painted prior to start of work. Any and all surface preparation required for the proper installation. Ensure that surfaces are free from dust, dirt, oil, grease, grime, moisture, excess plaster, mortar, and related items as may be necessary to assume proper adhesion of paint. Miscellaneous preparatory work must include cleaning and acceptance of surfaces to receive finish applications. Report any corrective work that is required to Barton Malow Builders.
    j. Provide time for the Drywall Contractor to spot walls after the primer coat.

k. Primer will be sprayed and back rolled. First coat of finish to be sprayed and back rolled. Extend beyond grid line as needed for proper finish. Final coat to be rolled and cut-in as required, in a clean neat professional manner.
l. Properly ventilating work areas as required. Should odor become cause for concern due to ventilation with other Contractors working in the immediate area spray work may be required to occur after-hours. This after-hours work is to be coordinated with Barton Malow Builders and shall not result in additional cost to the project.
m. Protection of all U.L., N.O.A., fire rating label, other trade pipe markings is to be by this Contractor and strictly monitored.
n. Painting of hollow metal frames/doors, which may consist of two coats of paint.
o. Provide and install all caulking and joint sealants as follows:
    1) At the perimeter of all door frames and window frames, including the bottoms of the frames.
    2) Interior conditions where drywall intersects a dissimilar material.
    3) At ceiling access panels
    4) At the interior perimeter of aluminum window frames and curtain wall assemblies.
    5) At bottom of walls
p. Stencil fire and/or smoke rating above ceiling on walls. Refer to the Life Safety Plan for locations.
q. Prior to wall painting, the following is to occur:
    1) Drywall Contractor is to notify Barton Malow Builders and Painter that walls are finished and ready for prime paint.
    2) Painter is to prime walls after notification from Drywall Contractor.
    3) Drywall Contractor is to spot all walls after primer is applied.
    4) Painter is to review walls and indicate any areas which require re-work.
    5) Drywall Contractor to rework and notify Barton Malow Builders rework has been completed.
    6) Upon acceptance by Painter Contractor, Painting Contractor shall apply first coat of finish paint.
    7) Painting Contractor to review first final coated walls and spot between final coats.
    8) Installation of final coat is to occur only at the direction of the Barton Malow Builders.
r. Signage indicating wet paint is the responsibility of this Contractor.
s. Obtain permission from Barton Malow Builders to apply final coat of paint.
t. After Contractor has put the first coat of paint on surfaces, Contractor has at that point accepted the walls and will be responsible for any other wall repair/prep required by Barton Malow Builders, Architect/Engineer, or Owner.
u. All adjusting and cleaning shall be performed as specified at the end of each spec section.
v. Provide and install all wall coverings as scheduled.
w. Provide and install primer and paint on all exposed interior and exterior gas lines. Lines are to be painted yellow.
x. Provide and install paint on any exposed pipe, duct, hangers, or any other item as required by the Contract Documents.
y. Provide and install dry-fall paint on any exposed ceiling areas as required by the Contract Documents.
z. Barton Malow Builders will endeavor to schedule the Work so that the installation of Device Trim Plates and other similar items occurs after painting has been installed. However in the event that that is not possible, Contractor shall include the removal and replacement of the covers to complete the Work.

G. **Exclusions:**
1. Caulking at Millwork
2. Caulking of Plumbing Fixtures
3. Fire Caulk & Stopping
4. Sound or Fire Sealants at Top of Walls
5. Caulking at Thru Wall Penetrations
6. Pipe ID

3.01 SPECIAL CONSIDERATIONS:

A. Labor Rates/Unit Prices/Alternates: Provide the following information on the bid form:

B. Labor/Equipment Rates:
1. This Contractor is to provide as a part of his proposal a fully detailed labor rates for Barton Malow Builders approval for work associated with this Contractor's and for each of their Subordinate Parties Trades. In addition, labor rates will be required for all equipment involved with the performance of the work required by this Bid Category.

C. Allowances: This Contractor must obtain written authorization from Barton Malow Builders prior to performing the associated work below. Include in this Contractor’s bid, allowances for work as follows.
1. Provide Allowance for the following
a. Include an allowance of $5,000 in this Contractor’s bid for additional unidentified Painting work. Allowance is to be used at the direction of Barton Malow Builders.

D. Alternates: This bidder shall be required to submit alternate prices identified in the contract documents which pertain to their work. These alternate prices shall be separate from their base bid on the bid proposal form.

END OF SECTION 002209.01

SECTION 002209.03
FLOORING - SCOPE OF WORK

BID PACKAGE 5

BID CATEGORY – FLOORING

PART 1 GENERAL

1.01 THE WORK OF THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO PROVIDING ALL SUPERVISION, LABOR, EQUIPMENT, MATERIALS, TAXES, BONDS, INSURANCE, SCAFFOLDING, HOISTING AND INCIDENTALS TO COMPLETE THE WORK PER ALL CONTRACT DOCUMENTS FOR THE TSD BP#5 - ADMINISTRATION BUILDING RENOVATION AS DEFINED BY THE BID PACKAGE NO. 5 BID/WORK SCOPE DOCUMENT INCLUDING ITS SUPPLEMENTARY DOCUMENTS AND IN ACCORDANCE WITH ANY APPLICABLE CODES. ALL WORK IS TO BE PERFORMED AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE FOLLOWING TECHNICAL SPECIFICATION SECTIONS:

A. Division 0 - Procurement and Contracting Complete
B. Division 01 – General Requirements Complete
C. Division 07 – Thermal and Moisture Protection
    1. 07 8400 - Firestopping As Applicable
    2. 07 9200 - Joint Sealants As Applicable
D. Division 09 – Finishes
    1. 09 0561 – Common Work Results for Flooring Preparation Complete
    2. 09 3000 – Hard Tiling Complete
    3. 09 6500 – Resilient Flooring Complete
    4. 09 6513 – Resilient Base and Accessories Complete
    5. 09 6813 – Tile Carpeting Complete

1.02 IN ADDITION TO THE ABOVE, THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO THE BIDDING DOCUMENTS, THE BIDDING AND CONTRACT REQUIREMENTS AND DIVISION 1 GENERAL REQUIREMENTS OF THE BARTON MALOW BUILDERS PROJECT MANUAL AND VARIOUS OTHER DOCUMENTS AND TECHNICAL SPECIFICATIONS INTERFACING WITH THIS WORK PROVIDED BY THE OWNER, ARCHITECT AND/OR ENGINEERS. THE BIDDER IS ADVISED TO REVIEW THE WORK DESCRIPTIONS OF THE OTHER CATEGORIES SO AS NOT TO MISUNDERSTAND SCOPE RESPONSIBILITIES.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

THE SCOPE OF WORK WILL INCLUDED AND IS NOT LIMITED TO THE FOLLOWING ITEMS:

A. Performance of the Work shall be in accordance with all Division 01 – General Requirements.
B. Refer to the Project Manual for additional bidding and project general requirements and conditions.
C. In addition to the requirements set forth in Division 01 – General Requirements, the Work shall include the following:
    1. Additional Meetings & Quality Control Requirements:
        a. Mockups
        b. Additional Photographic documentation, etc

D. **Submittals/Close Out:**
   1. Submit all start-up documents, and product submittals on materials & products within two (2) weeks after Notice to Proceed (NTP).
   2. Submit all shop drawings in accordance with the contract documents and all code requirements within four (4) weeks after Notice to Proceed (NTP).
   3. Contractor is to submit a long lead item log to Barton Malow Builders for materials and equipment with lead times of 6 weeks or more. The long lead item log shall include submitted date, submittal approval date, lead time, order date, & approximate delivery date. Contractor shall update and submit weekly to Barton Malow Builders.
   4. All equipment, products, & materials that are installed without submittal approval and not acceptable by the Architect/Engineer and Owner will be removed at the installing Contractors cost. Contractor will be held responsible for all back charges caused by the project delay to the Owner and Trades working onsite due to no specified material/equipment install and/or lack of or late submittal approvals.
   5. Contractor shall include all cost necessary for as-built, asset sheet data spreadsheet, closeout documents (including O&M manuals, valve charts, guarantees or warranties on equipment and/or materials, testing and system check-out or approval, and Owner's training as required) per the Contract Documents.
   6. Contractor to provide additional manpower dedicated to Barton Malow Builders to complete Barton Malow Builders punch list work for a minimum of ten (10) working days prior to the listed Architect/Engineer project punch list in the project schedule. This manpower will be under the direction of the Barton Malow Builders Superintendent to complete punch list work of their bid category and will report directly to the Barton Malow Builders each day. Failure to provide required manpower may result in a delay in receiving the Contractor’s progress payment from Barton Malow Builders.
   7. Architect/Engineer's punch list will not start until all work has been completed.
   8. Contractor may not drop retainage to 5% until work of this bid category is substantially complete according to the contract documents. In addition, all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been completed, turned over, accepted, and documented. Contractors must also have up to date partial and final waivers from all Contractors, suppliers, and other Subordinate Parties including a AIA G707a Consent of Surety to partial reduction in retainage form signed and sealed by the Surety.
   9. To bill out the remainder of retainage (from 5% to 0%), the Contractor must set up a meeting with Barton Malow Builders to go over and/or collect the remaining closeout items for final payment as specified in the project manual and submit a AIA G707 Consent of Surety for final payment form signed and sealed by the Surety.

E. **General Scope:**
   1. Required PPE for every Contractor, Subcontractor, & Delivery Drivers onsite:
      a. Class II hardhats
      b. Cut level four gloves
      c. Eye protection
      d. High visibility reflective safety vests
      e. Work boots
      f. Sleeved shirts
   2. Contractor is to incorporate all project bidding documents into their subordinate party agreements.
   3. All bidders are required to review the General Conditions of the Contract located in the project manual.
   4. Contractor is to be licensed to perform work in the State of Michigan. This includes all Contractors and 2nd or 3rd (etc.) tiered Contractors.
   5. Contractor shall maintain on site, a copy of all applicable code books specifically pertaining to this scope of work. These code books are to follow the city, state, and all

other authorities having jurisdiction per the specific year each authority has designated for this particular project. This Contractor is responsible for all research and compliance with all applicable regulations.

6. This Contractor is responsible to coordinate with Barton Malow Builders to schedule inspections with the Local Governing Agency and/or the State of Michigan as well as the testing agency. Inspection results and records will be kept in the Barton Malow Builders jobsite office. During all inspections each Contractor is to have a Foreman/Superintendent on site.
7. Contractor must verify that work installed by others, complies in its entirety with the contract documents prior to commencing their work, which ties in, overlays and/or follows the installed work. Any non-conforming work shall be identified in writing to Barton Malow Builders immediately.
8. Anyone listed on the National Sex Offender List is not allowed to be a part of this project and anyone who is convicted of a listed offense will be immediately dismissed from project. Provide photo identification upon arriving to the site and badges are to be worn by Contractor's field personnel at all times.
9. Contractor shall have their Superintendent/Foreperson attend a daily coordination meeting every morning from 6:45am - 7:00am. Participation is mandatory.
10. Project daily working hours are Monday – Friday, Site Opens @ 5:30am and closes at 2:30pm. There will be a 5-day minimum work week. Should scheduled workdays or production be lost due to inclement weather or this Contractor's delays, overtime during the work week and weekends will be required to maintain the project schedule at this Contractor's expense. Any work performed outside normal working hours requires approval from Barton Malow Builders.
11. Contractor is only to take direction from Barton Malow Builders.
12. Review all specifications and project drawings, drawing notes, schedules, and schedule notes for areas requiring work described by this bid category and coordinate work with the respective contractors, include all costs in base bid.
13. Include all manpower, overtime, composite crews and mobilizations in base bid to complete work per the project schedule. All mobilizations required to complete this Scope of Work have been included in the base contract price, unless specifically addressed otherwise in this Contract Agreement. It is understood and agreed that this work may not be performed in a continuous operation and during normal business hours. This contractor has included the cost of the multiple mobilizations/remobilizations and cost to work during non-normal business hours.
14. Contractor will be required to perform after-hours and overtime work as necessary to minimize disruption to Troy School District.
15. If Contractor is behind schedule and is notified by Barton Malow Builders, the Contractor shall be required to accelerate the work at its own expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, and shall continue to do so until the progress of the work, in the opinion of Barton Malow Builders, is in conformance with the master project construction schedule.
16. Provide and install all materials per the construction documents. Bid proposals must be per plan and specs. Bids not conforming to plans and specifications will be rejected. Substitutions must be pre-approved in writing prior to bids or be submitted as voluntary alternates on the bid form.
17. Contractor must include costs and utilize Autodesk Build and Textura for this project. Information and cost for Textura can be found in section 012000-Price and Payment Procedures and AutoDesk Build in section 013000-Administrative Requirements.
18. All contractors are to field verify all existing conditions prior to submitting a bid. Submitting a bid is acceptance of all field conditions. Do NOT scale the drawings.
19. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.

20. This project surrounded by Troy School District staff and students. Contractor is to take proper measures to ensure minimal disruptions to the roads and sidewalks around the project. Contractor is responsible for proper barricading and signage if his work activity interrupts the normal flow of operations around the facility. All Contractor employees and subordinate parties are to conduct themselves in a manner not to offend nor interfere with the staff, students, or any other public person. Barton Malow Builders and Troy School District Code of Conduct includes immediate termination for foul language/derogatory conversation. Those who are not in compliance will be asked to leave the project and not return.
21. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor's responsibility.
22. Minimize disturbances to landscape areas. Excessive or malicious (as deemed by) Barton Malow Builders landscape disturbance will be the responsibility of this contractor to restore at own expense.
23. Protect equipment and finish items to remain during construction including roof, ceilings, walls, flooring, and landscaping during work of this bid category. In addition, all work being performed through ceilings, be it grid, ceiling pads, drywall or plaster, etc. must be protected from damage during work of this bid category. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
24. Deliveries must occur after 7am and prior to 2pm and not between noon and 1pm, unless scheduled with a Barton Malow Builders Superintendent or risk having the delivery turned away. Unloading, hoisting, transport of materials out of truck to staging location, and delivery acceptance is by the Contractor who is responsible for the material.
25. Contractor is responsible for storage of all materials. Deliver materials to the site as needed. Storage in the building will be limited. Materials in building must be on pallets or material/pipe carts.
26. Stocking of material on floors will be limited to a three (3) day maximum in the area of work, if approved by Barton Malow Builders Superintendent. No other material storage will be allowed in the building.
27. All materials used are to be new, unused and undamaged. Any damaged or questionable material is to be removed and replaced at no cost to the Owner or Barton Malow Builders.
28. Include all rigging and hoisting to deliver, install, and remove materials to / from all floor levels complete.
29. All crane and boom truck lifts must be properly barricaded to keep public at a safe distance. Provide ground spotters and barricading to keep public out of the swing radius of the crane or boom truck.
30. The use of the existing and/or new elevator will not be permitted.
31. This contractor is responsible for all lifts and scaffolding, if required, for work of this bid category. Coordinate use of your lifts and scaffolding with other trades.
32. Scaffolding and staging as required. Engineered installation drawings, as required.
33. Include field layout for work of this bid category, also included is field time for this contract to survey existing conditions prior to beginning each phase of work. Any discrepancies between existing conditions and the contract drawings are to be reported to Barton Malow Builders immediately.
34. Coordination drawing meetings will be scheduled. Contractor understands that Barton Malow Builders is not issuing change orders for items not coordinated with other trades. Contractor also understands any conflicts of existing structure with their new work must be brought to Barton Malow Builders and Architect/Engineer attention in advance of start of work.
35. Contractor shall have no claims for additional cost because Contractor has failed to install work in proper sequence and not in accordance with Coordination drawings. Likewise, any cost for removal of materials or damage caused by Contractors who have failed to perform their Work in the proper sequence will be borne by that Contractor.

36. Participation in coordination meeting/s, weekly progress meetings, and drawings process is mandatory. Minimum eight (8) hours per week shall be included for meetings and coordination with Barton Malow Builders. Representative must be able to make all decisions for their Company and Contractors.
37. Contractor to have one (1) full time on-site superintendent, for the duration of the project. The assigned personnel will be responsible to manage the “entire” scope of work including their Subcontractors/Suppliers and will be the single point of contact for this scope of work. Contractor will be responsible to complete the daily report & JHA form each day including for their Subcontractors regardless if the Contractor has self-perform crews on site or not. Representative must be able to make all field & financial decisions. If full time supervision is not onsite by the Contractor, their Subcontractors will be told to leave the site until the next calendar working day. Contractor will be held responsible for delays and back charged due to lack of project supervision.
38. Contractor is to provide site Supervision and Foreman an Apple iPad with unlimited data/cellular plan service. It is required that Contractor download BluebeamRevu and Autodesk Build via the app store on each device. Contractor may access Owner guest Wi-Fi network if available.
39. Contractor must complete and submit electronic daily Flypaper reports and pre-task plans via Autodesk Build to Barton Malow Builders on a daily basis. These reports must show total number of manpower, total number of hours, and each day’s specific activities. If this is not done, Barton Malow Builders reserves the right to withhold this Contractor’s monthly payments until satisfied with this Contractor’s response.
40. Items shown to be turned over on the project documents and for closeout attic stock to Owner must be accompanied by a transmittal and copied with signature of receipt to Barton Malow Builders. If a transmittal is not provided and Owner's items are missing, it is this contractor’s responsibility to purchase and replace with new materials.
41. Contractor is responsible for the quality control for work of this bid category (including for their subordinate parties). Contractor is to strictly observe tolerances and to maintain strict quality control throughout the execution of his work. All work is to be checked for compliance at each stage of completion per applicable codes, project drawings, specifications, and manufactures shop drawings/written instructions. Any work that is not within specified tolerances is to be removed and replaced.
42. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.
            (c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.
43. Ticket work is to be signed by Barton Malow Builders at the end of each workday. Tickets not reviewed or signed by the Barton Malow Builders Superintendent will not be accepted or processed. Pricing is to have detailed explanations of work performed. Barton Malow Builders directed ticket work shall NOT include foreman time, work/service truck, cartage, or overhead and profit mark-up. Tickets shall include only approved labor and materials

used. Signature from Barton Malow Builders Superintendent does not necessarily equal additional funds. Barton Malow Builders Project Manager will decide if ticket work is added scope to the contract.

44. All change pricing is to be submitted within ten (10) days from receipt of the change vehicle, unless otherwise agreed by Barton Malow Builders or Owner. All change order pricing is to include a detailed breakdown of costs – Material, Labor, Equipment, etc. along with any signed work orders. No lump sum pricing allowed. Change order pricing will not be accepted without a detailed breakdown. Failure to submit change order pricing within ten (10) days will result in a $0 change order.
45. Provide all cutting/patching, coring, patching of penetrations, and block-outs for work of this bid category. This is to include but not limited to cutting and patching of all openings in deck (concrete or metal) if required. Patch walls where adjacent existing walls were removed. Patch and repair work is to be done professionally by trained, skilled craftsmen.
46. Provide and install temporary protection for all excavations, floor, or roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. 'Hole below - do not remove') covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
47. Contractor is responsible for all dewatering and snow/ice removal necessary to complete this Scope of Work.
48. Cleanup is to be performed continuously as work is progressing. This means cleaning up each and every hour. This includes the removal of debris, sweeping (Contractor to provide sweeping compound), wiping down of all finished surfaces, and the proper storage of unused equipment and materials. Cleanup not performed by the Contractor will be completed by a third party (chosen by Barton Malow Builders) and back charged accordingly. Written warnings will not be issued.
49. Contractor shall participate in the Composite Cleanup Crew as described in the project manual. These requirements are in addition to normal daily cleaning responsibilities and costs for this are included in the contract price.
50. Include all cost in base bid to comply with the latest Federal mandate, State of Michigan Executive Order, OSHA requirements, Local Jurisdiction Requirements, Owners Requirements, whichever is more stringent related to Covid-19: testing, PPE, social distancing, and all other requirements for your workers and subordinate parties. This shall include identifying your competent Covid 19 supervisor that will review, monitor, record, and enforce all requirements. In addition, each worker onsite is required to sign in each day prior to work using the Barton Malow QR Reader Questionnaire on a smart phone or tablet.

F. **Specific Scope**

1. Temporary Measures:
   a. Protect all materials from damage prior to installation.
2. Coordination and Layout
   a. This Contractor is responsible for all detailed layout required for proper location and coordination of work.
3. Contractor shall attend all meetings as required to properly coordinate its Work with that of Others. Coordination efforts should be focused on minimizing any post-installation damage and quality issues.
   a. Contractor to participate in pre-installation conferences as requested by Barton Malow Builders, Architect, Owner, or per the specifications
4. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
5. Contractor shall protect all equipment, walls, and adjacent surfaces during the performance of its Work.

6. Install Flooring per the specifications and manufacturers written instructions.
7. Inspect substrates prior to application of flooring and/or floor prep to confirm acceptable conditions.
8. Contractor shall include the proper preparation of all substrate surfaces as specified and per manufactures written instructions. This includes, but is not limited to, patching or stoning of imperfections in the floor and walls such as burrs, chips, cracks, rough edges, and small holes for preparation of surfaces to receive tile should be included by this Contractor.
9. Contractor shall include any required mock-ups for its Work, as required by the Contract Documents.
10. Contractor shall include the necessary build-up and feathering required at junctions between different types of flooring that must match at their top surfaces and at the elevator thresholds.
11. Include multiple mobilizations to complete the Work.
12. All flooring must be stored and delivered in such a manner as not to damage the materials. Storage of material within the building must be done so as not to overload the structure.
13. Contractor shall perform any required moisture tests on substrates. Contractor shall submit testing records upon completion.
14. Provide and install moisture mitigation at all locations where flooring systems are to be installed over concrete.
15. During flooring installation, protect all corners and doorframes from damage due to material movement by wrapping with cardboard buffers or other suitable means.
16. All flooring systems are to be extended, as required, to cover exposed substrates. Examples of conditions where this may be required include, but are not limited to, base cabinets, closets, vanities, wardrobes, and other items.
17. Carpeting and Base
    a. Provide and install all Carpeting and Base material including all floor prep as required including, but not limited to, carpet, reducer strips, adhesive, edging and accessories per the drawings and Room Finish Schedule.
    b. Provide and install all carpet / carpet tile, wall base, adhesives, transition strips and accessories shown or required for a complete installation.
    c. All carpet must be stored and delivered in such a manner as not to damage or “mat” the materials. This Contractor shall perform correction of pile height differences of carpet if required. Storage of material within the building must be done so as not to overload the structure.
    d. Include any cutting and patching required for installation of new work not shown on the drawings ie. floor boxes.
    e. Perform all layout and alignment of flooring systems as required.
    f. Patching and floor stoning of minor imperfections on floors to receive carpet, including burs, chips, cracks, rough edges and small holes for preparation of finished surface.
    g. Floor patching and repairs of up to 3/8" as required to prep concrete to receive floor finish.
    h. Remediate and fill all cracks in the slab that exceed 1/32" wide per the requirements of the product manufacturer and specifications.
    i. Include cost for priming, Ardex skim coating, and floor leveling for all carpet flooring areas. Install per manufactures written instructions.
    j. Install floor patterns as indicated on the interior design drawings.
    k. Provide and install walk off mats as shown.
    l. Protect and clean all flooring after installation. Cleaning and protection shall be performed as specified. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.

m. Provide all extra materials to owner as specified.

18. Resilient and Rubber Flooring
    a. Provide and install of all Resilient and Rubber Flooring including floor prep, flooring, adhesive, rubber wall base, cove/transition strips, weld beads, thresholds, caps, ect. per the drawings and Room Finish Schedule.
    b. Contractor shall advise the Owner and Barton Malow Builders in writing of weight distribution limitations of specified flooring systems upon submittal. Advise of potential damage due to excessive point loads of equipment setting and use.
    c. Perform moisture tests at substrates to confirm acceptable moisture levels per flooring systems manufacturers recommendations and per specifications. Document and provide data for record purposes. Inspect substrates prior to application of flooring and/or floor prep to confirm acceptable conditions.
    d. Patching and floor stoning of minor imperfections on floors to receive carpet, including burs, chips, cracks, rough edges and small holes for preparation of finished surface.
    e. Floor patching and repairs of up to 3/8" as required to prep concrete to receive floor finish.
    f. Remediate and fill all cracks in the slab that exceed 1/32" wide per the requirements of the product manufacturer and specifications.
    g. Include cost for priming, Ardex skim coating, and floor leveling for all resilient and rubber flooring areas. Install per manufactures written instructions.
    h. Provide and install a complete installation of resilient and rubber floor coverings including, but not limited to, linoleum sheet flooring, rubber, VCT, LVT, rubber base, leveling and patching, adhesives, welding rods, edge strips, etc. per the drawings and Room Finish Schedule.
    i. Provide and install flooring as specified at stairs & landings including but not limited to treads, risers, nosings including all prep, adhesives, accessories, etc.
    j. Perform all layout and alignment of flooring systems as required.
    k. Install floor patterns as indicated on the interior design drawings.
    l. Perform cutting and patching of flooring systems for work of other trades, i.e. floor boxes, etc.
    m. Install the moisture control system (Sealflex) at all heat-welded seamless linoleum.
    n. Clean all resilient flooring surfaces per the specifications. Provide stripping and finishing of all resilient floors prior to Owner Occupancy at the direction of Barton Malow. Perform application and burnishing of three coats of approved wax/sealer at resilient floors.
    o. Protect and clean all flooring after installation. Cleaning and protection shall be performed as specified. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
    p. Provide all extra materials to owner as specified.
19. Hard Tile
    a. Provide all floor and wall Tile including but not limited to surface acceptance, preparation, layout, ceramic, glass, porcelain, and quarry tile products, waterproofing, crack isolation materials, setting and grout materials, tile and grout, elastomeric sealants, miscellaneous materials, reducer strips, cleaning and protection, etc for a complete installation as shown and specified.
    b. Refer to drawings and Room Finish Schedule for additional information and locations of work.
    c. Coordinate placement of tile work with the project schedule prior to installation of millwork, casework, Plumbing fixtures, etc.
    d. Prepare concrete floor as specified and per manufacturer’s recommendations prior to installation of work by cleaning, patching all chips, burrs and cracks that may

telegraph through flooring. It is this contractor's responsibility to grind / chip the floor surface as required to prep. All prep shall be included with this work.

e. Provide minor repair, leveling and patching (+ 1/4") of substrate for walls and floor.
f. Provide all waterproofing and crack isolation membrane, reinforced mortar bedding, gravel, waterproofing membranes, galvanized metal strips, etc. shown, specified, or required.
g. Provide all flood testing of all installed waterproofing.
h. Provide and install all ceramic/porcelain tile, mosaic tile, and accent glass tile for all areas shown or required for a complete installation.
i. Include all special tile shapes such as coved base and bullnose corners.
j. Provide expansion and/or control joints in floor and wall tile systems to correspond to those in substrates and to comply with TCNA whether indicated or not.
k. Provide and install all grout, mortar, transition strips, and all components shown or required for a complete installation.
l. Provide all taping of joints in cement board, etc., behind tile which is are to be work of this bid category.
m. Provide and install tile base at other finished items abutting floor products installed by this Category.
n. Provide all stone and marble thresholds and floor transition work associated with and directly under this Contractors work
o. Protect and clean all flooring after installation. Cleaning shall be performed as specified. Correction of damage due to lack of adequate protection will be the responsibility of this contractor. All flooring shall be protected with Masonite and/or plywood once completed. At the conclusion of the project (before turnover to owner), these protective materials shall be removed and disposed of by this contractor.
    1) Provide all Thin-Set Terrazzo including but not limited to surface acceptance, preparation, layout, flexible membranes, primers, epoxy resins, marble chips, grout, seal coat, divider and accessory strips, miscellaneous accessories, thin-set and precast terrazzo products, miscellaneous materials, grinding, cleaning and protection, etc for a complete installation as shown and specified.

20. Fluid Applied Flooring Systems (Sealed Concrete)
    a. Provide and install liquid & trowel-applied, Fluid Applied Flooring Systems and integral base system with a waterproofing membrane per the Construction Documents, including but not limited to, fluid applied flooring, underlayment, integral base, reinforcing membrane, joint sealants, floor preparation, etc. as required for a complete system.
    b. Inspect substrate prior to application of reinforced electrometric flooring per specifications to confirm compliance to manufacturers recommendations. Submit test result to Barton Malow prior to installation.
    c. Perform all necessary cleaning and preparation of floor to receive reinforced electrometric flooring. Assume slab will be broom swept only prior to this Contractors work. Perform all abrasive blasting, etching, and sealing of cracks per the specifications or as recommended by the product manufacturer.
    d. Provide measures for adequate ventilation and curing of applied product.
    e. Contractor shall include all costs for phasing, overtime and second shifts as required to minimize the duration of installation within each area.
    f. Perform all layout of flooring systems as required.
    g. Install floor patterns as indicated on the interior design drawings.
    h. Contractor shall caulk all floor penetrations, slab edge, curbs, and the bottoms of door frames in areas where the Room Finish Schedule calls for the installation of fluid applied flooring.

i. Provide seamless integral base at all adjacent surfaces where the elastomeric liquid flooring is specified. Perform all preparation and provided accessories required at all locations and wall types for a complete installation.
j. Provide all slip resistant materials/coatings as shown or specified.
k. Protect and clean all flooring after installation. Cleaning and protection shall be performed as specified. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
l. Provide all extra materials to owner as specified.

3.01 SPECIAL CONSIDERATIONS:

A. Labor Rates/Unit Prices/Alternates: Provide the following information on the bid form:

B. Labor/Equipment Rates:
1. This Contractor is to provide as a part of his proposal a fully detailed labor rates for Barton Malow Builders approval for work associated with this Contractor's and for each of their Subordinate Parties Trades. In addition, labor rates will be required for all equipment involved with the performance of the work required by this Bid Category.

C. Unit Pricing:
1. Floor prep - per 10X10' section at 1/8" thick

D. Allowances: This Contractor must obtain written authorization from Barton Malow Builders prior to performing the associated work below. Include in this Contractor’s bid, allowances for work as follows.
1. Provide Allowance for the following
a. Include an allowance of $5,000 in this Contractor’s bid for additional unidentified Flooring work. Allowance is to be used at the direction of Barton Malow Builders.

E. Alternates: This bidder shall be required to submit alternate prices identified in the contract documents which pertain to their work. These alternate prices shall be separate from their base bid on the bid proposal form.

END OF SECTION 002209.03

SECTION 002209.08
ARCHITECTURAL/GENERAL TRADES

BID PACKAGE 5

BID CATEGORY –ARCHITECTURAL

PART 1 GENERAL

1.01 THE WORK OF THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO PROVIDING ALL SUPERVISION, LABOR, EQUIPMENT, MATERIALS, TAXES, BONDS, INSURANCE, SCAFFOLDING, HOISTING AND INCIDENTALS TO COMPLETE THE WORK PER ALL CONTRACT DOCUMENTS FOR THE TSD BP#5 - ADMINISTRATION BUILDING RENOVATION AS DEFINED BY THE BID PACKAGE NO. 5 BID/WORK SCOPE DOCUMENT INCLUDING ITS SUPPLEMENTARY DOCUMENTS AND IN ACCORDANCE WITH ANY APPLICABLE CODES. ALL WORK IS TO BE PERFORMED AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE FOLLOWING TECHNICAL SPECIFICATION SECTIONS:

A. Division 0 - Procurement and Contracting Complete
B. Division 01 – General Requirements Complete
C. Division 04 – Masonry
    1. 04 0100 – Maintenance of Masonry Complete
D. Division 05 – Metals
    1. 05 5000 - Metal Fabrications Complete
E. Division 07 – Thermal and Moisture Protection
    1. 07 8400 - Firestopping As Applicable
    2. 07 9200 - Joint Sealants As Applicable
F. Division 08 – Openings
    1. 08 8300 – Mirrors Complete
G. Division 09 – Finishes
    1. 09 2216 – Non-Structural Metal Framing Complete
    2. 09 8433 – Acoustic Wall Units Complete
    3. 09 8436 – Acoustic Ceiling Units Complete
H. Division 10 – Specialties
    1. 10 1100 – Visual Display Units Complete
    2. 10 1419 – Dimensional Letter and Signage Complete
    3. 10 2113.15 – FRP-Clad Toilet Compartments Complete
    4. 10 2800 – Toilet, Bath, and Laundry Accessories Complete
    5. 10 4400 – Fire Protection Specialties Complete
I. Division 12 – Providings
    1. 12 2400 – Window Shades Complete
    2. 12 3216 – Manufactured Plastic Laminate-Clad Casework Complete
    3. 12 3600 – Countertops Complete

1.02 IN ADDITION TO THE ABOVE, THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO THE BIDDING DOCUMENTS, THE BIDDING AND CONTRACT REQUIREMENTS AND DIVISION 1 GENERAL REQUIREMENTS OF THE BARTON MALOW BUILDERS PROJECT MANUAL AND VARIOUS OTHER DOCUMENTS AND TECHNICAL SPECIFICATIONS INTERFACING WITH THIS WORK PROVIDED BY THE OWNER, ARCHITECT AND/OR ENGINEERS. THE BIDDER IS ADVISED TO REVIEW THE WORK DESCRIPTIONS OF THE OTHER CATEGORIES SO AS NOT TO MISUNDERSTAND SCOPE RESPONSIBILITIES.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 GENERAL

THE SCOPE OF WORK WILL INCLUDED AND IS NOT LIMITED TO THE FOLLOWING ITEMS:

A. Performance of the Work shall be in accordance with all Division 01 – General Requirements.

B. Refer to the Project Manual for additional bidding and project general requirements and conditions.

C. In addition to the requirements set forth in Division 01 – General Requirements, the Work shall include the following:
   1. Additional Meetings & Quality Control Requirements:
      a. Mockups
      b. Additional Photographic documentation, etc
      c. As-builts

D. **Submittals/Close Out:**
   1. Submit all start-up documents, and product submittals on materials & products within two (2) weeks after Notice to Proceed (NTP).
   2. Submit all shop drawings in accordance with the contract documents and all code requirements within four (4) weeks after Notice to Proceed (NTP).
   3. Contractor is to submit a long lead item log to Barton Malow Builders for materials and equipment with lead times of 6 weeks or more. The long lead item log shall include submitted date, submittal approval date, lead time, order date, & approximate delivery date. Contractor shall update and submit weekly to Barton Malow Builders.
   4. All equipment, products, & materials that are installed without submittal approval and not acceptable by the Architect/Engineer and Owner will be removed at the installing Contractors cost. Contractor will be held responsible for all back charges caused by the project delay to the Owner and Trades working onsite due to no specified material/equipment install and/or lack of or late submittal approvals.
   5. Engineered shop drawings must be signed and sealed by a Registered Engineer in accordance with contract documents and state law.
   6. Contractor shall include all cost necessary for as-built, asset sheet data spreadsheet, closeout documents (including O&M manuals, valve charts, guarantees or warranties on equipment and/or materials, testing and system check-out or approval, and Owner's training as required) per the Contract Documents.
   7. Contractor to provide additional manpower dedicated to Barton Malow Builders to complete Barton Malow Builders punch list work for a minimum of ten (10) working days prior to the listed Architect/Engineer project punch list in the project schedule. This manpower will be under the direction of the Barton Malow Builders Superintendent to complete punch list work of their bid category and will report directly to the Barton Malow Builders each day. Failure to provide required manpower may result in a delay in receiving the Contractor’s progress payment from Barton Malow Builders.
   8. Architect/Engineer's punch list will not start until all work has been completed.
   9. Contractor may not drop retainage to 5% until work of this bid category is substantially complete according to the contract documents. In addition, all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been

completed, turned over, accepted, and documented. Contractors must also have up to date partial and final waivers from all Contractors, suppliers, and other Subordinate Parties including a AIA G707a Consent of Surety to partial reduction in retainage form signed and sealed by the Surety.

10. To bill out the remainder of retainage (from 5% to 0%), the Contractor must set up a meeting with Barton Malow Builders to go over and/or collect the remaining closeout items for final payment as specified in the project manual and submit a AIA G707 Consent of Surety for final payment form signed and sealed by the Surety.

E. **General Scope:**

1. Required PPE for every Contractor, Subcontractor, & Delivery Drivers onsite:
   a. Class II hardhats
   b. Cut level four gloves
   c. Eye protection
   d. High visibility reflective safety vests
   e. Work boots
   f. Sleeved shirts
2. Contractor is to incorporate all project bidding documents into their subordinate party agreements.
3. All bidders are required to review the General Conditions of the Contract located in the project manual.
4. Contractor is to be licensed to perform work in the State of Michigan. This includes all Contractors and 2nd or 3rd (etc.) tiered Contractors.
5. Contractor shall maintain on site, a copy of all applicable code books specifically pertaining to this scope of work. These code books are to follow the city, state, and all other authorities having jurisdiction per the specific year each authority has designated for this particular project. This Contractor is responsible for all research and compliance with all applicable regulations.
6. This Contractor is responsible to coordinate with Barton Malow Builders to schedule inspections with the Local Governing Agency and/or the State of Michigan as well as the testing agency. Inspection results and records will be kept in the Barton Malow Builders jobsite office. During all inspections each Contractor is to have a Foreman/Superintendent on site.
7. Contractor must verify that work installed by others, complies in its entirety with the contract documents prior to commencing their work, which ties in, overlays and/or follows the installed work. Any non-conforming work shall be identified in writing to Barton Malow Builders immediately.
8. Anyone listed on the National Sex Offender List is not allowed to be a part of this project and anyone who is convicted of a listed offense will be immediately dismissed from project. Provide photo identification upon arriving to the site and badges are to be worn by Contractor’s field personnel at all times.
9. Contractor shall have their Superintendent/Foreperson attend a daily coordination meeting every morning from 6:45am - 7:00am. Participation is mandatory.
10. Project daily working hours are Monday – Friday, Site Opens @ 5:30am and closes at 2:30pm. There will be a 5-day minimum work week. Should scheduled workdays or production be lost due to inclement weather or this Contractor’s delays, overtime during the work week and weekends will be required to maintain the project schedule at this Contractor’s expense. Any work performed outside normal working hours requires approval from Barton Malow Builders.
11. Contractor is only to take direction from Barton Malow Builders.
12. Review all specifications and project drawings, drawing notes, schedules, and schedule notes for areas requiring work described by this bid category and coordinate work with the respective contractors, include all costs in base bid.

13. Include all manpower, overtime, composite crews and mobilizations in base bid to complete work per the project schedule. All mobilizations required to complete this Scope of Work have been included in the base contract price, unless specifically addressed otherwise in this Contract Agreement. It is understood and agreed that this work may not be performed in a continuous operation and during normal business hours. This contractor has included the cost of the multiple mobilizations/remobilizations and cost to work during non-normal business hours.
14. Contractor will be required to perform after-hours and overtime work as necessary to minimize disruption to Troy School District.
15. If Contractor is behind schedule and is notified by Barton Malow Builders, the Contractor shall be required to accelerate the work at its own expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, and shall continue to do so until the progress of the work, in the opinion of Barton Malow Builders, is in conformance with the master project construction schedule.
16. Provide and install all materials per the construction documents. Bid proposals must be per plan and specs. Bids not conforming to plans and specifications will be rejected. Substitutions must be pre-approved in writing prior to bids or be submitted as voluntary alternates on the bid form.
17. Contractor must include costs and utilize Autodesk Build and Textura for this project. Information and cost for Textura can be found in section 012000-Price and Payment Procedures and AutoDesk Build in section 013000-Administrative Requirements.
18. All contractors are to field verify all existing conditions prior to submitting a bid. Submitting a bid is acceptance of all field conditions. Do NOT scale the drawings.
19. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
20. This project surrounded by Troy School District staff and students. Contractor is to take proper measures to ensure minimal disruptions to the roads and sidewalks around the project. Contractor is responsible for proper barricading and signage if his work activity interrupts the normal flow of operations around the facility. All Contractor employees and subordinate parties are to conduct themselves in a manner not to offend nor interfere with the staff, students, or any other public person. Barton Malow Builders and Troy School District Code of Conduct includes immediate termination for foul language/derogatory conversation. Those who are not in compliance will be asked to leave the project and not return.
21. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor’s responsibility.
22. Minimize disturbances to landscape areas. Excessive or malicious (as deemed by) Barton Malow Builders landscape disturbance will be the responsibility of this contractor to restore at own expense.
23. Protect equipment and finish items to remain during construction including roof, ceilings, walls, flooring, and landscaping during work of this bid category. In addition, all work being performed through ceilings, be it grid, ceiling pads, drywall or plaster, etc. must be protected from damage during work of this bid category. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
24. Deliveries must occur after 7am and prior to 2pm and not between noon and 1pm, unless scheduled with a Barton Malow Builders Superintendent or risk having the delivery turned away. Unloading, hoisting, transport of materials out of truck to staging location, and delivery acceptance is by the Contractor who is responsible for the material.
25. Contractor is responsible for storage of all materials. Deliver materials to the site as needed. Storage in the building will be limited. Materials in building must be on pallets or material/pipe carts.

26. Stocking of material on floors will be limited to a three (3) day maximum in the area of work, if approved by Barton Malow Builders Superintendent. No other material storage will be allowed in the building.
27. All materials used are to be new, unused and undamaged. Any damaged or questionable material is to be removed and replaced at no cost to the Owner or Barton Malow Builders.
28. Include all rigging and hoisting to deliver, install, and remove materials to / from all floor levels complete.
29. All crane and boom truck lifts must be properly barricaded to keep public at a safe distance. Provide ground spotters and barricading to keep public out of the swing radius of the crane or boom truck.
30. The use of the existing and/or new elevator will not be permitted.
31. This contractor is responsible for all lifts and scaffolding, if required, for work of this bid category. Coordinate use of your lifts and scaffolding with other trades.
32. Scaffolding and staging as required. Engineered installation drawings, as required.
33. Include field layout for work of this bid category, also included is field time for this contract to survey existing conditions prior to beginning each phase of work. Any discrepancies between existing conditions and the contract drawings are to be reported to Barton Malow Builders immediately.
34. Coordination drawing meetings will be scheduled. Contractor understands that Barton Malow Builders is not issuing change orders for items not coordinated with other trades. Contractor also understands any conflicts of existing structure with their new work must be brought to Barton Malow Builders and Architect/Engineer attention in advance of start of work.
35. Contractor shall have no claims for additional cost because Contractor has failed to install work in proper sequence and not in accordance with Coordination drawings. Likewise, any cost for removal of materials or damage caused by Contractors who have failed to perform their Work in the proper sequence will be borne by that Contractor.
36. Participation in coordination meeting/s, weekly progress meetings, and drawings process is mandatory. Minimum eight (8) hours per week shall be included for meetings and coordination with Barton Malow Builders. Representative must be able to make all decisions for their Company and Contractors.
37. Contractor to have one (1) full time on-site superintendent, for the duration of the project. The assigned personnel will be responsible to manage the “entire” scope of work including their Subcontractors/Suppliers and will be the single point of contact for this scope of work. Contractor will be responsible to complete the daily report & JHA form each day including for their Subcontractors regardless if the Contractor has self-perform crews on site or not. Representative must be able to make all field & financial decisions. If full time supervision is not onsite by the Contractor, their Subcontractors will be told to leave the site until the next calendar working day. Contractor will be held responsible for delays and back charged due to lack of project supervision.
38. Contractor is to provide site Supervision and Foreman an Apple iPad with unlimited data/cellular plan service. It is required that Contractor download BluebeamRevu and Autodesk Build via the app store on each device. Contractor may access Owner guest Wi-Fi network if available.
39. Contractor must complete and submit electronic daily Flypaper reports and pre-task plans via Autodesk Build to Barton Malow Builders on a daily basis. These reports must show total number of manpower, total number of hours, and each day’s specific activities. If this is not done, Barton Malow Builders reserves the right to withhold this Contractor’s monthly payments until satisfied with this Contractor’s response.
40. Items shown to be turned over on the project documents and for closeout attic stock to Owner must be accompanied by a transmittal and copied with signature of receipt to Barton Malow Builders. If a transmittal is not provided and Owner's items are missing, it is this contractor’s responsibility to purchase and replace with new materials.

41. Contractor is responsible for the quality control for work of this bid category (including for their subordinate parties). Contractor is to strictly observe tolerances and to maintain strict quality control throughout the execution of his work. All work is to be checked for compliance at each stage of completion per applicable codes, project drawings, specifications, and manufactures shop drawings/written instructions. Any work that is not within specified tolerances is to be removed and replaced.
42. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.
            (c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.
43. Ticket work is to be signed by Barton Malow Builders at the end of each workday. Tickets not reviewed or signed by the Barton Malow Builders Superintendent will not be accepted or processed. Pricing is to have detailed explanations of work performed. Barton Malow Builders directed ticket work shall NOT include foreman time, work/service truck, cartage, or overhead and profit mark-up. Tickets shall include only approved labor and materials used. Signature from Barton Malow Builders Superintendent does not necessarily equal additional funds. Barton Malow Builders Project Manager will decide if ticket work is added scope to the contract.
44. All change pricing is to be submitted within ten (10) days from receipt of the change vehicle, unless otherwise agreed by Barton Malow Builders or Owner. All change order pricing is to include a detailed breakdown of costs – Material, Labor, Equipment, etc. along with any signed work orders. No lump sum pricing allowed. Change order pricing will not be accepted without a detailed breakdown. Failure to submit change order pricing within ten (10) days will result in a $0 change order.
45. Provide all cutting/patching, coring, patching of penetrations, and block-outs for work of this bid category. This is to include but not limited to cutting and patching of all openings in deck (concrete or metal) if required. Patch walls where adjacent existing walls were removed. Patch and repair work is to be done professionally by trained, skilled craftsmen.
46. Provide and install temporary protection for all excavations, floor, or roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. ‘Hole below - do not remove’) covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
47. Contractor is responsible for all dewatering and snow/ice removal necessary to complete this Scope of Work.
48. Cleanup is to be performed continuously as work is progressing. This means cleaning up each and every hour. This includes the removal of debris, sweeping (Contractor to provide sweeping compound), wiping down of all finished surfaces, and the proper storage of unused equipment and materials. Cleanup not performed by the Contractor will be completed by a third party (chosen by Barton Malow Builders) and back charged accordingly. Written warnings will not be issued.

49. Contractor shall participate in the Composite Cleanup Crew as described in the project manual. These requirements are in addition to normal daily cleaning responsibilities and costs for this are included in the contract price.
50. Include all cost in base bid to comply with the latest Federal mandate, State of Michigan Executive Order, OSHA requirements, Local Jurisdiction Requirements, Owners Requirements, whichever is more stringent related to Covid-19: testing, PPE, social distancing, and all other requirements for your workers and subordinate parties. This shall include identifying your competent Covid 19 supervisor that will review, monitor, record, and enforce all requirements. In addition, each worker onsite is required to sign in each day prior to work using the Barton Malow QR Reader Questionnaire on a smart phone or tablet.

Specific Scope:

1. Temporary Measures:
   a. Protect all materials from damage prior to installation.
2. Temporary Electricity:
   a. Temporary electricity (120V/1PH/20A) will be available for use by this Contractor. This Contractor is responsible for all means to access power to the points of work. The Owner will pay for power consumption. This Contractor will be responsible for costs to establish additional power requirements from new panels (i.e., 208V) required for their work. If generators are to be used diesel units shall use bio-fuel and have scrubbers installed.
3. Temporary Lighting:
   a. Contractor shall provide task lighting and temporary light stands as necessary.
4. Temporary Guardrail Systems:
   a. Maintain all temporary guardrail system during the course of construction. At such time when it can or must be removed to perform work, appropriate safety precautions are to be implemented. After this Contractor completes areas of work, which do not offer appropriate fall protection due to gaps or openings, this Contractor is to provide appropriate temporary guardrails across openings.
5. Coordination and Layout
   a. Actively participate in Mechanical, Electrical and Plumbing (M/E/P) overhead coordination process per the Barton Malow Builders Project Manual, and coordinate the installation of this Contractor’s work to allow installation and access to all other M/E/P and architectural/structural supports. Installed piping must be placed where determined in the overhead coordination process; deviations will not be acceptable and will be at the Contractors’ expense to correct if found in the field.
   b. Contractor will be responsible for the complete coordination of work of this bid category with all other trades to identify and resolve conflicts. Any and all financial implications emanating from this Contractor’s lack of planning and coordination will be borne by this Contractor. This shall include blocking, backing conduits, sleeves, penetrations, and any other appurtenances which may not be specifically identified by the contract documents but are required to complete this scope of work.
   c. This Contractor is responsible for all detailed layout required for proper location and coordination of work.
   d. Contractor shall review the critical dimensions and elevations of all work and shall otherwise verify the conformity of existing work to the Contract Documents and to its suitability. Contractor shall promptly submit a written statement to Barton Malow Builders and Architect/Engineer noting any discrepancies or unacceptable conditions as they relate to its work
   e. Contractor shall attend all meetings as required to properly coordinate its Work with that of Others. Coordination efforts should be focused on minimizing any post-installation damage and quality issues.

1) Contractor to participate in pre-installation conferences as requested by Barton Malow Builders, Architect, Owner, or per the specifications

f. Contractor shall visit the site and attend meetings as required to properly coordinate the Work.
   1) Coordination efforts should be focused on minimizing any post-installation damage and required patching operations.
g. Initial benchmarks are shown on the project drawings.
h. Coordinate installation of piping and conduit with the Electrical, Mechanical, and Temperature Control Contractors in new masonry walls.

6. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
7. Contractor includes any mock-ups per specifications. Mock-ups will require the early release fabrication and delivery of all materials necessary to build the mock-up for Architect/Engineer and Owner approval.
8. Replaced in its entirety all fireproofing disturbed by this Contractor's installations. Patching material shall match the material used by the Fireproofing Contractor.
9. Contractor to provide and install all telephone backboards.
10. Contractor shall provide and install backing and shims for all work related to their bid category as shown, specified or required. This includes but is not limited to plywood, paneling, backing, wood preservative and fire treated materials including related fastening and anchoring.
11. Provide, install, and maintain temporary protection (dust proof) for IDF/MDF room. Protection shall be stick & reinforced visqueen removable panels. Remove and dispose as requested by Barton Malow Builders.
12. Provide and install all in wall blocking for sills, casework, lockers, and shelving.
13. Joint sealants that abut work of this bid category or adjoining dissimilar materials is the responsibility of this contractor. This shall include but not limited to casework, block, all hollow metal frames, and where drywall abuts to dissimilar materials.
14. Casework
    a. Provide and install all casework, lockers, and shelving (base cabinets, counter tops and back splashes, upper cabinets, desks, vanities and aprons, wood base) hardware, accessories, complete.
    b. Provide and install all sills and wall caps shown or specified.
    c. Provide and install all in wall blocking for casework, lockers, and shelving.
    d. Compliance with Architectural Woodwork Institute (AWI) quality standards.
    e. Provide finish caulking of all tops and splashes per approved color submittals.
    f. Provide finished end panels and or returns at opened ended cabinets and countertops.
    g. All cutting associated with the installation of work covered under this bid category, including but not necessarily limited to the following: sink cut-outs, countertop grommets, plumbing pipe penetrations/connections, electrical box penetrations, communication, accessories, etc. All holes are to be cut tight and neat to the penetrating item.
    h. Provide and install all grommets.
    i. Provide and install all solid surface counter tops, back splashes, and sills as indicated in the contract documents.
    j. Coordinate installation of sinks in solid surface material with the Mechanical contractor.

    Polished Concrete Floor Finishing
    a. Contractor shall provide all grinding and polishing to specified levels shown and specified on the contract documents.

b. Contractor shall provide and install all concrete stains, sealants, and hardeners called for in the contract documents.
   1) Provide full mock-up for Architect/Engineer and Owner approval prior to start of work.
c. Work includes the installing of diamond polish concrete floor surfaces with power disc machine recommended by floor finish manufacturer. Sequence with coarse to fine grit using dry method.
d. Work includes adhering to Polished Concrete standards specification
e. Work included treating any non-moving cracks with flexible epoxy membrane, and sand prior to applying primer.
f. Work includes installing divider and control joint strips straight and level to locations indicated.
g. Work includes utilizing hand grinding/polishing along with specialized edging equipment at all perimeter walls, penetrations in the concrete surface, electrical poke through, columns, casework, equipment, door frames, walk off mats, storefront systems, and other adjacent finishes to achieve the required level finish.
h. Work includes Contractor providing Polish Levels as described in the contract documents.
i. Work includes installation of all products to meet temperature requirements, per manufacturer’s written instructions and specifications.
j. Contractor is responsible for all testing requirements specified in the contract documents.

15. Masonry
    a. Include all brick cleaning as noted and cleaning of all existing brick shown or specified on drawings.
    b. Coordination of masonry scope of work with other trades to insure that necessary provisions are made to accommodate items including but not limited to embeds, sleeving, door frames, conduit/boxes, pipes, anchors, flashing systems, and similar materials.
    c. Grout and insulate all masonry wall cavities as shown and or required.
    d. Includes blocking out of masonry and coordination for all penetrations.
    e. Tooth out existing masonry to accept new masonry work.
    f. All masonry joints shall be tooled, cleaned and ready for application of paint or other finishes specified.
    g. Patch all demoed duct and piping in masonry walls shown to remain. See mechanical demo and electrical demo drawings for more information.
    h. Provide and install cell fill (concrete and/or insulation), mortar and grout. Provide inspection holes, as specified or required.
    i. Provide and install all horizontal and vertical wall reinforcing as specified or required.
    j. Coordinate and Install all access doors provided by others in masonry walls.
    k. Install joint sealants at the bottom of masonry walls as shown and/or required.
    l. Provide and Install all top of masonry wall fire resistive joint fire stopping per approved UL Systems including insulation for all rated walls shown on the drawings. Both sides of walls are to be fire sprayed/joint sealed.
    m. Provide and Install all top of wall acoustical smoke sealants for all non-rated masonry walls as shown on the drawings. Both sides of walls are to be acoustically sprayed/joint sealed.
    n. Provide and Install all fire resistive joint fire stopping per approved UL Systems between slabs edge/pour stop and masonry walls.
    o. Contractor will be responsible for review/coordination of approved shop drawings such as the curtain wall system, door and window openings, structural steel, etc. prior to work taking place. These documents can be obtained for review from the Construction Manager.

p. Masonry wall cavities and top of walls shall be covered and protected each day.
q. Clean and wash all masonry and stone as specified and in accordance with approved sample. Protect all adjacent finished products from the cleaning agents.
    1) Remove water and debris created from masonry cleaning.
r. Clean and seal all existing and new masonry shown or specified.
    1) Remove water and debris created from masonry cleaning.
    2) Protect existing items to remain when sealing masonry.

16. Steel
    a. All welding must be performed by a "certified" welder and this Contract shall submit a copy of each welder's certification to Barton Malow Builders prior to onsite mobilization.
    b. Gas-powered portable welders must be exhausted to the outside of the building and kept away from outside air openings, doors, windows, as so not to get any fumes into the building. This includes but is not limited to welder trucks, lifts and generators. Barton Malow Builders will not be held liable for lost time due to noncompliance with this request. This Contractor will be held financially responsible for any delays to the overall construction schedule.
    c. Coordination and installation of any materials required during the structural steel erection, masonry, glazing, and concrete installation.
    d. Temporary and permanent bracing required for this scope of work.
17. Metals
    a. This Contractor is responsible for providing traffic control procedures as required for all deliveries to the jobsite.
    b. Field dimensions and measurements as required for this work. Prior to fabrication and erection Contractor shall verify existing conditions and anchor bolt locations through means of a qualified 3rd party independent surveyor to verify correct installation. Contractor is submit survey results to Barton Malow Builders and Architect/Engineer. Any errors or discrepancies need to be identified in writing. Corrections will be made by the Contractor responsible for the original installation. Cost for all field visits/surveying must be in base bid.
    c. This Contractor will employ a 3rd party independent surveyor to verify and monitor the plumbness of the building. Complete as built surveys should be submitted for review following concrete deck pours for each respective building level. This Contractor should take care to keep the building within acceptable tolerances including surveying of anchor bolts before and after the pour. Contractor shall refer to the specified steel tolerances as noted in the specifications. Costs for all field visits/surveying must be included in base bid.
    d. Provide fire watch 100% of the time while any cutting/torching or welding operations occur. The fire watch shall NOT be performed by the person doing the cutting/torching or welding. Fire watch shall occur for 2 hours after the last cutting/torching or welding operation finishes.
    e. Fill out burn permit daily and turn in daily to Barton Malow Builders and Autodesk Build.
    f. Smoke control barricades and/or smoke eaters shall be used 100% of the time that interior cutting/torching or welding occurs or where exterior operations could allow smoke to enter through mechanical air intakes.
    g. Contractor is to complete and turn in all lift plans, equipment inspections and Crane operator certifications into prior to install.
    h. Provide and install all temporary guardrails, at all leading edges including exterior perimeter of roof, shafts, openings, etc. Maintain and restore rails as a result of the execution of this work. Temporary guardrails will be removed by this same Contractor at the direction of Barton Malow Builders.

1) Guard rails shall include two strand cable (minimum 3/8” in diameter) including 3“x3”x1/4” minimum angle vertical supports at the perimeter of all openings (including but not limited to: elevators, stairs, large mechanical openings, etc.) and the perimeter of the floors. Requirements include intermediate supports at the perimeter of all floors above grade including roofs and penthouse / roofs. Include touch-up painting of structural steel after removal of safety cable and supports. Turnbuckles every 50‘-0” and one turnbuckle for each floor opening. Install temporary guardrail such that removal of one bay (column centerline to an adjacent column centerline) does not affect the railing of adjacent bays. Punching column flanges will not be permitted. This work must comply with MIOSHA requirements.
2) During installation, this Contractor is responsible to maintain guardrails and perimeter cables as required until work is completed. If guardrails and perimeter safety cables need to be removed, this Contractor is responsible for providing temporary protection, during the operations, and restoring the guardrail and cables to their previous condition when complete. This Contractor is to provide appropriate temporary guardrails as needed

i. Provide and install all necessary shoring, bracing, flashers, safety barricades and other safety equipment in accordance with MIOSHA/OSHA rules and regulations. Provide covers for holes per MIOSHA/OSHA rules and regulations.
1) Include drying all decks as required for the complete execution of this work during the duration of work.

j. During the duration of this contract, this Contractor is responsible for protecting (as approved by the project superintendent) the existing building from smoke/smells/odors created during the welding of the new steel to existing steel, weather protection at tie in points, including areas where new steel and existing steel are being attached, and fire protection / fire watch needed for welding operations.

k. The Owner will independently contract a testing agency to test and inspect the work at the Owner’s expense. Though the Owner will test and inspect the work, this does not absolve this Contractor from the proper execution of its work including its own testing and inspection. This Contractor is responsible to prepare for, coordinate with, and respond to the Owner’s testing of the work including discovered deficiencies. This Contractor to provide access and assistance to the Owner's Testing Agency and Architect/Engineer in order to adequately reach testing locations as required (lift, ladder, etc.).
1) Contractor shall immediately correct all deficiencies noted by Owner's Testing Agency and Architect/Engineer.

18. Structural Steel Framing
a. Provide and install all structural steel columns, girders, beams, joists, etc.
b. Provide and install structural steel framing shown included in the Structural, Architectural, Roofing, Mechanical, and Electrical drawings.
1) Provide and install attachments/anchors required to complete this scope of work.
c. Laydown space is limited so delivery of steel is to be coordinated with Barton Malow Builders prior to delivery.
d. Provide and install specified galvanizing, primers, paint, coatings, etc. for ferrous metals, galvanized metals, welds, and aluminum are required and are the responsibility of this Contractor. Field touch up of shop paint as required. Shop preparation and painting of all structural and miscellaneous metals as indicated on the contract drawings.
e. Contractor to provide all cranes, hoisting and hoisting equipment. This Contractor shall provide Barton Malow Builders with all necessary crane/hoisting information (size). This information will be used to prepare the site for the equipment mentioned by this Contractor. Four weeks prior to site mobilization, meet with Barton Malow

Builders, Architect/Engineer, and Owner to discuss and resolve any issues relating to status of material procurements, site conditions, access, staging/storage requirements, material testing program and scheduling.

f. All steel will be left in a condition to accept fireproofing and/or intumescent paint.
g. Coordinate penetrations and related framing with other Contractors during detailing phase. Provide framing plans to Mechanical and Electrical Contractor for verification.
h. Include touch up of applied liquid products to steel, i.e. primer or galvanizing compound, in order to return same to a shop finish condition due to damage caused by this Contractor's work.
i. Provide engineered, temporary shoring as required for steel erection.
j. This Contractor is responsible for proper storage and protection of steel from corrosion, deformation and other damage on site.
    1) This Contractor is responsible for providing steel complying with all standards listed in specifications. All steel shall be reworked as necessary to provide a complete installation. Coordination with other Contractors is required to determine required conditions of steel for completion of work by other Contractors. Contractor is responsible to provide and install steel to the conditions required for all other Contractors to complete work.
k. This Contractor shall be responsible for receiving, off-loading, into/onto building including the safe and secure storage of materials related to this work.
l. Include cleaning and touch up painting of bolted connections, welded connections, and abraded areas. After erection, field coat all abrasions, nuts and bolts, washers and surfaces left unpainted.
m. Provide and install temporary ladders and vertical circulation to all levels until the installation of the permanent stairs/rails is complete. Temporary vertical circulation shall be for the use of Barton Malow Builders, Owner, and Contractors. Remove same when directed by Barton Malow Builders.
n. Provide and install all un-sized members and connections shown to fully anticipate a complete installation.
o. Coordinate slab edge details and locations with the Architectural and Glazing or other Contractors / Contractors whose work attaches to the slab.
p. Contractor is required to provide and install all Architectural Exposed Steel Framing (AESS) shown or required on this project. This Contractor shall remove all factory labels and provide finished AESS surfaces complying with specifications, Barton Malow Builders and UM. Contractor shall provide all submittal documentation related to AESS, including mock-ups.

19. Metal Deck
    a. Provide and install floor and roof metal decking.
    b. Fill all gaps and holes with closure plates and strips to ensure minimal seepage of concrete.
    c. Provide and install all deck welding and/or mechanical attachment, as required.
        1) Touch up all welds with specified metal primer.
    d. Provide and install all deck laps and spacing as required.
    e. Prevent workers from accessing decking placement areas prior to deck attachment to steel frame.
    f. Coordinate with the Concrete Contractor for proper access in order to accommodate placement of deck reinforcement.
    g. For areas shown to receive paint, intumescent paint, or spray-on fireproofing, this Contractor shall ensure metal decking and steel framing is free of oils or any other materials that could jeopardize adhesion of spray-on fireproofing or paint.
20. Metal Fabrications

a. Provide and install all miscellaneous steel and metal fabrication items are to be provide and installed by this Contractor unless specifically excluded by this work scope.
b. Provide and install slab edge and miscellaneous steel at roof and slab openings (see Structural, Architectural, Roofing, Mechanical, and Electrical drawings for additional openings, dimensions and coordination).
c. Provide and install loose steel angles for reinforcing of metal deck.
d. Sill support framing below windows and curtain walls.
e. Provide and install in-wall steel supports, thru-wall countertop and lavatory supports, lead-lined door frame supports.
f. Provide knee wall supports as required, coordinate with architectural and casework drawings. Turn over and coordinate install with appropriate trade.
g. Provide and install top of masonry wall supports, clips, angles and kickers.
h. Provide and install additional miscellaneous steel necessary for the support of mechanical and electrical equipment including raised curbs, as shown on the Structural, Architectural, Roofing, Mechanical, and Electrical.
i. Provide and install all framing around mechanical openings in floor or decking including but not limited to RTU and curb openings, flue openings, shaft openings, roof hatch openings, ect.
j. Provide and install supplemental steel supports at all roof hatch openings, roof drains, canopy framing, etc.
k. Touch up all welds with specified metal primer.

21. Specialties
    a. All finishes are to be per the Contract Documents.
    b. Installations shall be per manufactures written instructions.
    c. Provide all adjusting and cleaning shall be performed as specified at the end of each spec section.
    d. Provide and install all marker boards
    e. Provide and install all tack boards.
    f. Provide and install all fabric wrapped acoustical panels.
    g. Provide and install all wall protection, including corner guards, bumper guards, wall guards, and crash rails.
    h. Provide and install all specialty wall protection, including any specialty stainless wainscot panels, marlite, FRP, or korogard panels.
    i. Provide and install all toilet and bath accessories.
    j. Provide and install all framed mirrors.
    k. Provide and install all toilet and bath partitions, hardware and accessories.
    l. Provide and install all window blinds and roller window shades complete
    m. Receive and install all Owner provided Contractor installed equipment.
        1) Provide and install all operable partitions in their entirety, including all system specific required structural support items and accessories. Miscellaneous metal or other structural steel supports shown on the Contract Documents are to be by others. Include all required engineering as needed to design the support system.
    n. Provide and install all Fire Extinguisher Cabinets and Extinguishers. Include all required code signage (signage to be 3D) and decals including any required location or other identification signage installed independent from the Cabinet or Extinguisher.
        1) Contractor shall provide and install all perimeter sealants as required for items installed under this Scope of Work.

3.02 SPECIAL CONSIDERATIONS:

A. Labor Rates/Unit Prices/Alternates: Provide the following information on the bid form:

B. Labor/Equipment Rates:

C. This Contractor is to provide as a part of his proposal a fully detailed labor rates for Barton Malow Builders approval for work associated with this Contractor's and for each of their Subordinate Parties Trades. In addition, labor rates will be required for all equipment involved with the performance of the work required by this Bid Category.

D. Unit Pricing:

E. Allowances: This Contractor must obtain written authorization from Barton Malow Builders prior to performing the associated work below. Include in this Contractor’s bid, allowances for work as follows.

F. Provide Allowance for the following
   1. $10,000 – TBD

G. Alternates: This bidder shall be required to submit alternate prices identified in the contract documents which pertain to their work. These alternate prices shall be separate from their base bid on the bid proposal form.

END OF SECTION 002209.08

SECTION 002222.02
MECHANICAL - SCOPE OF WORK

BID PACKAGE 5

BID CATEGORY – MECHANICAL

PART 1 GENERAL

1.01 THE WORK OF THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO PROVIDING ALL SUPERVISION, LABOR, EQUIPMENT, MATERIALS, TAXES, BONDS, INSURANCE, SCAFFOLDING, HOISTING AND INCIDENTALS TO COMPLETE THE WORK PER ALL CONTRACT DOCUMENTS FOR THE TSD BP#5 - ADMINISTRATION BUILDING RENOVATION AS DEFINED BY THE BID PACKAGE NO. 5, BID SCOPE DOCUMENT INCLUDING ITS SUPPLEMENTARY DOCUMENTS AND IN ACCORDANCE WITH ANY APPLICABLE CODES. ALL WORK IS TO BE PERFORMED AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE FOLLOWING TECHNICAL SPECIFICATION SECTIONS:

A. Division 0 - Procurement and Contracting Complete

B. Division 01 – General Requirements Complete

C. Division 02 – Existing Conditions
   1. 02 4100 – Demolition As Applicable

D. Division 03 – Concrete
   1. 03 3000 – Cast-in-Place Concrete As Applicable
   2. 03 3003 – Cast-in-Place Concrete Requirements for Floor Slabs As Applicable
   3. 03 5400 – Cast Underlayment As Applicable

E. Division 05 – Metals
   1. 05 5000 – Metal Fabrications As Applicable

F. Division 07 – Thermal and Moisture Protection
   1. 07 8400 - Firestopping As Applicable
   2. 07 9200 - Joint Sealants As Applicable

G. Division 20 – Common Mechanical Requirements
   1. 20 0500 – Mechanical General Requirements Complete
   2. 20 0510 – Basic Mechanical Materials and Methods Complete
   3. 20 0513 – Motors Complete
   4. 20 0516 – Pipe Flexible Connectors, Expansion Fittings and Loops Complete
   5. 20 0519 – Meters and Gages Complete
   6. 20 0516 – Pipe Flexible Connectors, Expansion Fittings and Loops Complete
   7. 20 0529 – Hangers and Supports Complete
   8. 20 0547 – Mechanical Vibration Controls Complete
   9. 20 0553 – Mechanical Identification Complete
   10. 20 0700 – Mechanical Insulation Complete

H. Division 22 – Plumbing
   1. 22 0523 – Under-Lavatory Pipe and Supply Covers Complete
   2. 22 1116 – Domestic Water Piping Complete
   3. 22 1119 – Domestic Water Piping Specialties Complete
   4. 22 1316 – Sanitary Waste and Vent Piping Complete
   5. 22 1319 – Drainage Piping Specialties Complete
   6. 22 1413 – Storm Drainage Piping Complete
   7. 22 4200 – Plumbing Fixtures Complete

8. 22 4700 – Drinking Fountains, Water Coolers and Cupsidors Complete

I. Division 23 – Heating Ventilating and Air Conditioning (HVAC)
1. 23 0500 – Common Work Results for HVAC Complete
2. 23 0523 – General-Duty Valves for HVAC Complete
3. 23 0593 – Testing, Adjusting, and Balancing Complete
4. 23 0933 – Temperature Controls Complete
5. 23 2113 – Hydronic Piping Complete
6. 23 2510 – Piping Systems Flushing and Chemical Cleaning Complete
7. 23 3113 – Metal Ducts Complete
8. 23 3300 – Duct Accessories Complete
9. 23 3423 – Power Ventilators Complete
10. 23 3600 – Air Terminal Units Complete
11. 23 3713 – Diffusers, Registers, and Grilles Complete
12. 23 8229 – Electrical and Hydronic Radiant Heating Units Complete
13. 23 8233 – Convection Heating Units Complete
14. 23 8240 – Centrifugal Fan Cabinet Unit Heaters (Hot Water) Complete

IN ADDITION TO THE ABOVE, THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO THE BIDDING DOCUMENTS, THE BIDDING AND CONTRACT REQUIREMENTS AND DIVISION 1 GENERAL REQUIREMENTS OF THE BARTON MALOW BUILDERS PROJECT MANUAL AND VARIOUS OTHER DOCUMENTS AND TECHNICAL SPECIFICATIONS INTERFACING WITH THIS WORK PROVIDED BY THE OWNER, ARCHITECT AND/OR ENGINEERS. THE BIDDER IS ADVISED TO REVIEW THE WORK DESCRIPTIONS OF THE OTHER CATEGORIES SO AS NOT TO MISUNDERSTAND SCOPE RESPONSIBILITIES.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

THE SCOPE OF WORK WILL INCLUDED AND IS NOT LIMITED TO THE FOLLOWING ITEMS:

A. Performance of the Work shall be in accordance with all Division 01 – General Requirements.

B. Refer to the Project Manual for additional bidding and project general requirements and conditions.

C. In addition to the requirements set forth in Division 01 – General Requirements, the Work shall include the following:
1. Additional Meetings & Quality Control Requirements:
a. Mockups
b. Additional Photographic documentation, etc
c. As-builts for MEP, etc coordination

D. **Submittals/Close Out:**
1. Submit all start-up documents, and product submittals on materials & products within two (2) weeks after Notice to Proceed (NTP).
2. Submit all shop drawings in accordance with the contract documents and all code requirements within four (4) weeks after Notice to Proceed (NTP).
3. Contractor is to submit a long lead item log to Barton Malow Builders for materials and equipment with lead times of 6 weeks or more. The long lead item log shall include submitted date, submittal approval date, lead time, order date, & approximate delivery date. Contractor shall update and submit weekly to Barton Malow Builders.
4. All equipment, products, & materials that are installed without submittal approval and not acceptable by the Architect/Engineer and Owner will be removed at the installing Contractors cost. Contractor will be held responsible for all back charges caused by the

project delay to the Owner and Trades working onsite due to no specified material/equipment install and/or lack of or late submittal approvals.

5. Engineered shop drawings must be signed and sealed by a Registered Engineer in accordance with contract documents and state law.
6. Contractor shall include all cost necessary for as-built, asset sheet data spreadsheet, closeout documents (including O&M manuals, valve charts, guarantees or warranties on equipment and/or materials, testing and system check-out or approval, and Owner's training as required) per the Contract Documents.
7. Contractor to provide additional manpower dedicated to Barton Malow Builders to complete Barton Malow Builders punch list work for a minimum of ten (10) working days prior to the listed Architect/Engineer project punch list in the project schedule. This manpower will be under the direction of the Barton Malow Builders Superintendent to complete punch list work of their bid category and will report directly to the Barton Malow Builders each day. Failure to provide required manpower may result in a delay in receiving the Contractor’s progress payment from Barton Malow Builders.
8. Architect/Engineer's punch list will not start until all work has been completed.
9. Contractor may not drop retainage to 5% until work of this bid category is substantially complete according to the contract documents. In addition, all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been completed, turned over, accepted, and documented. Contractors must also have up to date partial and final waivers from all Contractors, suppliers, and other Subordinate Parties including a AIA G707a Consent of Surety to partial reduction in retainage form signed and sealed by the Surety.
10. To bill out the remainder of retainage (from 5% to 0%), the Contractor must set up a meeting with Barton Malow Builders to go over and/or collect the remaining closeout items for final payment as specified in the project manual and submit a AIA G707 Consent of Surety for final payment form signed and sealed by the Surety.

E. **General Scope:**

1. Required PPE for every Contractor, Subcontractor, & Delivery Drivers onsite:
   a. Class II hardhats
   b. Cut level four gloves
   c. Eye protection
   d. High visibility reflective safety vests
   e. Work boots
   f. Sleeved shirts
2. Contractor is to incorporate all project bidding documents into their subordinate party agreements.
3. All bidders are required to review the General Conditions of the Contract located in the project manual.
4. Contractor is to be licensed to perform work in the State of Michigan. This includes all Contractors and 2nd or 3rd (etc.) tiered Contractors.
5. Contractor shall maintain on site, a copy of all applicable code books specifically pertaining to this scope of work. These code books are to follow the city, state, and all other authorities having jurisdiction per the specific year each authority has designated for this particular project. This Contractor is responsible for all research and compliance with all applicable regulations.
6. This Contractor is responsible to coordinate with Barton Malow Builders to schedule inspections with the Local Governing Agency and/or the State of Michigan as well as the testing agency. Inspection results and records will be kept in the Barton Malow Builders jobsite office. During all inspections each Contractor is to have a Foreman/Superintendent on site.
7. Contractor must verify that work installed by others, complies in its entirety with the contract documents prior to commencing their work, which ties in, overlays and/or follows

the installed work. Any non-conforming work shall be identified in writing to Barton Malow Builders immediately.

8. Anyone listed on the National Sex Offender List is not allowed to be a part of this project and anyone who is convicted of a listed offense will be immediately dismissed from project. Provide photo identification upon arriving to the site and badges are to be worn by Contractor's field personnel at all times.
9. Contractor shall have their Superintendent/Foreperson attend a daily coordination meeting every morning from 6:45am - 7:00am. Participation is mandatory.
10. Project daily working hours are Monday – Friday, Site Opens @ 5:30am and closes at 2:30pm. There will be a 5-day minimum work week. Should scheduled workdays or production be lost due to inclement weather or this Contractor's delays, overtime during the work week and weekends will be required to maintain the project schedule at this Contractor's expense. Any work performed outside normal working hours requires approval from Barton Malow Builders.
11. Contractor is only to take direction from Barton Malow Builders.
12. Review all specifications and project drawings, drawing notes, schedules, and schedule notes for areas requiring work described by this bid category and coordinate work with the respective contractors, include all costs in base bid.
13. Include all manpower, overtime, composite crews and mobilizations in base bid to complete work per the project schedule. All mobilizations required to complete this Scope of Work have been included in the base contract price, unless specifically addressed otherwise in this Contract Agreement. It is understood and agreed that this work may not be performed in a continuous operation and during normal business hours. This contractor has included the cost of the multiple mobilizations/remobilizations and cost to work during non-normal business hours.
14. Contractor will be required to perform after-hours and overtime work as necessary to minimize disruption to Troy School District.
15. If Contractor is behind schedule and is notified by Barton Malow Builders, the Contractor shall be required to accelerate the work at its own expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, and shall continue to do so until the progress of the work, in the opinion of Barton Malow Builders, is in conformance with the master project construction schedule.
16. Provide and install all materials per the construction documents. Bid proposals must be per plan and specs. Bids not conforming to plans and specifications will be rejected. Substitutions must be pre-approved in writing prior to bids or be submitted as voluntary alternates on the bid form.
17. Contractor must include costs and utilize Autodesk Build and Textura for this project. Information and cost for Textura can be found in section 012000-Price and Payment Procedures and AutoDesk Build in section 013000-Administrative Requirements.
18. All contractors are to field verify all existing conditions prior to submitting a bid. Submitting a bid is acceptance of all field conditions. Do NOT scale the drawings.
19. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
20. This project surrounded by Troy School District staff and students. Contractor is to take proper measures to ensure minimal disruptions to the roads and sidewalks around the project. Contractor is responsible for proper barricading and signage if his work activity interrupts the normal flow of operations around the facility. All Contractor employees and subordinate parties are to conduct themselves in a manner not to offend nor interfere with the staff, students, or any other public person. Barton Malow Builders and Troy School District Code of Conduct includes immediate termination for foul language/derogatory conversation. Those who are not in compliance will be asked to leave the project and not return.

21. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor's responsibility.
22. Minimize disturbances to landscape areas. Excessive or malicious (as deemed by) Barton Malow Builders landscape disturbance will be the responsibility of this contractor to restore at own expense.
23. Protect equipment and finish items to remain during construction including roof, ceilings, walls, flooring, and landscaping during work of this bid category. In addition, all work being performed through ceilings, be it grid, ceiling pads, drywall or plaster, etc. must be protected from damage during work of this bid category. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
24. Deliveries must occur after 7am and prior to 2pm and not between noon and 1pm, unless scheduled with a Barton Malow Builders Superintendent or risk having the delivery turned away. Unloading, hoisting, transport of materials out of truck to staging location, and delivery acceptance is by the Contractor who is responsible for the material.
25. Contractor is responsible for storage of all materials. Deliver materials to the site as needed. Storage in the building will be limited. Materials in building must be on pallets or material/pipe carts.
26. Stocking of material on floors will be limited to a three (3) day maximum in the area of work, if approved by Barton Malow Builders Superintendent. No other material storage will be allowed in the building.
27. All materials used are to be new, unused and undamaged. Any damaged or questionable material is to be removed and replaced at no cost to the Owner or Barton Malow Builders.
28. Include all rigging and hoisting to deliver, install, and remove materials to / from all floor levels complete.
29. All crane and boom truck lifts must be properly barricaded to keep public at a safe distance. Provide ground spotters and barricading to keep public out of the swing radius of the crane or boom truck.
30. The use of the existing and/or new elevator will not be permitted.
31. This contractor is responsible for all lifts and scaffolding, if required, for work of this bid category. Coordinate use of your lifts and scaffolding with other trades.
32. Scaffolding and staging as required. Engineered installation drawings, as required.
33. Include field layout for work of this bid category, also included is field time for this contract to survey existing conditions prior to beginning each phase of work. Any discrepancies between existing conditions and the contract drawings are to be reported to Barton Malow Builders immediately.
34. Coordination drawing meetings will be scheduled. Contractor understands that Barton Malow Builders is not issuing change orders for items not coordinated with other trades. Contractor also understands any conflicts of existing structure with their new work must be brought to Barton Malow Builders and Architect/Engineer attention in advance of start of work.
35. Contractor shall have no claims for additional cost because Contractor has failed to install work in proper sequence and not in accordance with Coordination drawings. Likewise, any cost for removal of materials or damage caused by Contractors who have failed to perform their Work in the proper sequence will be borne by that Contractor.
36. Participation in coordination meeting/s, weekly progress meetings, and drawings process is mandatory. Minimum eight (8) hours per week shall be included for meetings and coordination with Barton Malow Builders. Representative must be able to make all decisions for their Company and Contractors.
37. Contractor to have one (1) full time on-site superintendent, for the duration of the project. The assigned personnel will be responsible to manage the "entire" scope of work including their Subcontractors/Suppliers and will be the single point of contact for this scope of work. Contractor will be responsible to complete the daily report & JHA form each day including for their Subcontractors regardless if the Contractor has self-perform

crews on site or not. Representative must be able to make all field & financial decisions. If full time supervision is not onsite by the Contractor, their Subcontractors will be told to leave the site until the next calendar working day. Contractor will be held responsible for delays and back charged due to lack of project supervision.

38. Contractor is to provide site Supervision and Foreman an Apple iPad with unlimited data/cellular plan service. It is required that Contractor download BluebeamRevu and Autodesk Build via the app store on each device. Contractor may access Owner guest Wi-Fi network if available.
39. Contractor must complete and submit electronic daily Flypaper reports and pre-task plans via Autodesk Build to Barton Malow Builders on a daily basis. These reports must show total number of manpower, total number of hours, and each day's specific activities. If this is not done, Barton Malow Builders reserves the right to withhold this Contractor's monthly payments until satisfied with this Contractor's response.
40. Items shown to be turned over on the project documents and for closeout attic stock to Owner must be accompanied by a transmittal and copied with signature of receipt to Barton Malow Builders. If a transmittal is not provided and Owner's items are missing, it is this contractor's responsibility to purchase and replace with new materials.
41. Contractor is responsible for the quality control for work of this bid category (including for their subordinate parties). Contractor is to strictly observe tolerances and to maintain strict quality control throughout the execution of his work. All work is to be checked for compliance at each stage of completion per applicable codes, project drawings, specifications, and manufactures shop drawings/written instructions. Any work that is not within specified tolerances is to be removed and replaced.
42. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.
            (c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.
43. Ticket work is to be signed by Barton Malow Builders at the end of each workday. Tickets not reviewed or signed by the Barton Malow Builders Superintendent will not be accepted or processed. Pricing is to have detailed explanations of work performed. Barton Malow Builders directed ticket work shall NOT include foreman time, work/service truck, cartage, or overhead and profit mark-up. Tickets shall include only approved labor and materials used. Signature from Barton Malow Builders Superintendent does not necessarily equal additional funds. Barton Malow Builders Project Manager will decide if ticket work is added scope to the contract.
44. All change pricing is to be submitted within ten (10) days from receipt of the change vehicle, unless otherwise agreed by Barton Malow Builders or Owner. All change order pricing is to include a detailed breakdown of costs – Material, Labor, Equipment, etc. along with any signed work orders. No lump sum pricing allowed. Change order pricing will not be accepted without a detailed breakdown. Failure to submit change order pricing within ten (10) days will result in a $0 change order.

45. Provide all cutting/patching, coring, patching of penetrations, and block-outs for work of this bid category. This is to include but not limited to cutting and patching of all openings in deck (concrete or metal) if required. Patch walls where adjacent existing walls were removed. Patch and repair work is to be done professionally by trained, skilled craftsmen.
46. Provide and install temporary protection for all excavations, floor, or roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. 'Hole below - do not remove') covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
47. Contractor is responsible for all dewatering and snow/ice removal necessary to complete this Scope of Work.
48. Cleanup is to be performed continuously as work is progressing. This means cleaning up each and every hour. This includes the removal of debris, sweeping (Contractor to provide sweeping compound), wiping down of all finished surfaces, and the proper storage of unused equipment and materials. Cleanup not performed by the Contractor will be completed by a third party (chosen by Barton Malow Builders) and back charged accordingly. Written warnings will not be issued.
49. Contractor shall participate in the Composite Cleanup Crew as described in the project manual. These requirements are in addition to normal daily cleaning responsibilities and costs for this are included in the contract price.
50. Include all cost in base bid to comply with the latest Federal mandate, State of Michigan Executive Order, OSHA requirements, Local Juristriction Requirements, Owners Requirements, whichever is more stringent related to Covid-19: testing, PPE, social distancing, and all other requirements for your workers and subordinate parties. This shall include identifying your competent Covid 19 supervisor that will review, monitor, record, and enforce all requirements. In addition, each worker onsite is required to sign in each day prior to work using the Barton Malow QR Reader Questionnaire on a smart phone or tablet.

F. **Specific Scope:**
1. Temporary Measures:
   a. For any permanent equipment that will be used for temporary work during construction, include extended warranties to cover the time the equipment is in use prior to Substantial Completion.
   b. Provide, install, maintain, and remove temporary systems upon completion and activation for use of the permanent systems
   c. Protect all materials from damage prior to installation.
2. Temporary Electricity:
   a. Temporary electricity (120V/1PH/20A) may be available for use by this Contractor. This Contractor is responsible for all means to access power to the points of work. The Owner will pay for power consumption. This Contractor will be responsible for costs to establish additional power requirements from new panels (i.e., 208V) required for their work. If generators are to be used diesel units shall use bio-fuel and have scrubbers installed.
3. Temporary Guardrail Systems:
   a. Maintain all temporary guardrail system during the course of construction. At such time when it can or must be removed to perform work, appropriate safety precautions are to be implemented. After this Contractor completes areas of work, which do not offer appropriate fall protection due to gaps or openings, this Contractor is to provide and install appropriate temporary guardrails across openings.
4. Temporary Filters on Intakes and Return Ducts:
   a. Include filter media and all necessary changes within units, on all return air duct, grilles, openings and all air intakes – include periodic changes of filters throughout the course of construction.

b. Include final changes of filters for testing and a second change prior to final occupancy.

5. Coordination and Layout
   a. Actively participate in Mechanical, Electrical and Plumbing (M/E/P) overhead coordination process per the Barton Malow Builders Project Manual, and coordinate the installation of this Contractor's work to allow installation and access to all other M/E/P and architectural/structural supports. Installed piping must be placed where determined in the overhead coordination process; deviations will not be acceptable and will be at the Contractors' expense to correct if found in the field.
   b. Contractor will be responsible for the complete coordination of work of this bid category with all other trades to identify and resolve conflicts. Any and all financial implications emanating from this Contractor's lack of planning and coordination will be borne by this Contractor. This shall include blocking, backing conduits, sleeves, penetrations, and any other appurtenances which may not be specifically identified by the contract documents but are required to complete this scope of work.
   c. This Contractor is responsible for all detailed layout required for proper location and coordination of work.
   d. Contractor shall review the critical dimensions and elevations of all work and shall otherwise verify the conformity of existing work to the Contract Documents and to its suitability. Contractor shall promptly submit a written statement to Barton Malow Builders and Architect/Engineer noting any discrepancies or unacceptable conditions as they relate to its work
   e. Contractor shall attend all meetings as required to properly coordinate its Work with that of Others. Coordination efforts should be focused on minimizing any post-installation damage and quality issues.
      1) Contractor to participate in pre-installation conferences as requested by Barton Malow Builders, Architect, Owner, or per the specifications
   f. Contractor shall visit the site and attend meetings as required to properly coordinate the Work.
      1) Coordination efforts should be focused on minimizing any post-installation damage and required patching operations.
   g. Coordinate installation of piping and conduit with the Electrical, Mechanical, and Temperature Control Contractors in any new walls.
6. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
7. Contractor shall include multiple mobilizations to complete the Work.
8. Stud and Masonry will be placed prior to mechanical and electrical overhead work.
   a. Stud install will include installation of one side drywall topout to the corridor side.
9. HVAC
   a. Obtain and pay for all permits and inspection fees as required for work of this category.
   b. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
      1) Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
         (a) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor.

Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.

(1) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
(2) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.
(3) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.

c. Provide and install a complete, operational, and code compliant Wet HVAC, Dry HVAC, Mechanical, and Temperature Controls Systems for all designated building areas per the Contract Documents.
d. Provide and install all Wet HVAC and Dry HVAC materials and equipment noted on all Mechanical and Temperature Controls drawings, regardless if it is or is not in the schedule or specifications.
e. Coordinate location of equipment to ensure required electrical clearances are met.
f. Drawings are diagrammatic. Provide and install all materials, offsets, transitions, fittings, etc. required for means and methods for work of this bid category.
g. ERU's, RTU's, AHU's, Pumps, VFD's, and Controls, and all related equipment must be checked, tested, and started per project schedule providing climate control to the building through project completion.
h. Removal of fireproofing required for this Contractor’s installation.
i. Replaced in its entirety all fireproofing disturbed by this Contractor’s installations. Patching material shall match the material used by the Fireproofing Contractor/or existing.
j. This Contractor is required to perform all preliminary air flow testing to verify CFM prior to any demolition of existing system required to be replaced.
k. This Contractor is required to perform all preliminary flow testing to verify GPM prior to any demolition of existing system required to be replaced.
l. This Contractor shall verify and notify Barton Malow Builders and Architect/Engineer immediately for any discrepancies in the contract documents where noted to tie into existing utilities.
m. Notification to Barton Malow Builders and Architect/Engineer of any non-code compliant items noticed during installation.
n. Coordinate tie-ins with Barton Malow Builders and Owner. Shutdown of the existing system will require a minimum forty-eight (48) hour notice. Systems will be required to be functional by the end of each work day.

Demolition

a. Cut, cap, tag, and make systems safe for the removal in all buildings/areas. “Make safe” includes physical disconnection from any equipment/components that are existing to remain.
b. Removal, salvage, and storage any material called out on demolition drawings for reinstallation by this Contractor shown on the Demolition and Mechanical Demolition drawings.
c. Demolition of all duct and HVAC piping material, equipment, and system as shown and/or required for work of this bid category. The demolition work shall include all supporting items and hangers, unless shown to remain.
d. Fill all abandoned core holes due to HVAC piping demolition immediately after removal.
e. Legally dispose of all duct and HVAC piping materials, equipment, components, and debris demoed. Remove equipment off site. No mechanical equipment or debris shall be placed in Barton Malow Builders or Owner dumpsters.
f. Safely remove and salvage HVAC specific items required for reinstallation or items being turned over to the owner.

g. Mechanical contractor responsible for all demolition shown on architectural, mechanical, and plumbing drawings for their scope of work.

HVAC New Work

a. Reroute any duct and HVAC piping related items as needed to facilitate the new installation of this Contractor's work.
b. Provide and Install any earthwork and engineered fill required for work of this bid category. Excavations must be compacted and ready to accept concrete.
c. Provide and Install all required concrete equipment pads and curbs not shown on the Contract Documents for work of this bid category.
    1) Layout equipment pads shown on the Contract Documents. Coordinate with the Concrete Contractor.
d. Provide and install roof curbs, curb caps, pipe/ductwork supports and flashing for mechanical work. Locate, layout, and set curbs. Cut concrete roof deck as required for installation of new fans, stacks, etc. Coordinate installation with the Architectural and Roofing Contractor. Roof is to be protected for work of this bid category.
e. Provide and install temporary weather tight protection at new curbs and roof penetrations where existing equipment is demoed.
f. Demolition Contractor shall include all saw cutting of openings in walls or floors required for Mechanical Contractor's installations, including removal and disposal of all debris. Assume all floor penetrations are to be cored. Floors will be boxed out by the Mechanical Contractor for installation of the floor drain after concrete floors have been placed. Concrete infill around the drains will be by the Mechanical Contractor.
g. This Contractor shall include any masonry patching required for penetrations through existing walls, including those walls in which, piping or ductwork is removed. Approval for installation of sheet metal in lieu of patching masonry walls above ceiling is required to be detailed and submitted for Architect/Engineer approval.
h. Contractor is responsible for all temporary steel required to support all equipment and piping for this work scope.
i. The use of C-Clamps, including C-Beam Clamp fittings shall not be permitted.
j. This Contractor shall provide and install any structural steel work necessary to span between or extend from the base building structure in order to install pipe or ductwork hangers, anchors, or supports. Provide and install all channels required for equipment support complete. This Contractor shall verify details for building attachment and comply with all requirements and approvals prior to installation.
k. This Contractor shall include all metal backing/supports required for in wall or overhead installation. Refer to specifications for required gauge.
l. The provide and install of any additional steel required for equipment , equipment curbs, or grillage (framework) steel required by equipment manufacturer.
m. Coordinate grillage (platform) steel for equipment. Grillage to be provided by General Trades Contractor.
n. General Trades Contractor shall provide and install all ladders and handrails not included for scheduled equipment shown on the Contract Documents.
o. This Contractor shall provide and install any additional material required for curbs not specified and/or noted on the Contract Documents for equipment.
p. Provide and Install all interior sealants associated with work of this bid category.
q. Duct, piping and insulation is to be installed as tight to the deck as possible.
r. Contractor is to maintain 6" above finished ceiling elevations for bottom of duct and piping including the flange and insulation. If ceiling height cannot be maintained, notify Barton Malow Builders and Architect/Engineer immediately.
s. Minimize amount of access doors necessary, especially in public areas.
t. Valves (including balancing valves) and other items requiring access panels should NOT be installed above hard lid ceilings if it can be avoided. If items are shown or

required to be installed above hard lid ceilings, notify Barton Malow Builders and Architect/Engineer immediately prior to installation for possible relocation.

u. During MEP coordination process make a good faith effort to share access doors with other Architectural, Plumbing, and Electrical trades to further minimize quantity of access doors. Instances of shared access doors will be the Contractors' responsibility to split and determine cost. A highlighted drawing of Access doors locations shall be required for exact location identification.

v. Coordinate the locations and gain approval of locations from the design team prior to installation.

w. This Contractor shall provide all access doors and frames for proper access to valves and devices for maintenance. Access panels required but not shown on the drawings will be provided by this Contractor and installed by Carpentry Contractor. Minimum access door size shall be 12" x 12" unless otherwise approved by Barton Malow Builders, Owner, and Architect/Engineer. Include fire rating requirements if applicable.

x. Provide and install all interior and exterior Mechanical Wall Louvers including but not limited to decorative aluminum frames, insect screen, bird screen, blank-off supports, shims, flashings, backing/blocking, accessories, hardware, etc.

y. Provide and install a complete louver assembly with insulated back panels instead of the insulated composite panels shown per details. This should also include intermediate mullions if identified on details.

z. Provide and install the following items associated with louvers such as:
   1) Closures and galvanized angles
   2) Include all plates around jambs, heads and sills.
   3) Backer rods and sealants at interior and exterior perimeter of installations.

aa. Coordinate and provide to the Glazing Contractor any louvers that are to be glazed into window and curtainwall systems.

bb. Provide and install equipment and associated work as identified in the Equipment Schedule and specifications.

cc. Provide and install all Equipment Connections including valves, traps, drain extensions, gas cocks, pressure regulating devices, water hammer arrestors, check valves and piping, etc. for equipment provided and installed by this Contractor or others.

dd. Contractor shall provide and install Sound and Vibration Control and Inertia Bases as required. Review and cross-reference the specification requirements with equipment proposed to insure all requirements are met.

ee. Provide and Install concrete infill for pump bases required.

ff. Contractor shall unload, distribute, uncrate/dispose of, and install all Owner Provided/Contractor Installed Equipment as defined and indicated in the project documents. In certain instances, Contractor shall participate in and provide men for composite crews to perform the installation of equipment where multiple trades claim the Work.

gg. Provide and Install all interior sealants associated with work of this bid category.

hh. Provide and Install all through wall fire resistive fire stopping spray/joint sealant per approved UL Systems for all rated wall, floor, & deck penetrations for work of this bid category. Both sides of wall, floor, or deck are to be fire stopped.

ii. Provide and Install all acoustical and through wall smoke spray/joint sealants for all non-rated wall, floor, and deck penetrations for work of this bid category. Both sides of wall, floor, or deck are to receive acoustical sealant

jj. All exterior wall, floor, and roof penetrations for equipment installed under this scope of work shall be flashed and made watertight. Coordinate roof penetrations with roofing Contractor and ensure that roof warranty is not voided due to equipment installed under this scope.

kk. Where this Contractor penetrates or disturbs an existing fire-rated, smoke rated, or sound rated penetrations or existing patches, this Contractor shall be responsible to provide and install sealing as required.
ll. Repair in its entirety all spray or trowel applied fireproofing disturbed by work of this bid category. Patching material shall match the material used by the Fireproofing Contractor.
mm. Pressure test all piping and ductwork per the schedule and specifications. Test must be performed by a certified testing agency and witnessed by Barton Malow Builders or Architect/Engineer.
nn. Provide and Install all duct and piping insulation per the contract documents and per local codes.
oo. Insulate and label all piping and ductwork immediately after passing pressure testing.
pp. Owner will remove all asbestos from existing piping.
qq. Provide and Install piping insulation on all existing elbows, flanges, hangers, and valves where asbestos has been removed for piping shown to remain on the mechanical drawings. Assume hangers are every 10' and on both sides of elbows. See asbestos survey for additional information.
rr. Provide and install a small green dot on the ceiling grid showing location of VAV boxes, valves, damper, motors, ect that are above ceiling.
ss. Contractor to shall carry basis of design ERU's, RTU's, AHU's, and VFD's shown and/or scheduled in base bid. Provide pricing for remaining specified ERU's, RTU's, AHU's, and VFD's manufactures as voluntary alternates.
tt. Do not route any piping or ductwork through electrical rooms, communication rooms, or stairs.
uu. Provide any unistrut support and misc steel as required to mount equipment for work of this bid category.
vv. Provide any blocking required for installation of equipment.
ww. Contractor is to provide any earthwork and engineered fill required for installation of new work. Excavations must be compacted and ready to accept concrete.
xx. Contractor shall coordinate with Rough Carpentry and General Trades Contractors for in wall rough in openings required. This is to include layout of duct/damper locations and elevations required to go through walls and are to be marked on the floor.
yy. Include single-point connection to all equipment. Coordinate with Electrical Contractor to provide power.
zz. Coordinate motor requirements with Electrical Contractor.
aaa. Provide loose starters and combination starter/disconnects to be installed by the Electrical Contractor.
bbb. Provide all Variable Frequency Drives (VFDs) and turn over to Electrical Contractor for rough in/ wiring.
ccc. Provide and install all smoke and fire dampers – power to all dampers to be by Electrical Contractor .
ddd. Coordinate duct wall penetrations with Stud/Drywall Contractor prior to fabrication and installation. This shall include layout of duct and smoke/fire dampers on the floor for metal stud opening requirements/ coordination.
eee. Receive, inventory, handle and install Water Pressure and Flow Sensors and Control Valves associated with but not limited to chilled water, heating hot water, hydronic and condensate piping supplied by the Temperature Controls Contractor.
fff. Provide and install all thread-o-lets, wells and ports for all items shown on the Contract Documents or required by the Temperature Control System.
ggg. Provide and install ports and tubing required for Temperature Control System monitoring.

hhh. Provide all final mechanical connections to Owner furnished equipment on the project drawings.

iii. Provide and install labeling and valve/equipment identification as defined in the Contract Documents, including final clean-up of equipment prior to turn over to Owner. Contractor shall provide all identification, tagging of materials, equipment and systems required as a part of its Work.

jjj. Provide and install all equipment and value tagging as required for the mechanical and plumbing systems. Provide framed valve and tag schedule in equipment rooms as well as electronic copies.

kkk. All start-up and training is to be performed by a factory certified representative or manufacturer (as required per specification section) for that specific piece of equipment.

10. Heating, Ventilating, and Air-Conditioning (HVAC)
    a. Wet Side Mechanical
        1) General:
            (a) Contractor shall provide all Piping Specialties as specified including, but not limited to, motors, gauges and thermometers, flow metering systems, valves and pressure taps complete with test kits.
                (1) This shall include electrolysis control at all piping and accessories. Contractor shall provide all mechanical seals, expansion tanks, air separators, chemical feeders, and reservoir tanks.
                (2) Contractor shall ensure that all valves installed meet all requirements of the Contract Documents
                (3) This Contractor shall include new boilers, heating hot water piping, valves, bypass loops, expansion loops, fittings, testing, insulation, pipe ID, etc. associated with this trades scope of work.
                (4) Contractor to include emergency stop for boilers complete required by code.
                (5) This Contractor shall include new steam, steam condensate, heating hot water piping, valves, bypass loops, expansion loops, fittings, testing, insulation, pipe ID, etc. associated with this trades scope of work.
                (6) This Contractor shall include all dielectric fittings at rough-ins and hangers to separate dissimilar metals.
11. Contractor shall provide and install all drain pans complete with drains to safe-waste including all accessories, in the locations defined by the Contract Documents or as required due to the routing of piping installed by Contractor.
12. Contractor shall remove caps and/or rework ends of piping left in place by other Contractors for connection to this Contractor ’s work.
13. Provide and Install all sterilization and testing as specified.
14. Provide all flushing, cleaning, and testing as required per code, specification or best practices.
15. Provide and Install all chemicals required for startup of scheduled equipment.
    a. Contractor shall request/obtain Owner’s preferred chemical vendor if not specified.
    b. Contractor shall replace any and all chemicals used (if provided by Owner) during flushing, cleaning, etc.
16. Heating Hot Water Systems:
    a. Provide and install complete Heating Hot Water Systems, including but not limited to piping, valves, expansion/compression tanks, air separation/elimination, heat exchanger, relief valves, safety valves, chemical shot feeders, pumps, piping, motors, supports, accessories, etc. per the Contract Documents
    b. Provide and install all VFD's shown or specified in the contract documents. Coordinate power installation with the Electrical Contractor.

1) Coordinate start-up of VFD's with the Controls Contractor and Manufactures Rep.

c. Provide and install all spring isolators, anchors, guides including design of same.
d. Provide and Install all hot water coils per mechanical schedules for installation. Final piping and control valve installation is to be by this Contractor.
e. Provide and install all grit & air/water separators.
f. Provide and install all wells and ports for all manufacturer’s required sensors, and flow switches.
g. Provide and install the complete water treatment system per specifications, including all chemicals, pumps, controls, injection ports, site water analysis and recommendations, etc. for a fully functioning system.
h. Provide and install underground floor HVAC piping.

17. Chilled Water and Condenser Water Systems:
    a. Provide and install complete Chilled Water and Condenser Water Systems, including but not limited to, piping, condenser water separators, expansion tanks, chemical shot feeders, chemical feed system, pumps, heat exchangers, manual auto air vents, valves, accessories, etc. per the Contract Documents.
    b. Provide and install all VFD's shown or specified in the contract documents. Coordinate power installation with the Electrical Contractor.
        1) Coordinate start-up of VFD's with the Controls Contractor and Manufactures Rep.
    c. Provide and install all grit & air/water separators.
    d. Provide and install all wells and ports for all manufacturer’s required sensors, and flow switches.
18. Steam and Condensate Return Systems:
    a. Provide and install complete Steam and Condensate Return Systems, including but not limited to strainers, steam specialties, piping, converters, isolation valves, pressure reducing valves, relief valves, condensate return pumps, and pump pressure type system, valves, supports, accessories, etc. per the Contract Documents
    b. Provide and install all VFD's shown or specified in the contract documents. Coordinate power installation with the Electrical Contractor.
        1) Coordinate start-up of VFD's with the Controls Contractor and Manufactures Rep.
    c. Provide and install Spring Isolators, anchors, guides including design of same.
    d. Provide and install condensate return units (CRU’s).
    e. Provide all labor and materials for steam boil out and load testing per manufactures recommendations and bid documents
19. Air Handling/Fan-Coil Units:
    a. Provide and install ERU's, RTU's, and AHU's /Fan-Coil units complete but not limited to pumps, piping, motors, supports, control panels, curbs, vibration isolation, accessories, etc. per the contract documents.
    b. Provide and install all VFD's shown or specified in the contract documents. Coordinate power installation with the Electrical Contractor.
        1) Coordinate start-up of VFD's with the Controls Contractor and Manufactures Rep.
    c. Provide and install all heating hot water, drain, and steam piping, valves, accessories etc. and connect systems to the coils, humidifier wands and drains of the units.
    d. Coordinate location of condensate drain with Structural and Architectural trades.
    e. Participate in the testing and commissioning of the connected items.
20. Air Cooled DX Equipment:
    a. Provide and Install all Air Cooled DX Equipment complete as scheduled and specified in the contract documents.

b. These items are all provided by the Dry-Side Mechanical. This Contractor is to do the following in conjunction with this work.
    1) For Fan Coil Units, For Split System ACCU's, For Air Handling Units, For Packaged Condensing Units: Provide and install all heating hot water, drain, steam and chilled water piping, valves, accessories etc. and connect systems to the coils, steam wands and drains of the units.
    2) Participate in the testing and commissioning of the connected items.

21. Heating Units:
    a. Provide and Install all Heating Units complete as scheduled and specified in the contract documents.
    b. Provide and install all hot water Heating Units, including but not limited to cabinet unit heaters (hot water coils), baseboard and freestanding heaters, and fin tube radiation units piping, valves, connections to the heating systems,
    c. Provide and Install all electric Heating Units, including but not limited to cabinet unit heaters (electric coils), and electric radiant heaters.
        1) Connection to electric radiant panels is by Electrical Contractor.
22. Air Terminal Units/VAV's/LTAU's/FCU's/FPB's:
    a. Provide and Install all Air Terminal Units complete as scheduled and specified in the contract documents.
        1) Contractor shall provide all Variable and Constant Volume Boxes, and Fan Powered VAV Terminal Units. Refer to the Contract Documents to ensure that all equipment is included in the base bid. Coordinate factory control installation as required. Include all associated low voltage wiring.
        2) Install all air valves/lab air terminal units (LTAUs) provided by the Temperature Controls Contractor for installation.
        3) Provide and install all heating hot water, piping, valves, accessories etc. and connect systems to the coils, and drains of the units.
        4) Participate in the testing and commissioning of the connected items
23. Dry Side Mechanical
    a. This Contractor shall include all general mechanical related to Dry Side Mechanical, including but not limited to the following: sheet metal materials, flexible connectors and ducts, hardware, sealant materials, hangers and supports, duct fabrication, equipment, fans, filtration, drain pans, Fan Powered Boxes, VFD's, Diffusers, Grilles, Registers, Exhaust Stacks, Fans, Supports, Guy Wires, supports not shown but required by equipment manufacturers, roof curbs, insulation, identification, start up, testing, owner training, close out documentation, support during testing and balancing and commissioning, filters construction, pre and final, dampers, louvers, etc. to provide and install a complete system.
    b. Contractor shall provide all Ductwork and Ductwork Accessories as per the specifications. Refer to contract drawings, details, and sections of the various project areas to ensure that a complete and coordinated installation is provided which meets the applicable specified standards for ductwork. Duct work shall be installed with all of the specified accessories. Contractor shall pay special attention to ensure that proper damper assemblies are provided with the appropriate performance criteria.
    c. Contractor shall provide all special engineering services, manufacturer start-ups, testing, and adjustments as may be required to certify that the systems comply with the AHJ. Contractor shall provide commissioning assistance for all equipment and systems that it installs. Contractor shall provide qualified/factory-trained personnel to perform start-up, testing, documentation, and re-commissioning as required.
    d. Keep all ductwork free from moisture and dust while on site. Duct must have visqueen over ends of duct nightly. Contractor to maintain intermediate duct cleaning standards per SMACNA.

e. Protect, seal and maintain all equipment and ductwork as required throughout the duration of the project per SMACNA or best practices.
    1) Prior to occupancy, clean all ductwork in accordance with the standard.
    2) This trade will be responsible for any cleaning required if the above is not maintained throughout the project including delivery and storage.
f. Provide and install all flexable duct per the contract documents.
    1) Contractor shall provide and install flexable duct supports as shown or specified.
g. This Contractor shall include all sterilization and testing as specified.
h. Final Cleaning of all ductwork including main and branch duct for new and existing within the extent of work.
i. Leak Testing as required per standard practice and specifications.
    1) All metal duct is to be leak tested prior to insulating.
j. Upon completion of the installation of each area, floor and/or riser test all ductwork as specified. Multiple tests shall be anticipated by this Contractor.
k. Participate in Fire Alarm Testing to verify operation for this categories scope of work that is connected to fire alarm monitoring or activation.
l. Air Handling Units/Supply/Return Fans
    1) Contractor shall Provide and Install all Modular and Custom Rooftop Air Handling Units, supply, and return fans. Cross-reference the project specifications, enlarged detail plans, and the mechanical schedule to provide units that comply with all Contract Documents. Provide factory test, and on-site start-up by a manufacturer’s representative. Complete field assembly and make air/watertight. Include all dampers, controls, air monitoring station, control panels, appurtenances, VFD's, and field control wiring for a complete and operable system.
    2) Units shall be completed and ready for temporary use per the project schedule Include all maintenance, filter changes, lubrication as required. Final clean unit prior to Owner Occupancy.
    3) Include curbs or rails as required.

24. Packaged Condensing Units
    a. Provide and Install all split systems complete including local controls per schedule and specifications.
25. Fans:
    a. Contractor shall Provide and Install all exhaust fans. Review applicable roof plans, schedules, and the specifications to provide:
        1) Powered roof ventilators,
        2) Kitchen hood exhaust ventilator,
        3) FRP High Plume Dilution Fans,
        4) Inline Fans,
        5) Belt Drive Exhaust Fans.
    b. Contractor shall provide units with all accessories, options, filter boxes, disconnects, roof curbs sized to roofing assembly. Carefully review both the plans and the specifications to ensure that a complete assembly is provided.
26. Roof Mounted Equipment Accessories:
    a. Contractor shall Provide and Install all Roof Mounted Equipment Accessories as defined and specified on the Contract Documents. Contractor shall review all sections of the Contract Documents to ensure that materials provided will interface with adjoining construction. Provide timely delivery to ensure that installation will be completed with the roofing system.
27. Duct Mounted Hot Water and Cooling Coils:
    a. Provide and Install all hot water and cooling coils defined and specified on the Contract Documents.
28. Air Outlets and Inlets:

a. Contractor shall Provide and Install all Air Outlets and Inlets, and HEPA Fan Filter Modules as specified. Provide all units as indicated on the Contract Documents.
b. Provide sealants and gaskets as required.
c. Filtration – during construction and after final completion.

29. Drain pans as required and/or indicated per documents.
    a. Provide and Install all drain pans for AHU's & Humidifiers, including but not limited to stainless steel pans, ducts, and condensate drain connection.
30. Test and Balancing:
    a. Provide pre-balance of existing system shown or specified prior to demolition.
    b. Provide all Testing, Adjusting, and Balancing of Systems per Contract drawings and specifications. Review all requirements and include all testing, adjusting and balancing by system as defined. Contractor should anticipate multiple mobilizations to complete its Work. When directed, provide partial balancing of key HVAC components as necessary for temporary heating or cooling of the project site.
    c. Review all requirements and include all testing, adjusting and balancing by system as defined. Contractor should anticipate multiple mobilizations to complete its Work. When directed, include partial balancing of key HVAC components as necessary for temporary heating or cooling of the project site.
    d. Provide all water balancing and turn over all final balance reports at close out.
    e. Provide all air balancing and turn over all final balance reports at close out.
    f. Provide and send Barton Malow Builders weekly updated deficiency list to for field corrections.
31. Temperature Controls
    a. Contractor shall provide and install all temperature controls and air valves, including but not limited to wire, conduit, connections, hangers pneumatic tubing/fittings, sensors, gauges, power & control wiring for all control system components and devices, etc. Close coordination with all MEP Contractor s required. Specific scope clarifications listed below.
    b. Provide matrix to Barton Malow Builders and Architect/Engineer for network coordination including Jace device name, firmware, MAC address, etc as soon as it is available.
    c. Provide and install all Temperature Controls materials and equipment noted on all Mechanical and Temperature Controls drawings, regardless if it is or is not in the schedule or specifications.
    d. Contractor must be listed as an approved installer listed in the temperature controls specifications.
    e. Contractor must be certified by the specified temperature controls manufacturers as listed in the specifications.
    f. Provide and install all operating tools for the control graphics system.
    g. The controls system shall be nonproprietary.
    h. Contractor to turn over all passwords for the system to the Owner at substantial completion.
    i. This Contractor is responsible for the provide and install/mounting of all control panels and performing all interconnecting and control wiring described in their specification sections. It is the responsibility of this Contractor to provide final power and connections to a single point for each piece of equipment shown on the documents. Equipment that falls into this category includes control panels, VAVs, devices, motors, etc. unless stated otherwise.
    j. Facility Management Systems Panels and Equipment control panels, etc. are to be provided and installed by this Contractor .
    k. Provide and install all raceways, junction boxes, gang boxes, etc. as required for the system shown on the Contract documents or required for work of this bid category.
    l. All temperature control conduit is to be green.

m. Provide and install all work shown including all interconnecting wiring for single point power and Facility Management connection.
n. This Contractor shall provide and install controls for temporary heating/cooling.
o. Contractor shall receive and install all Owner provided equipment including but not limited to the DDC panel, UPS, TEC, RTS, DDC panel enclosure, UPS panel enclosure, etc.
p. Contractor shall provide all demolition as shown on the contract documents, as follows;
    1) Contractor shall cut, cap, tag, and make systems safe for the Demolition Contractor in all buildings/areas. “Make safe” includes physical disconnection from any equipment/components that are existing to remain.
        (a) Contractor shall remove all controls wire, conduit, equipment, hangers, supports,components, etc.
        (b) Legally dispose of all temperature control materials, equipment, components, and debris demoed.
q. Contractor shall provide all cutting for openings in walls, floors and ceilings as required for installation of this Contractor’s work. Include removal and disposal of all debris.
r. Contractor shall be responsible to provide proper hole openings, sleeves, or all other related accessories, for all penetrations.
s. Provide and Install all through wall fire resistive fire stopping spray/joint sealant per approved UL Systems for all rated wall, floor, & deck penetrations for work of this bid category. Both sides of wall, floor, or deck are to be fire stopped.
t. Provide and Install all acoustical and through wall smoke spray/joint sealants for all non-rated wall, floor, and deck penetrations for work of this bid category. Both sides of wall, floor, or deck are to receive acoustical sealant
u. All exterior wall, floor, and roof penetrations for equipment installed under this scope of work shall be flashed and made watertight. Coordinate roof penetrations with roofing Contractor and ensure that roof warranty is not voided due to equipment installed under this scope.
v. Where this Contractor penetrates or disturbs an existing fire-rated, smoke rated, or sound rated penetrations or existing patches, this Contractor shall be responsible to provide and install sealing as required.
w. Repair in its entirety all spray or trowel applied fireproofing disturbed by work of this bid category. Patching material shall match the material used by the Fireproofing Contractor.
x. Contractor to coordinate closely with all mechanical/electrical trades regarding temperature controls of all units.
y. This Contractor shall provide all air valves/lab air terminal units (LTAUs) to the Mechanical Contractor for installation.
z. This Contractor shall provide and install all wall mounted thermostats, complete with all raceway and control wiring. Thermostats shall be installed as shown, specified or required for all mechanical systems.
aa. Contractor shall provide and install backing, seals, and shims for all work related to their bid category as shown, specified or required.
bb. Contractor shall turn over to Barton Malow Builders all components indicated to be returned to the Owner (ie. terminal units, controls, etc.).
cc. Receive, inventory, handle and Provide all Water Pressure and Flow Sensors and Control Valves, Control dampers associated with but not limited to HVAC Equipment,chilled water, heating hot water, hydronic and condensate piping to the Mechanical Contractor for installation.
dd. Coordinate and participate in the balancing of this Contractor’s system with the Mechanical independent balancing agency.

32. PLUMBING
    a. Obtain and pay for all permits and inspection fees as required for work of this category.
    b. Provide and install a complete, operational, and code compliant Plumbing System for all designated building areas per the Contract Documents.
    c. Provide and install all Plumbing materials and equipment noted on all Mechanical drawings, regardless if it is or is not in the schedule or specifications.
    d. Pay, Coordinate, and Install domestic water meter.
        1) Assist Owner in water meter application.
        2) Coordinate install with local utility provider.
    e. Pay, Coordinate, and Install gas meter and regulator.
        1) Assist Owner in meter and regulator application.
        2) Coordinate install with local utility provider.
    f. Drawings are diagrammatic. All materials, offsets, transitions, fittings, etc. required for means and methods are included.
    g. Temporary Measures:
        1) For any permanent equipment that will be used for temporary work during construction, include extended warranties to cover the time the equipment is in use prior to Substantial Completion. Refer to Section 015000 – Temporary Construction Facilities and Controls for additional temporary work
        2) Provide, maintain, and remove temporary systems upon completion and activation for use of the permanent systems.
        3) Protect all materials from damage prior to installation.
        4) Temporary Electricity:
            (a) Temporary electricity (120V/1PH/20A) will be available for use by this Contractor. This Contractor is responsible for all means to access power to the points of work.
        5) Temporary Lighting:
            (a) Contractor shall provide task lighting and temporary light stands as necessary.
        6) Temporary Water:
            (a) Provide temporary water for use during construction.
            (b) Provide specific source for fireproofing, if applicable.
            (c) Provide and install a certified backflow device at the point of temporary water supply connection to the existing domestic system.
        7) Temporary Drainage:
            (a) Provide temporary sanitary drainage in a manner that safely discharges sanitary waste into the existing sanitary system.
    h. Contractor shall include multiple mobilizations to complete the Work.
    i. Coordinate tie-ins with Barton Malow Builders and Owner. Shutdown of the existing system will require a minimum forty-eight (48) hour notice. Systems will be required to be functional by the end of each work day.

       Demolition
        1) Cut, cap, tag, and make systems safe for the removal in all buildings/areas. “Make safe” includes physical disconnection from any equipment/components that are existing to remain.”
        2) Demolition Contractor shall include all saw cutting of openings in walls or floors required for Mechanical Contractor’s installations, including removal and disposal of all debris. Assume all floor penetrations are to be cored. Floors will be boxed out by the Mechanical Contractor for installation of the floor drain after concrete floors have been placed. Concrete infill around the drains will be by the Mechanical Contractor.

3) Demolition of all plumbing material, equipment, and system as shown and/or required for work of this bid category. The demolition work shall include all supporting items and hangers, unless shown to remain.
4) Fill all abandoned core holes due to plumbing demolition immediately after removal.
5) Temp in roof conductors as necessary to keep water out of the building during work of this bid category.
6) Legally dispose of all plumbing materials, equipment, components, and debris demoed. Remove equipment off site. No mechanical equipment or debris shall be placed in Barton Malow Builders or Owner dumpsters.
7) Safely remove and salvage plumbing specific items required for reinstallation or items being turned over to the owner.

Plumbing New Work

1) Reroute any plumbing related items as needed to facilitate the new installation of this Contractor's work.
2) Provide and Install any earthwork and engineered fill required for work of this bid category. Excavations must be compacted and ready to accept concrete.
3) Provide and Install all required concrete equipment pads not shown on the Contract Documents for work of this bid category.
   (a) Layout equipment pads shown on the Contract Documents. Coordinate with the Concrete Contractor.
4) Core through concrete as required for work of this bid category.
   (a) Layout all core locations.
   (b) X-ray scan all core locations prior to coring.
   (c) Confirm cores/penetrations are coordinated with the appropriate structural details for proper support.
   (d) Barricade with solid barriers or caution tape any areas that present a safety hazard during coring operations.
5) Plumbing Contractor shall provide pour watch personnel for each concrete pour and each scope covered to ensure installation of inserts, blockouts, etc. are adequately supported and installation maintained.
6) Core through masonry as required for work of this bid category.
   (1) Layout all core locations.
   (2) Barricade with solid barriers or caution tape any areas that present a safety hazard during coring operations.
7) Provide and install all required steel supports for work of this bid category.
8) Coordinate any cutting of structural members with the appropriate Contractor.
9) Blocking and backing required for work of this bid category is the responsibility of this Contractor.
10) Layout of any blocking and backing required for your work is the responsibility of this Contractor.
11) Piping passing thru walls,floors, or decks must be sleeved.
12) The use of C-Clamps, including C-Beam Clamp fittings shall not be permitted.
13) Provide and Install all interior sealants for plumbing fixtures associated with work of this bid category.
14) Provide and Install all through wall fire resistive fire stopping spray/joint sealant per approved UL Systems for all rated wall, floor, & deck penetrations for work of this bid category. Both sides of wall, floor, or deck are to be fire stopped.
15) Provide and Install all acoustical and through wall smoke spray/joint sealants for all non-rated wall, floor, and deck penetrations for work of this bid category . Both sides of wall, floor, or deck are to receive acoustical sealant
16) All exterior wall, floor, and roof penetrations for equipment installed under this scope of work shall be flashed and made watertight. Coordinate roof

penetrations with roofing Contractor and ensure that roof warranty is not voided due to equipment installed under this scope.

17) Where this Contractor penetrates or disturbs an existing fire-rated, smoke rated, or sound rated penetrations or existing patches, this Contractor shall be responsible to provide and install sealing as required.
    (a) Repair in its entirety all spray or trowel applied fireproofing disturbed by work of this bid category. Patching material shall match the material used by the Fireproofing Contractor.
18) Plumbing piping and insulation is to be installed as tight to the deck as possible.
19) Contractor is to maintain 6" above finished ceiling elevations for bottom of piping including the flange and insulation. If ceiling height cannot be maintained, notify Barton Malow Builders and Architect/Engineer immediately.
20) Minimize amount of access doors necessary, especially in public areas.
21) Valves and other items requiring access panels should NOT be installed above hard lid ceilings if it can be avoided. If items are shown or required to be installed above hard lid ceilings, notify Barton Malow Builders and Architect/Engineer immediately prior to installation for possible relocation.
22) The Contractor shall provide and locate all access doors for access to concealed Plumbing equipment valves as required by code, specifications, drawings and/or authority having jurisdiction for proper and reasonable access to equipment, piping, etc.
23) During MEP coordination process make a good faith effort to share access doors with other Architectural, Electrical, and Mechanical trades to further minimize quantity of access doors. Instances of shared access doors will be the Contractors' responsibility to split and determine cost. A highlighted drawing of Access doors locations shall be required for exact location identification.
24) Coordinate the locations and gain approval of locations from the design team prior to installation.
25) This Contractor shall provide all access doors and frames for proper access to valves and devices for maintenance. Access panels required but not shown on the drawings will be provided by this Contractor and installed by Carpentry Contractor. Minimum access door size shall be 12" x 12" unless otherwise approved by Barton Malow Builders, Owner, and Architect/Engineer. Include fire rating requirements if applicable.
26) Do not route any piping or ductwork through electrical rooms, communication rooms, or stairs.
27) Provide water closet template to the Ceramic Tile installer.
28) Layout countertops for cut-out by others for installation of plumbing related items.
29) Water jet out all existing underground storm & sanitary lines.
30) Provide and install all Equipment Connections including valves, traps, drain extensions, gas cocks, pressure regulating devices, water hammer arrestors, check valves and piping, etc. for equipment provided and installed by this Contractor or others.
31) Provide backflow device and/or valve as required on water supply.
32) Provide and Install Fire Suppression backflow device.
33) Layout and set sleeves prior to concrete pouring.
34) Provide and install water stop sleeves in any foundation wall penetrations subject to moisture infiltration.
35) Provide and install all meters, gages, and valves associated with work of this bid category.
36) Provide and install all hangers and supports for your work.
37) Provide and Install heat tracing for your piping.

(a) Heat trace final connection by Electrical contractor.

38) Provide and install vibration isolation pads as required for your work.
39) Provide and install all pipe identification and valve tags for your work.
40) Test plumbing piping as follows, required by code or specifications:
    (a) Test water piping.
    (b) Test and certify water supply backflow devices. Submit test reports to Barton Malow Builders, AHJ, and Commissioning Agent.
    (c) Test and certify Fire Suppression backflow device. Submit test reports to Barton Malow Builders .
    (d) Stack pressure test of drainage piping.
    (e) Compressed air test gas piping.
    (f) Provide and install leak detection system where noted.
    (g) All piping pressure test must be witnessed by Barton Malow Builders, Architect/Engineer, or AHJ prior to insulating. Submit all signed test reports to Barton Malow Builders and Commissioning Agent.
41) Pipe cleaning and flushing:
    (a) Contractor is responsible for cleaning and flushing their installed systems as specified.
42) Insulation:
    (a) Provide and install insulation on all water piping as indicated.
    (b) Insulation to be installed on suspended horizontal and in-wall water piping.
    (c) Provide and install insulation on storm piping as indicated.
    (d) Provide and install insulation on sanitary piping as indicated.
    (e) Provide and install insulation on roof conductor piping as indicated.
    (f) Owner will remove all asbestos from existing piping.
    (g) Provide and Install piping insulation on all existing elbows, flanges, hangers, and valves where asbestos has been removed for piping shown to remain on the mechanical drawings. Assume hangers are every 10' and on both sides of elbows. See asbestos survey for additional information.
43) Commissioning
    (a) Provide commissioning assistance as required.
44) Water Distribution
    (a) Provide and install all domestic water piping per local code.
    (b) Clean all piping per the Contract Documents or required by code. Submit reports to Barton Malow Builders, Architect/Engineer, AHJ, and Commissioning Agent.
    (c) Provide and install all pumps related to your work.
    (d) Provide the initial balance of the domestic water system to provide the required temperature and flow of water.
45) Facility Sanitary Sewerage
    (a) Provide and install all sanitary waste and vent piping per local code.
    (b) Provide and install any floor drains, open-site drains, clean outs, and floor sinks as shown.
    (c) Provide and install any ejector pumps and basins as shown and tie into sanitary system.
    (d) Provide and install any sand/oil separators as shown.
46) Facility Storm Drainage
    (a) Provide and install all storm piping per local code.
    (b) Provide and install all roof drains, secondary drains, and downspout nozzles as shown.
    (c) Provide and install area drains as shown.
    (d) Provide and install trench drains as shown.

(1) Set drains in concrete as required.
(e) Provide and install sump pumps as basins as shown and tie into storm system.
(f) Provide and install elevator pit pump and tie into storm system.

47) Plumbing Equipment
(a) Provide and install water softener as shown and specified.
(b) Provide and install water filtration system as shown and specified.
(c) Provide and install water heaters as shown and specified.

48) Plumbing Fixtures
(a) Provide and install all plumbing fixtures as shown and specified.
(b) Provide and install under-lavatory guards on waste and water piping.

49) Provide and install water piping to HVAC equipment as required. Stop at a shut-off valve for continuation by the HVAC Contractor.
(a) Provide and Install drip pans for HVAC equipment.
(b) Provide and Install drain piping from drip pans to nearest open-site drain.
(c) Provide and Install condensate piping from HVAC equipment.
(d) Provide and Install gas piping as shown.
(e) Provide transformers for any sensor-operated fixtures and devices to the electrical Contractor. Install will be performed by the electrical Contractor.
(f) Perform all your own excavation, shoring, and backfill as required piping, grease traps, interceptors, etc.
(g) Dispose of all spoils.

50) Provide and Install drain tile system as shown.

51) Provide all final plumbing connections to Owner furnished equipment shown on the Contract Documents. Refer to the Contract Documents and Equipment Reference Drawings for equipment hook-ups and requirements.

52) Provide and install all equipment and value tagging as required for the plumbing system. Provide framed valve and tag schedule in equipment rooms as well as an electronic copy in closeout documents.

53) Provide pre-final inspection to ensure all systems are fully functional and operational. Includes checking of all penetrations for proper fire-stopping.

54) Provide and Install all piping insulation and labeling per the Contract Documents and per local codes.

55) Insulate and label all piping immediately after passing pressure testing. Coordinate all in wall insulating of pipes with the Carpentry/Drywall Contractors.

56) Provide and install a small green dot on the ceiling grid showing location valves that are above ceiling.

3.01 SPECIAL CONSIDERATIONS:

A. Labor Rates/Unit Prices/Alternates: Provide the following information on the bid form:

B. Labor/Equipment Rates:
1. This Contractor is to provide as a part of his proposal a fully detailed labor rates for Barton Malow Builders approval for work associated with this Contractor's and for each of their Subordinate Parties Trades. In addition, labor rates will be required for all equipment involved with the performance of the work required by this Bid Category.

C. Allowances: This Contractor must obtain written authorization from Barton Malow Builders prior to performing the associated work below. Include in this Contractor’s bid, allowances for work as follows.
1. Provide Allowance for the following
a. Include an allowance of $10,000 in this Contractor’s bid for additional unidentified Mechanical work. Allowance is to be used at the direction of Barton Malow Builders.

D. Alternates: This bidder shall be required to submit alternate prices identified in the contract documents which pertain to their work. These alternate prices shall be separate from their base bid on the bid proposal form.

END OF SECTION 002222.02

SECTION 002226.01
ELECTRICAL - SCOPE OF WORK

PERMANENTBID PACKAGE 5

BID CATEGORY – ELECTRICAL

GENERAL

2.01 THE WORK OF THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO PROVIDING ALL LABOR, EQUIPMENT, MATERIALS, SCAFFOLDING, HOISTING AND INCIDENTALS TO COMPLETE THE WORK PER ALL CONTRACT DOCUMENTS FOR THE TSD BP#5 - ADMINISTRATION BUILDING RENOVATION PROJECT AS DEFINED BY THE BID PACKAGE NO. 5 BID/WORK SCOPE DOCUMENT INCLUDING ITS SUPPLEMENTARY DOCUMENTS AND IN ACCORDANCE WITH ANY APPLICABLE CODES. ALL WORK IS TO BE PERFORMED AS SHOWN ON THE PLANS AND AS SPECIFIED IN THE FOLLOWING TECHNICAL SPECIFICATION SECTIONS:

A. Division 0 - Procurement and Contracting Complete
B. Division 01 – General Requirements Complete
C. Division 02 – Existing Conditions
    1. 02 4100 – Demolition As Applicable
D. Division 07 – Thermal and Moisture Protection
    1. 07 8400 - Firestopping As Applicable
    2. 07 9200 - Joint Sealants As Applicable
E. Division 26 – Electrical
    1. 26 0010 – Electrical General Requirements Complete
    2. 26 0519 – Conductors and Cables Complete
    3. 26 0526 – Grounding and Bonding Complete
    4. 26 0529 – Hangers and Supports for Electrical Systems Complete
    5. 26 0533 – Raceways and Boxes Complete
    6. 26 0533 – Electrical Identification Complete
    7. 26 0573 – Overcurrent Protective Device Coordination and Arc-Flash Hazard Study Complete
    8. 26 0923 – Lighting Control Devices Complete
    9. 26 0943 – Lighting Control Systems Complete
    10. 26 0999 – Electrical Testing Complete
    11. 26 2416 – Panelboards Complete
    12. 26 2726 – Wiring Devices Complete
    13. 26 2813 – Fuses Complete
    14. 26 2816 – Enclosed Switches Complete
    15. 26 2913 – Enclosed Controllers Complete
    16. 26 5119 – LED Interior Lighting Complete
F. Division 28 – Electronic Safety and Security
    1. 28 3100 – Fire Alarm Complete

IN ADDITION TO THE ABOVE, THIS BID CATEGORY INCLUDES BUT IS NOT LIMITED TO THE BIDDING DOCUMENTS, THE BIDDING AND CONTRACT REQUIREMENTS AND DIVISION 1 GENERAL REQUIREMENTS OF THE BARTON MALOW BUILDERS PROJECT MANUAL AND VARIOUS OTHER DOCUMENTS AND TECHNICAL SPECIFICATIONS INTERFACING WITH THIS WORK PROVIDED BY THE OWNER, ARCHITECT AND/OR ENGINEERS. THE BIDDER IS ADVISED TO REVIEW THE WORK DESCRIPTIONS OF THE OTHER CATEGORIES SO AS NOT TO MISUNDERSTAND SCOPE RESPONSIBILITIES.

PRODUCTS – NOT USED

3.01 EXECUTION

THE SCOPE OF WORK WILL INCLUDE AND IS NOT LIMITED TO THE FOLLOWING ITEMS:

A. Performance of the Work shall be in accordance with all Division 01 – General Requirements.

B. Refer to the Project Manual for additional bidding and project general requirements and conditions.

C. In addition to the requirements set forth in Division 01 – General Requirements, the Work shall include the following:
   1. Additional Meetings & Quality Control Requirements:
      a. Coordination drawings & As-builts for MEP, etc

D. **Submittals/Close Out:**
   1. Submit all start-up documents, and product submittals on materials & products within two (2) weeks after Notice to Proceed (NTP).
   2. Coordinate and distribute AutoCAD Electrical piping & equipment coordination drawings with the Architectural, Fire Suppression, Plumbing, and HVAC Contractors to avoid interferences. Final AutoCAD coordination drawings from each trade is to be consolidated and submitted by the HVAC Contractor for Architect/Engineer approval. Lack of, or delay in coordination with other Trades will result in a back charge to maintain project schedule. Coordination drawings must be approved be the Architect/Engineer prior to submission of shop drawings.
   3. Submit all shop drawings in accordance with the contract documents and all code requirements within four (4) weeks after Notice to Proceed (NTP).
   4. Contractor is to submit a long lead item log to Barton Malow Builders for materials and equipment with lead times of 6 weeks or more. The long lead item log shall include submitted date, submittal approval date, lead time, order date, & approximate delivery date. Contractor shall update and submit weekly to Barton Malow Builders.
   5. All equipment, products, & materials that are installed without submittal approval and not acceptable by the Architect/Engineer and Owner will be removed at the installing Contractors cost. Contractor will be held responsible for all back charges caused by the project delay to the Owner and Trades working onsite due to no specified material/equipment install and/or lack of or late submittal approvals.
   6. Engineered shop drawings must be signed and sealed by a Registered Engineer in accordance with contract documents and state law.
   7. Contractor shall include all cost necessary for as-built, asset sheet data spreadsheet, closeout documents (including O&M manuals, valve charts, guarantees or warranties on equipment and/or materials, testing and system check-out or approval, and Owner's training as required) per the Contract Documents.
   8. Contractor to provide additional manpower dedicated to Barton Malow Builders to complete Barton Malow Builders punch list work for a minimum of ten (10) working days prior to the listed Architect/Engineer project punch list in the project schedule. This manpower will be under the direction of the Barton Malow Builders Superintendent to complete punch list work of their bid category and will report directly to the Barton Malow Builders each day. Failure to provide required manpower may result in a delay in receiving the Contractor’s progress payment from Barton Malow Builders.

9. Architect/Engineer's punch list will not start until all work has been completed.
10. Contractor may not drop retainage to 5% until work of this bid category is substantially complete according to the contract documents. In addition, all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been completed, turned over, accepted, and documented. Contractors must also have up to date partial and final waivers from all Contractors, suppliers, and other Subordinate Parties including a AIA G707a Consent of Surety to partial reduction in retainage form signed and sealed by the Surety.
11. To bill out the remainder of retainage (from 5% to 0%), the Contractor must set up a meeting with Barton Malow Builders to go over and/or collect the remaining closeout items for final payment as specified in the project manual and submit a AIA G707 Consent of Surety for final payment form signed and sealed by the Surety.

E. **General Scope:**

1. Required PPE for every Contractor, Subcontractor, & Delivery Drivers onsite:
   a. Class II hardhats
   b. Cut level four gloves
   c. Eye protection
   d. High visibility reflective safety vests
   e. Work boots
   f. Sleeved shirts
2. Contractor is to incorporate all project bidding documents into their subordinate party agreements.
3. All bidders are required to review the General Conditions of the Contract located in the project manual.
4. Contractor is to be licensed to perform work in the State of Michigan. This includes all Contractors and 2nd or 3rd (etc.) tiered Contractors.
5. Contractor shall maintain on site, a copy of all applicable code books specifically pertaining to this scope of work. These code books are to follow the city, state, and all other authorities having jurisdiction per the specific year each authority has designated for this particular project. This Contractor is responsible for all research and compliance with all applicable regulations.
6. This Contractor is responsible to coordinate with Barton Malow Builders to schedule inspections with the Local Governing Agency and/or the State of Michigan as well as the testing agency. Inspection results and records will be kept in the Barton Malow Builders jobsite office. During all inspections each Contractor is to have a Foreman/Superintendent on site.
7. Contractor must verify that work installed by others, complies in its entirety with the contract documents prior to commencing their work, which ties in, overlays and/or follows the installed work. Any non-conforming work shall be identified in writing to Barton Malow Builders immediately.
8. Anyone listed on the National Sex Offender List is not allowed to be a part of this project and anyone who is convicted of a listed offense will be immediately dismissed from project. Provide photo identification upon arriving to the site and badges are to be worn by Contractor’s field personnel at all times.
9. Contractor shall have their Superintendent/Foreperson attend a daily coordination meeting every morning from 6:45am - 7:00am. Participation is mandatory.
10. Project daily working hours are Monday – Friday, Site Opens @ 5:30am and closes at 2:30pm. There will be a 5-day minimum work week. Should scheduled workdays or production be lost due to inclement weather or this Contractor’s delays, overtime during the work week and weekends will be required to maintain the project schedule at this Contractor’s expense. Any work performed outside normal working hours requires approval from Barton Malow Builders.
11. Contractor is only to take direction from Barton Malow Builders.

12. Review all specifications and project drawings, drawing notes, schedules, and schedule notes for areas requiring work described by this bid category and coordinate work with the respective contractors, include all costs in base bid.
13. Include all manpower, overtime, composite crews and mobilizations in base bid to complete work per the project schedule. All mobilizations required to complete this Scope of Work have been included in the base contract price, unless specifically addressed otherwise in this Contract Agreement. It is understood and agreed that this work may not be performed in a continuous operation and during normal business hours. This contractor has included the cost of the multiple mobilizations/remobilizations and cost to work during non-normal business hours.
14. Contractor will be required to perform after-hours and overtime work as necessary to minimize disruption to Troy School District.
15. If Contractor is behind schedule and is notified by Barton Malow Builders, the Contractor shall be required to accelerate the work at its own expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, and shall continue to do so until the progress of the work, in the opinion of Barton Malow Builders, is in conformance with the master project construction schedule.
16. Provide and install all materials per the construction documents. Bid proposals must be per plan and specs. Bids not conforming to plans and specifications will be rejected. Substitutions must be pre-approved in writing prior to bids or be submitted as voluntary alternates on the bid form.
17. Contractor must include costs and utilize Autodesk Build and Textura for this project. Information and cost for Textura can be found in section 012000-Price and Payment Procedures and AutoDesk Build in section 013000-Administrative Requirements.
18. All contractors are to field verify all existing conditions prior to submitting a bid. Submitting a bid is acceptance of all field conditions. Do NOT scale the drawings.
19. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
20. This project surrounded by Troy School District staff and students. Contractor is to take proper measures to ensure minimal disruptions to the roads and sidewalks around the project. Contractor is responsible for proper barricading and signage if his work activity interrupts the normal flow of operations around the facility. All Contractor employees and subordinate parties are to conduct themselves in a manner not to offend nor interfere with the staff, students, or any other public person. Barton Malow Builders and Troy School District Code of Conduct includes immediate termination for foul language/derogatory conversation. Those who are not in compliance will be asked to leave the project and not return.
21. Provide all temporary protection for work of this bid category. Removal of this protective material at the conclusion of the project is this contractor’s responsibility.
22. Minimize disturbances to landscape areas. Excessive or malicious (as deemed by) Barton Malow Builders landscape disturbance will be the responsibility of this contractor to restore at own expense.
23. Protect equipment and finish items to remain during construction including roof, ceilings, walls, flooring, and landscaping during work of this bid category. In addition, all work being performed through ceilings, be it grid, ceiling pads, drywall or plaster, etc. must be protected from damage during work of this bid category. Correction of damage due to lack of adequate protection will be the responsibility of this contractor.
24. Deliveries must occur after 7am and prior to 2pm and not between noon and 1pm, unless scheduled with a Barton Malow Builders Superintendent or risk having the delivery turned away. Unloading, hoisting, transport of materials out of truck to staging location, and delivery acceptance is by the Contractor who is responsible for the material.

25. Contractor is responsible for storage of all materials. Deliver materials to the site as needed. Storage in the building will be limited. Materials in building must be on pallets or material/pipe carts.
26. Stocking of material on floors will be limited to a three (3) day maximum in the area of work, if approved by Barton Malow Builders Superintendent. No other material storage will be allowed in the building.
27. All materials used are to be new, unused and undamaged. Any damaged or questionable material is to be removed and replaced at no cost to the Owner or Barton Malow Builders.
28. Include all rigging and hoisting to deliver, install, and remove materials to / from all floor levels complete.
29. All crane and boom truck lifts must be properly barricaded to keep public at a safe distance. Provide ground spotters and barricading to keep public out of the swing radius of the crane or boom truck.
30. The use of the existing and/or new elevator will not be permitted.
31. This contractor is responsible for all lifts and scaffolding, if required, for work of this bid category. Coordinate use of your lifts and scaffolding with other trades.
32. Scaffolding and staging as required. Engineered installation drawings, as required.
33. Include field layout for work of this bid category, also included is field time for this contract to survey existing conditions prior to beginning each phase of work. Any discrepancies between existing conditions and the contract drawings are to be reported to Barton Malow Builders immediately.
34. Coordination drawing meetings will be scheduled. Contractor understands that Barton Malow Builders is not issuing change orders for items not coordinated with other trades. Contractor also understands any conflicts of existing structure with their new work must be brought to Barton Malow Builders and Architect/Engineer attention in advance of start of work.
35. Contractor shall have no claims for additional cost because Contractor has failed to install work in proper sequence and not in accordance with Coordination drawings. Likewise, any cost for removal of materials or damage caused by Contractors who have failed to perform their Work in the proper sequence will be borne by that Contractor.
36. Participation in coordination meeting/s, weekly progress meetings, and drawings process is mandatory. Minimum eight (8) hours per week shall be included for meetings and coordination with Barton Malow Builders. Representative must be able to make all decisions for their Company and Contractors.
37. Contractor to have one (1) full time on-site superintendent, for the duration of the project. The assigned personnel will be responsible to manage the “entire” scope of work including their Subcontractors/Suppliers and will be the single point of contact for this scope of work. Contractor will be responsible to complete the daily report & JHA form each day including for their Subcontractors regardless if the Contractor has self-perform crews on site or not. Representative must be able to make all field & financial decisions. If full time supervision is not onsite by the Contractor, their Subcontractors will be told to leave the site until the next calendar working day. Contractor will be held responsible for delays and back charged due to lack of project supervision.
38. Contractor is to provide site Supervision and Foreman an Apple iPad with unlimited data/cellular plan service. It is required that Contractor download BluebeamRevu and Autodesk Build via the app store on each device. Contractor may access Owner guest Wi-Fi network if available.
39. Contractor must complete and submit electronic daily Flypaper reports and pre-task plans via Autodesk Build to Barton Malow Builders on a daily basis. These reports must show total number of manpower, total number of hours, and each day’s specific activities. If this is not done, Barton Malow Builders reserves the right to withhold this Contractor’s monthly payments until satisfied with this Contractor’s response.

40. Items shown to be turned over on the project documents and for closeout attic stock to Owner must be accompanied by a transmittal and copied with signature of receipt to Barton Malow Builders. If a transmittal is not provided and Owner's items are missing, it is this contractor's responsibility to purchase and replace with new materials.
41. Contractor is responsible for the quality control for work of this bid category (including for their subordinate parties). Contractor is to strictly observe tolerances and to maintain strict quality control throughout the execution of his work. All work is to be checked for compliance at each stage of completion per applicable codes, project drawings, specifications, and manufactures shop drawings/written instructions. Any work that is not within specified tolerances is to be removed and replaced.
42. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
    a. Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.
        1) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (a) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.
            (b) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.
            (c) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.
43. Ticket work is to be signed by Barton Malow Builders at the end of each workday. Tickets not reviewed or signed by the Barton Malow Builders Superintendent will not be accepted or processed. Pricing is to have detailed explanations of work performed. Barton Malow Builders directed ticket work shall NOT include foreman time, work/service truck, cartage, or overhead and profit mark-up. Tickets shall include only approved labor and materials used. Signature from Barton Malow Builders Superintendent does not necessarily equal additional funds. Barton Malow Builders Project Manager will decide if ticket work is added scope to the contract.
44. All change pricing is to be submitted within ten (10) days from receipt of the change vehicle, unless otherwise agreed by Barton Malow Builders or Owner. All change order pricing is to include a detailed breakdown of costs – Material, Labor, Equipment, etc. along with any signed work orders. No lump sum pricing allowed. Change order pricing will not be accepted without a detailed breakdown. Failure to submit change order pricing within ten (10) days will result in a $0 change order.
45. Provide all cutting/patching, coring, patching of penetrations, and block-outs for work of this bid category. This is to include but not limited to cutting and patching of all openings in deck (concrete or metal) if required. Patch walls where adjacent existing walls were removed. Patch and repair work is to be done professionally by trained, skilled craftsmen.
46. Provide and install temporary protection for all excavations, floor, or roof openings created by work of this bid category. Temp protection shall be installed per OSHA standards with robust, securely fixed and clearly marked (e.g. 'Hole below - do not remove') covers to prevent the fall of materials or persons through them. Covers should be constructed to be removable sections and that they do not present a tripping hazard.
47. Contractor is responsible for all dewatering and snow/ice removal necessary to complete this Scope of Work.
48. Cleanup is to be performed continuously as work is progressing. This means cleaning up each and every hour. This includes the removal of debris, sweeping (Contractor to provide

sweeping compound), wiping down of all finished surfaces, and the proper storage of unused equipment and materials. Cleanup not performed by the Contractor will be completed by a third party (chosen by Barton Malow Builders) and back charged accordingly. Written warnings will not be issued.

49. Contractor shall participate in the Composite Cleanup Crew as described in the project manual. These requirements are in addition to normal daily cleaning responsibilities and costs for this are included in the contract price.
50. Include all cost in base bid to comply with the latest Federal mandate, State of Michigan Executive Order, OSHA requirements, Local Jurisdiction Requirements, Owners Requirements, whichever is more stringent related to Covid-19: testing, PPE, social distancing, and all other requirements for your workers and subordinate parties. This shall include identifying your competent Covid 19 supervisor that will review, monitor, record, and enforce all requirements. In addition, each worker onsite is required to sign in each day prior to work using the Barton Malow QR Reader Questionnaire on a smart phone or tablet.

F. **Specific Scope:**

1. If there are discrepancies between any of the project drawings, project schedules, project notes/keynotes, specifications, work scopes, or project manual, the Contractor shall include the most stringent (expensive) cost in base bid.
2. Obtain and pay for all permits and inspection fees as required for work of this category.
3. Obtain and pay for any low volt permits required for work of this bid category.
4. Provide and install a complete, operational, and code compliant Electrical and Fire Alarm System for all designated building areas per the Contract Documents. Drawings are diagrammatic. All materials, offsets, fittings, ect. required for means and methods are to be included.
5. Provide all Electrical Work as noted on the Contract Documents including but not limited to high voltage, medium voltage primary, secondary and branch distribution electrical systems, low voltage communications and alarm systems, lighting control systems, building automation systems, devices and fixtures for building and site.
6. Provide and install all Electrical and Fire Alarm materials and equipment noted on all Electrical and Fire Alarm drawings, regardless if it is or is not in the schedule or specifications.
7. Only competent electricians are allowed to work on electrical circuits and equipment. All electrical tools and equipment operating off the site supply must be regularly inspected, tested and marked safe to use.
8. Coordinate location of equipment to ensure required electrical clearances are met.
9. Primary Gear, switches, motor control, transformers, and related equipment must be checked, tested, and started per project schedule providing permanen power to the building through project completion.
    a. Provide temporary heat and humidity control equipment installed in electrical room areas without permanent heating and cooling.
10. Stud and Masonry will be placed prior to mechanical and electrical overhead work.
    a. Coordinatye installation of boxes, sleeves, and conduit windows/penetrations.
    b. Stud install will include installation of one side drywall topout to the corridor side.
11. Contractor shall include multiple mobilizations to complete the Work.
12. This Contractor shall verify and notify Barton Malow Builders and Architect/Engineer immediately for any discrepancies in the contract documents where noted to tie into existing utilities.
13. Notification to Barton Malow Builders and Architect/Engineer of any non-code compliant items noticed during installation.
14. Coordinate tie-ins with Barton Malow Builders and Owner. Shutdown of the existing system will require a minimum forty-eight (48) hour notice. Systems will be required to be functional by the end of each work day.

15. Protections
    a. Maintain an effective lock-out tag-out procedure throughout the duration of the Project.
        1) Provide and maintain a current lock-out-tag-out log with name, date, lock number and signature.
    b. Protection of work prior to dry-in\
        1) Protect all equipment and components per manufactures recommendations.
16. Final Cleaning:
    a. This Contractor shall vacuum clean all in-wall gang boxes for communications, power, switching, etc. prior to the installation of devices and/or cover plates.
    b. Final clean all electrical equipment provided and/or installed by this Contractor prior to commissioning and final acceptance by the Owner including but not limited to panels, starters, disconnects, light fixtures (interior/exterior), etc.
17. Temporary Measures and Extended Warranties:
    a. For any permanent equipment that will be used for temporary work during construction, include extended warranties to cover the time the equipment is in use prior to Substantial Completion.
    b. Provide, maintain, and remove temporary systems upon completion and activation for use of the permanent systems.
    c. Protect all materials from damage prior to installation.
18. Providing and Maintaining Temporary Electricity:
    a. Owner will pay for power usage costs.
19. Temporary Lighting and Power: Provide and maintain temporary power and lighting for the following:
    General project power and lighting as defined by:
        1) As the building is enclosed, provide and install temp lighting to meet NEC and OSHA standards for minimum lighting in a work area and per room. The design of the system should account for general lighting to be turned off by use of a timer during non-working hours. Minimum egress lighting, including stairways, doorways, and general egress paths on the floors should be circuited separately and be always left on.
        2) Contractors are to use LED type light fixtures and bulbs.
        3) All temporary wiring must be MC type cable or installed in conduit
        4) Fire-stop all holes left by the temporary system when removed.
        5) The temporary power design must be reviewed and accepted by Barton Malow Builders prior to any installations. A preliminary design must be made available at the post-bid interview for review and discussion.
20. Temporary Guardrail Systems:
    a. Maintain all temporary guardrail system during the course of construction. At such time when it can or must be removed to perform work, appropriate safety precautions are to be implemented. After this Contractor completes areas of work, which do not offer appropriate fall protection due to gaps or openings, this Contractor is to provide appropriate temporary guardrails across openings.
21. Temporary Controls:
    a. Provide controls to support and control temporary heating and cooling, including opening and closing of dampers.
22. Coordination and Layout
    a. Actively participate in Mechanical, Electrical and Plumbing (M/E/P) overhead coordination process per the Barton Malow Builders Project Manual, and coordinate the installation of this Contractor’s work to allow installation and access to all other M/E/P and architectural/structural supports. Installed piping must be placed where determined in the overhead coordination process; deviations will not be acceptable and will be at the Contractors’ expense to correct if found in the field.

b. Contractor will be responsible for the complete coordination of work of this bid category with all other trades to identify and resolve conflicts. Any and all financial implications emanating from this Contractor's lack of planning and coordination will be borne by this Contractor. This shall include blocking, backing conduits, sleeves, penetrations, and any other appurtenances which may not be specifically identified by the contract documents but are required to complete this scope of work.
c. This Contractor is responsible for all detailed layout required for proper location and coordination of work.
d. Contractor shall review the critical dimensions and elevations of all work and shall otherwise verify the conformity of existing work to the Contract Documents and to its suitability. Contractor shall promptly submit a written statement to Barton Malow Builders and Architect/Engineer noting any discrepancies or unacceptable conditions as they relate to its work
e. Contractor shall attend all meetings as required to properly coordinate its Work with that of Others. Coordination efforts should be focused on minimizing any post-installation damage and quality issues.
    1) Contractor to participate in pre-installation conferences as requested by Barton Malow Builders, Architect, Owner, or per the specifications
f. Contractor shall visit the site and attend meetings as required to properly coordinate the Work.
    1) Coordination efforts should be focused on minimizing any post-installation damage and required patching operations.

23. This Contractor is responsible for all detailed layout required for proper location and coordination of work. This includes work to coordinate:
    a. This Contractor to coordinate penetrations, power requirements, access panels, and dimensions in cabinets and casework. Provide materials and installation of all raceways for power, communication, access control, including but not limited to lighting, phone systems, IT equipment, computers, printers, refrigerators, café systems, automatic soap dispensers, paper towel dispensers, night lights, sconce lighting and make final connections within cabinets and casework
    b. With Millwork, Furniture, Fixture, & Equipment and any owner provided providings. Includes all slab, wall and ceiling devices.
    c. Location of devices provided in Contract Drawings are not final/exact. This Contractor is responsible to coordinate with Architect/Engineer and other trades final location of all devices.
    d. With Mechanical Contractor for placement of any devices that will be placed in the slab.
        1) Coordinate underground conduit stub up locations in walls, partitions, casework, and equipment locations to not interfere with final placement.
    e. Exterior lighting/devices with exterior finish Contractor, ensure all penetrations thru the facade of the building are coordinated with conjunction of exterior facade Contractor. All sleeves and necessary attachment methods are to be coordinated.
    f. Roof penetrations with roofing and Mechanical Contractors for power locations for equipment.
    g. Cable tray locations and raceways, attachment, routing, and elevations with other trades. No raceways to be placed above equipment/panels in specialty rooms unless coordinated and approved.
    h. Provide Ground Penetrating Radar (GPR) to locate and mark existing gas, water, electrical site utilities, conduits, fiber, and mechanical piping prior to proceeding with any demo or excavation work.
        1) Locate all underground utilities (public and private) prior to any demo or excavations. Note that Miss Dig will not locate private utilities on the Owner's

property. It is the responsibility of this contractor to hire an outside firm and locate private utilities.

(a) Damage to existing utilities, public or private, including but not limited to gas, water, electric, mechanical, communication, and irrigation lines caused by work of this bid category will be the responsibility of this contractor. Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.

(1) Contractor will be responsible for all fees to restore the utilities and temporary measures needed until repairs are made.

(2) Contractor will also be charged a minimum of $1,500 for each occurrence for Barton Malow administrative costs.

(3) Contractor will be responsible for all Owner personnel, administrative costs, and damages for each occurences.

i. All utility connection, disconnections, tie-ins, crossovers, shutdowns and similar work must be performed and scheduled so they will not interfere with other work. It may be necessary to make these changes during "off" hours, on weekends, or it may be necessary to make "hot tap" connections. If a "hot tap" is necessary, a detailed method of procedure shall be submitted for review by Barton Malow Safety and Contractors safety representitive. Contractor shall not proceed until approved. Contractor should include premium time for this work. Coordinate with the Barton Malow Builders and Owner prior to performing this work.

j. Coordinate tie-ins with Barton Malow Builders and Owner. Shutdown of the existing system will require a minimum forty-eight (48) hour notice. Systems will be required to be functional by the end of each work day.

24. Demolition

a. Cut, cap, lock-out, tag-out, and make systems safe for the removal in all buildings/areas. “Make safe” includes physical disconnection from any equipment/components that are existing to remain as well as protection against "accidental energization".

b. Electrical contracor responsible for all demolition shown or specified as needed on architectural and electri

c. Investigate areas prior to demolition activities, reroute and relocate existing services required for occupied operation. Cut, cap, and make safe, any existing electrical systems prior to any demolition. Properly identify and mark any system and its components that are to be removed by others.

d. Safely remove and salvage electrical specific items required for reinstallation or items being turned over to the Owner.

1) Store and protect equipment to be reinstalled or turned over to the Owner. Photo document all damage to equipment prior to removal. Notify Barton Malow immediatly, otherwise all equipment is assumed to be in good physical condition free of damage. Contractor will be responsible for any and all repairs to damaged equipment during and after removal.

e. Removal, salvage, and storage of any material for reinstallation by this Contractor shown on the Electrical Demolition and Demolition drawings.

f. Demolition Contractor shall include all saw cutting of openings in walls or floors required for Mechanical Contractor’s installations, including removal and disposal of all debris. Assume all floor penetrations are to be cored. Floors will be boxed out by the Mechanical Contractor for installation of the floor drain after concrete floors have been placed. Concrete infill around the drains will be by the Mechanical Contractor.

g. Complete demolition of all electrical piping, material, equipment, and system as shown and/or required for work of this bid category. The demolition work shall include all supporting items and hangers, unless shown to remain. Contractor shall resupport systems to remain per current NEC requirements.

h. Fill all abandoned core holes due to electrical conduit demolition immediately after removal.
i. De-energize and remove cable for areas of demolition
j. If an existing panel is to remain with circuits being demoed, the demoed conduit and wire must be removed from the panel and cut back to no less than five feet.
k. Relocate existing service/overhead electrical as shown or required.
l. Patch and fire rate existing walls shown to remain where existing penetrating electrical components were removed.
m. Contractor shall include any masonry patching required for penetrations through existing walls, including those walls in which conduit is removed.
n. Responsibility for removal and replacement of all ceiling tiles for above ceiling work. Ceiling tiles shall be put back into place as soon as your work is completed or at the end of each workday. This Contractor will be charged for any damages he causes to the acoustical ceiling system or ceiling tiles.
o. Reroute any conduit, wiring, and related items as needed to facilitate the new installation of this Contractor's work.
p. Legally dispose of all electrical conduit, lamps, ballast, materials, equipment, components, and debris demoed. Remove equipment off site. No electrical equipment or debris shall be placed in Owner dumpsters.
q. Removal of fireproofing required for this Contractor's installation.
r. Replaced in its entirety all fireproofing disturbed by this Contractor's installations. Patching material shall match the material used by the Fireproofing Contractor.

25. Electrical New Work
    a. Provide protection of all equipment and materials supplied under this contract. Damage to equipment due to lack of adequate protection will be the responsibility of this Contractor.
    b. Provide and coordinate mechanical sleeves, embedment's, etc. in elevated and cast-in-place concrete work.
    c. This Contractor shall include all expansion joint fittings at rough-ins and hangers as required.
    d. All cover plates and trims are to be installed after final paint.
    e. Provide and install all roof pipe supports required for work of this bid category.
    f. Receive, store, and install all loose Variable Frequency Controllers (VFCs) from Bid Categories, HVAC, etc.
    g. This Contractor shall be responsible for all hangers, rods, trapeze, strut, fasteners, isolators, embeds, plates, anchors, sway bars, spreaders, stands, supports and accessories associated with this scope of Work.
    h. The use of C-Clamps, including C-Beam Clamp fittings shall not be permitted.
    i. This Contractor shall use extreme care when installing hangers and equipment in the area that has spray-applied fireproofing, so as not to damage it. This Contractor will be held accountable for the cost to repair and/or patch any fireproofing that is damaged by this trade. Only Z-clips and beam clamps can be installed on structural steel components prior to the installation of the spray applied fireproofing
    j. Have major pieces of equipment delivered prior to the building exterior close-in, in order to allow efficient hoisting, stating, and installation without disturbance of ongoing operations. This includes coordinated of any Owner Provided Equipment. All material and equipment to be coordinated with Barton Malow Builders five (5) business days in advance.
    k. Contractor shall coordinate lighting layout with the Mechanical and Architectural Contractors to avoid interferences.
    l. Coordinate location of equipment to ensure required electrical clearances are met.
    m. Junction boxes and other items requiring access panels should NOT be installed above hard lid ceilings if it can be avoided. If items are shown or required to be

installed above hard lid ceilings, notify the Architect/Engineer immediately prior to installation for possible relocation.

n. Minimize amount of access doors necessary, especially in public areas.
o. Junction boxes and other items requiring access panels should NOT be installed above hard lid ceilings if it can be avoided. If items are shown or required to be installed above hard lid ceilings, notify Barton Malow Builders and Architect/Engineer immediately prior to installation for possible relocation.
p. During MEP coordination process make a good faith effort to share access doors with other Architectural, Plumbing, and Electrical trades to further minimize quantity of access doors. Instances of shared access doors will be the Contractors' responsibility to split and determine cost. A highlighted drawing of Access doors locations shall be required for exact location identification.
q. Coordinate the locations and gain approval of locations from the design team prior to installation.
r. This Contractor shall provide all access doors and frames for proper access to servicable components and devices for maintenance. Access panels required but not shown on the drawings will be provided by this Contractor and installed by Carpentry Contractor. Minimum access door size shall be 12" x 12" unless otherwise approved by Barton Malow Builders, Owner, and Architect/Engineer. Include fire rating requirements if applicable.
s. Provide any unistrut support as required to mount equipment provided by this scope.
t. Provide and install all misc. steel support and hangers shown on electrical and per specification.
u. Provide, coordinate the location of, and install any blocking required for installation of electrical equipment.
v. Provide, coordinate location of, install all backing as necessary for items provided and/or installed by this work category
w. Provide all electrical equipment backboards NOT shown or indicated on drawings but required for this Contractor's work. Paint boards on all sides prior to installation.
x. Provide and install fire treated plywood backer board in low voltage equipment rooms.
y. Provide and install required raceways per the contract drawings.
z. All conduit should be a minimum of ¾" unless otherwise noted.
aa. All wiring shall be in conduit unless otherwise noted.
bb. All exposed conduit shall be rigid unless otherwise noted.
cc. Coordinate work in block walls with the General Trades Contractor.
dd. Provide all power and raceway for electric door hardware and card readers. Coordinate with Glazing Contractor.
ee. Provide all electrical testing and electric metering as specified.
ff. Provide and install floor box and poke through assemblies including all accessories shown or specified.
gg. Coordinate work in casework with the General Trades Contractor.
hh. Coordinate electrical rough for mechanical equipment with the Mechanical Contractor.
ii. Provide and install all mechanical equipment connections including but not limited to Variable Frequency Drives, Exhaust Fans, Motors, AHU/RTU's, ERU's, Electric CUH, Electric VAV Boxes, and Electric Radiant Panels supplied by Mechanical Contractor.
jj. Disconnects are provided and installed by this Contractor. Coordinate with the Mechanical Contractor to ensure compatibility. All final connections associated with equipment are by this Contractor.
kk. Install all variable frequency drives scheduled or shown on the contract documents provided by the Mechanical Contractor.
ll. Provide and install NEMA rated enclosures as required for location/ application.

mm. Disconnects for boilers are to be lockable.
nn. All electrical rooms are to be cleaned/ maintained daily throughout construction by this contractor. Final electrical room cleaning is by this contractor.
oo. Provide and install all equipment tagging as required for the Electrical and Fire Alarm systems.
pp. Duct smoke detectors as required by the contract documents will be provided and located by this contractor as required. Mechanical Contractor to install.
qq. Provide and install wiring of power for line voltage fire/smoke dampers as required.
rr. Provide and install labeling of all receptacles as required by the contract documents and all applicable codes. Ceiling grid is to be labeled with a small red dot to locate and smoke detector, fire/smoke damper, ect above ceiling.
    1) Ceiling grid is to be labeled with a P=Lam type label, clear with red lettering identifying the location above ceiling device. Label shall list device type and device number/address.
ss. Provide verification of all Exhaust Fans, Motors, AHU/RTU's, and ERU's equipment shutdowns per required sequence and interlocking with fire alarm testing.
tt. Provide and install wire support for all light fixtures only as required by the contract drawings and Governing Agency.
uu. Coordinate, provide, and install all wiring, conduits, circuits, and final connections to electrically operated finish hardware, including low volt wiring, (i.e. power doors, access control, etc.) as shown on the drawings. Coordinate with the Glazing Contractor.
vv. Provide and Install all interior sealants associated with work of this bid category.
ww. Provide and Install all through wall fire resistive fire stopping spray/joint sealant per approved UL Systems for all rated wall, floor, & deck penetrations for work of this bid category. Both sides of wall, floor, or deck are to be fire stopped.
xx. Provide and Install all acoustical and through wall smoke spray/joint sealants for all non-rated wall, floor, and deck penetrations for work of this bid category. Both sides of wall, floor, or deck are to receive acoustical sealant
yy. All exterior wall, floor, and roof penetrations for equipment installed under this scope of work shall be flashed and made watertight. Coordinate roof penetrations with roofing Contractor and ensure that roof warranty is not voided due to equipment installed under this scope.
zz. Where this Contractor penetrates or disturbs an existing fire-rated, smoke rated, or sound rated penetrations or existing patches, this Contractor shall be responsible to provide and install sealing as required.
aaa. Provide fire-stopping at all new electrical penetrations through walls. Include weather tight patching at exterior penetrations.
bbb. Provide and install fire rating of all back-boxes and fixtures where required (putty packs).
ccc. Provide pre-final inspection to ensure all systems are fully functional and operational. Includes checking of all penetrations for proper fire-stopping.
ddd. Permanent building power and related equipment must be checked, tested, and started per project schedule providing electricity to the building through project completion.
eee. Provide and install all loose lead where required for work of this bid category.
fff. Provide all electrical testing as specified.
ggg. Test emergency lighting system prior to final inspection in the presence of Barton Malow Builders. Include time in base bid to be present during fire alarm State and City final inspection.
hhh. Install all heat tracing of mechanical and plumbing piping shown on the Contract Documents.

iii. All starters and disconnects shall be provided and installed by this Contractor unless otherwise noted to be provided by another Contractor. Disconnects and starters provided by others will be installed by this Contractor.
jjj. Fire rating of all back-boxes and fixtures as required (i.e. putty packs)
kkk. Test and certify fire alarm system prior to final inspection in the presence of Barton Malow Builders. Include time in base bid to be present during fire alarm State and City final inspection. Include cans of smoke, fire caulk, and materials to fix any deficiencies during the inspection.

26. Doors
    a. Provide single point power connection for – WHAT IS NEEDED. ELECTRICAL J-BOX OR DISCONNECT OR ELECTRICAL TO CONNECT TO DOOR CONTROL PANEL.
        1) Automatic doors
        2) Automatic sliding entrance gates.
        3) Overhead coiling doors/grilles
        4) All electrically operated doors
    b. Electrical contractor must provide a conduit from the nearest accessible ceiling into the door frame and down to the EPT (electronic power transfer) hinge pocket on the frame. Coordinate installation with access control contractor and masonry contractor as required to establish the pathway within all new masonry openings.
27. Lighting and Lighting Controls
    a. Provide all interior and exterior lighting, lighting control devices.
        1) Coordinate the installation of lighting controls with the mechanical/temperature controls contractors to maintain manufactures recommendations for installation working clearances around mechanical equipment.
    b. Building mounted exterior lighting.
    c. In floor fixtures, floor boxes, & poke thru assemblies complete including all accessories.
    d. Mounting of devices in areas of glass walls and ceilings.
    e. including but not limited to all fixtures, raceways, switching, wiring, grounding, trim out.
    f. Leave protective plastic wrap on light fixtures after they are installed. Until the Construction Manager directs that it be removed.
    g. All lighting lenses to be covered during construction and/or cleaned by this Contractor at Substantial Completion.
    h. Coordinate under cabinet lighting with casework shop drawings. Verify that the specified fixture will fit in the allotted space.
    i. Coordinate with the Millwork and Drywall Contractors for placement of fixtures, local and remote ballasts, and lamps, potentially to be performed offsite
    j. Include all lighting controls.
28. Lightning Protection & Building Grounding:
    a. Provide a complete lighting protection system including UL Master Label Certification.
    b. Coordinate installation of roof top wiring and air terminals with Roofing Contractor.
    c. Provide interior building grounding loops as shown on the construction documents. Include perimeter building grounding.
    d. Provide all ground system testing required for grounding and lighting protection. lightning protection system, systems commissioning, etc., grounding
    e. Tie into and extend building ground ring around building addition
    f. Primary and secondary electrical service as indicated on the plans.
        1) Define point of connection of raceways.
        2) Define cable pull and terminations from utility to building service connection
        3) Coordinate installation with Local Utility Company.

g. Electrical I. D.,per the Contract documents.

29. Equipment
    a. Furnish and install
        1) Sensor/Electrically Operated Plumbing Fixtures
        2) Tankless water heaters
        3) Electrified/Switchable Glass/Glazing
        4) Electrically Operated Roller Shades
        5) Under cabinet task lighting
        6) Emergency Blue Lights
        7) Electrically powered signage
        8) Power Connections for Various Systems and Equipment: In general, other Contractors are responsible for providing and mounting of all control panels and performing all interconnecting and control wiring described in their specification sections. It is the responsibility of this Contractor to provide final power and connections to each piece of equipment or a single control panel for each piece of equipment.
30. Furnishings
    a. Provide rough-in and receive, install and wire switches associated with the projections screen operations.
        1) Provide interconnections with lighting control system when applicable per design.
31. Plumbing
    a. All electrical work included in the Plumbing specifications for power to
        1) Electric Trap Primers
        2) Sensor/Electrically Operated Plumbing Fixtures
        3) Tankless water heaters
        4) Pumps
        5) Heat Tracing
            (a) Receive material from mechanical trades and install all heat-trace cable, controls, labeling and identification of system as shown and specified.
            (b) Heat-trace material to be supplied by respective mechanical trades.
32. Heating, Ventilating, and Air-Conditioning (HVAC)
    a. All electrical work included in the HVAC specifications and specifically outlined as follows.
        1) This Contractor shall examine the Mechanical documents and those of the other trades to ascertain full extent of motor requirements.
        2) Receive from the Mechanical Contractors the loose starters and combination starter/disconnects for installation by this Contractor.
        3) If disconnects are not integral to equipment provided by Mechanical Contractor, this Contractor is responsible to provide and install
        4) All disconnects shall be provided and installed by this Contractor.
        5) This Contractor shall receive, install, and provide power to all Variable Frequency Drives (VFD's) loose Variable Frequency Controllers (VFCs) provided by others. Conduit and wiring to line and load side of VFC shall be provided an installed by this Contractor.
    b. Heating Units
        1) Receive, inventory, unpack, convey and install all electric Heating Units, including but not limited to cabinet unit heaters (electric coils), and electric radiant heaters.
        2) Units will be provided to this Contractor by the Mechanical Contractor
    c. Receive material from Mechanical trades and install all heat-trace cable, controls, labeling and identification of system as shown and specified.

1) Heat-trace material to be supplied by respective Mechanical trades.

d. Contractor responsible for properly sizing feeders to motors and equipment and cannot rely solely on the feeder sizes shown on the Contract Documents.

e. Include convenience receptacles and work lights at rooftop equipment, regardless if shown or not shown in Contract Documents.

f. Contractor is responsible to develop an Electrical Coordination Schedule with HVAC showing for each mechanical equipment (Volts/phase, Starter/VFD by, Disconnect by, Power wiring by, Control wiring by).

g. Install and connect the speed control and power wiring at the High-Volume Low speed fans between the Speed Controller and the Fan Unit. Wiring harness between fan and speed controller to be provided by the Mechanical Contractor

h. Coordinate equipment hook ups with the Mechanical and Temperature Controls Contractor to ensure compatibility. All integral combination motor/starters/disconnects and variable frequency drives (VFD's) for mechanical equipment are provided by the mechanical Contractor. All final connections associated with equipment are by this Contractor.

i. Provide power and connections to all smoke and fire dampers

j. Fire Alarm Work for Mechanical

1) This Contractor shall examine the Mechanical documents and those of the other trades to ascertain the full extent of the work.

2) In general, other trades are responsible for providing and mounting of all control panels and performing all interconnecting and control wiring described in their specification sections. It is the responsibility of this Contractor to provide connections to a single point for each piece of equipment requiring same.

3) Provide fire alarm connections to all smoke and fire dampers.

(a) If Fire Alarm scope is under Electrical Contractor. Electrical Contractor is responsible for coordinating with Mechanical Contractor to provide the necessary duct detectors to be installed by Mechanical Contractor.

33. Fire Alarm

a. Coordination of all Fire Alarm requirements with the Mechanical, Elevator, and Temperature Controls Contractor. Additional costs incurred which are associated with un-coordinated work, is the responsibility of this Contractor.

b. Fire Detection and Alarm

1) Provide and install a complete code compliant and operable fire alarm system per the Contract Documents.

(a) Provide fire alarm shop drawings as approved by a certified electrical engineer within 4-weeks of award of contract. Drawings shall be stamped by an engineer licensed in the State of Michigan. Submit shop drawings to Architect/Engineer for approval after receiving approval by the State of Michigan Office of Fire Safety and the Owner’s Insurance Agency. Pay for all fees and testing charges in conjunction with the testing of each system.

(b) Provide and Install all building and site Fire Alarm systems, conduit, outlets, grounding and identification including raceway, conduit, cabling connections and programming.

(c) All fire alarm conduit and junction box covers are to be red. In exposed finished ceiling areas, just the junction box cover is to be red.

(d) Provide protection of all equipment and materials supplied under this contract. Damage to equipment due to lack of adequate protection will be the responsibility of this Contractor.

(e) Provide and coordinate sleeves, embedment’s, etc. in elevated and cast-in-place concrete work.

(f) Perform tie-in of new fire alarm system to existing fire alarm panel(s). Include all costs for work by potentially different fire alarm

systems to provide required points, testing, etc. at the existing system to allow the new the fire alarm system to function as a complete and simultaneous system.

(g) Tie the fire alarm into the fire dampers, end switches and duct mounted smoke detectors.

(h) This Contractor shall verify the power requirements of the fire alarm system against the power provided in the Bidding Documents and notify Barton Malow Builders upon the discovery of any discrepancies.

(i) Interface with other trades/systems

(1) Provide and install duct smoke detectors or Provide duct smoke detector sampling tubes to mechanical Contractor for installation. Coordinate duct smoke detector installation and wiring with mechanical Contractor

(2) Provide and install all power and fire alarm requirements at smoke dampers and combination fire/smoke dampers (refer to the mechanical drawings for quantities and locations)

(3) Electrical connections to equipment and devices provided by others, including by not limited to duct detectors, fire dampers, flow, and tamper switches, including power for operation of same.

(4) Coordinate and provide all fire alarm interfaces with foodservice equipment, elevator, HVAC, Plumbing, fire protection and all other items tied to Fire Alarm System.

(5) Provide initial check testing of the complete fire alarm/damper system interface prior to agency inspections to ensure an operable system. Provide all written documentation and certifications as required for final acceptance with agencies having jurisdiction.

(j) Provide connections back to Owner's existing system, including modification and reprogramming of same.

(k) All reprogramming of the fire alarm system to keep it functioning for the areas remaining in operation.

2) Fire Alarm Training and Acceptance Testing

(a) Prior to completion:

(1) Prior to final acceptance, this Contractor is responsible to clean every smoke or heat detector.

(2) Provide final connections, testing and start-up of all equipment.

(3) Provide verification of all RTU/ERU/AHU/Exhaust Fans shutdowns per required sequence and interlocking with fire alarm testing.

(b) At Completion:

(1) Successfully, expeditiously and without incident lead and perform all fire alarm testing and documentation. Comply with phasing requirements within master construction schedule.

c. Connect fire alarm and provide monitoring to pre-action controls, flow detection devices and tamper switches, etc. which are provided and installed by the Fire Protection Contractor.

34. Integrated Automation

a. Electrical Work for Temperature Controls / Facility Management System: In general, the Mechanical Contractor is responsible for providing and mounting all control panels and performing all interconnecting and control wiring described in their specification sections. It is the responsibility of this Contractor to provide final power and connections to a single point for each piece of equipment shown on the documents. Equipment that falls into this category includes control panels, VAVs, devices, motors, etc. unless stated otherwise.

1) Exclude:

(a) Providing Facility Management Systems Panels and Equipment control panels, etc. which are provided by the Mechanical Contractor

b. Electrical connections to equipment and devices provided by others, variable frequency drives, power assist door motors, laboratory equipment, overhead doors, coiling shutters, projection screens, Owner provided items, etc. Verify that the construction documents have been coordinated with power requirements of equipment prior to installation of devices. This includes but is not limited to requirements for voltage, amperage, phase, type of receptacle, location of receptacle or junction. box, length of power whip, hardwired connection, etc.

35. **Training and Acceptance Testing**
    a. Prior to completion:
        1) Perform Final Cleaning just prior to Training and Testing
        2) Provide finish coatings and touch up of electrical equipment as specified.
    b. At completion:
        1) Assist in performance and document testing for all systems installed upon completion of systems and per specifications.
        2) Coordinate and participate with the independent Balancing Contractor.
        3) Provide final connections, testing and start-up of all equipment and assist Owner's Commissioning Agent with facility commissioning.
        4) Participate in the Owner's commissioning process and instruct the Owner's maintenance personnel in proper service and operation of the system as required in the specifications and/or as directed by Barton Malow Builders.
        5) Provide Owner training for all systems installed in this scope of work. Follow project specifications for training requirements. In the event the project Specifications are not clear, Contractor shall provide a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and locations.
            (a) Training modules shall include:
                (1) Basis of System Design, Operational Requirements and Criteria
                (2) Documentation: review of all documentation pertaining the scope, including O&Ms, Record Documents, Warranties and bonds, Service Agreements, etc.
                (3) Emergencies
                (4) Operations of systems installed in this scope, including adjustments, troubleshooting, maintenance and repairs.
            (b) Agenda must be approved prior to proceeding.
            (c) Include demonstration and training video recordings. Submit video recordings on Thumb Drive.

Excluded:

1. All telecommunication cabling and equipment (provide raceways & rough-ins only).
2. New Audio-video systems (equipment, raceways, rough-ins and wiring). Scope includes relocation of existing items only.
3. Security Access control.
4. Video surveillance.
5. Field painting of electrical systems. However, touch up of this Contractor's pre-finished equipment is to be included.
6. Temperature control wiring (and associated conduit) as specified in work scopes.

3.02 SPECIAL CONSIDERATIONS:

A. Labor Rates/Unit Prices/Alternates: Provide the following information on the bid form:
    1. Labor/Equipment Rates:

a. This Contractor is to provide as a part of his proposal a fully detailed labor rates for Barton Malow Builders approval for work associated with this Contractor's and for each of their Subordinate Parties Trades. In addition, labor rates will be required for all equipment involved with the performance of the work required by this Bid Category.

2. Allowances: This Contractor must obtain written authorization from Barton Malow Builders prior to performing the associated work below. Include in this Contractor's bid, allowances for work as follows.
   a. Provide Allowance for the following
      1) Include an allowance of $10,000 in this Contractor's bid for additional unidentified Electrical work. Allowance is to be used at the direction of Barton Malow Builders.
3. Alternates: This bidder shall be required to submit alternate prices identified which pertain to their work. These alternate prices shall be separate from their base bid on the bid proposal form.

END OF SECTION 002226.01

SECTION 003100
AVAILABLE PROJECT INFORMATION

PART 1 GENERAL

1.01 EXISTING CONDITIONS

A. Data contained herein has been made available by the Owner for the Architect's use in designing the Project. Neither Owner, Architect nor Barton Malow Builders make any representation, guarantee or warranty as to the accuracy or completeness of the data, either express or implied. Bidders shall draw conclusions from the data entirely at their own risk and shall conduct all investigations and examinations of the Project site and existing conditions as necessary to verify the accuracy of the information.

B. Certain information relating to existing surface and subsurface conditions and structures is available to bidders but will not be part of Contract Documents, as follows:
   1.

C. Hazardous Material Survey:
   1. Original copy is available for inspection at Troy School District's offices during normal business hours.

D. If not included in the attachment(s) prepared for each Bid Package, Bidders may obtain a copy of these documents by submitting a request in writing to Barton Malow Builders .

1.02 PERMITS

A. Owner has obtained the following permits and/or approvals, that are required to be secured prior to commencement of construction work on this project:
   1. Building Permit.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

3.01 OBTAINMENT OF PERMITS

A. Owner will obtain the following permits, at no cost to Barton Malow Builders or Contractor:
   1. Building Permit.

B. Contractor Permit Procedures: When required to obtain permits for Work of your Bid Category:
   1. Complete and file permit application(s) with appropriate agency.
   2. Pay required fees.
   3. Do not commence execution of any item of work for which a permit has not been obtained.

END OF SECTION 003100

SECTION 003200.01
SUB PREQUALIFICATION AND BIDDING

THIS SECTION INCLUDES A BRIEF OVERVIEW OF BARTON MALOW BUILDERS REQUIREMENTS AND DETAILED INFORMATION ABOUT THE PREQUALIFICATION AND BIDDING PROCESSES ON BARTON MALOW BUILDERS PROJECTS. WHERE ELECTRONIC BIDDING IS NOT USED, SEPARATE STIPULATIONS FOR SUBMITTING A HARD COPY BID MAY APPLY. REFER TO OTHER SECTIONS FOR CLARITY.

1.01 DOCUMENT INCLUDES

A. Prequalification General Requirements

B. Prequalification Process

C. BuildingConnected Overview

1.02 RELATED DOCUMENTS

A. Instructions to Bidders Section 01 2113

2.01 PREQUALIFICATION GENERAL REQUIREMENTS

A. Barton Malow Builders requires all prospective bidders to maintain their prequalification status throughout the entire Contract duration. This is required in order to process monthly payment applications, release payments, and bid on other projects. Prospective bidders should clearly communicate to their employees regarding their main point of contact and their respective role(s) in completing and maintaining the prequalification.

2.02 PREQUALIFICATION PROCESS

A. Invitation to Qualify
   1. Prospective Bidders should submit a request to prequalified if they are not already prequalified. Click the following link to access the form: https://www.bartonmalow.com/Contractors/. Completion of this linked form will generate an email invitation to prequalify with Barton Malow Builders.
   2. Bidders may also reach out to their Barton Malow Builders representative who can invite a Contractor to prequalify through BuildingConnected, Barton Malow Builders online bidding platform.
   3. If a Contractor is already prequalified with Barton Malow Builders, BuildingConnected automatically notifies the company's designated prequalification representative, as defined in their BuildingConnected profile, when their prequalification expires (annually) or previously submitted information needs to be updated.

B. When Prospective Bidders are invited to prequalify, the bidder completes their application and uploads required documents through their BuildingConnected account on the Qualifications Page/TradeTapp Invites tab.
   1. The following documents must be uploaded to prequalify with Barton Malow Builders:
      a. W9 Form – the company name must exactly match our contract and your BuildingConnected profile
      b. Audited/Reviewed financials from the previous year
      c. OSHA 300/300A Logs (past three years)
      d. EMR Letter (past three years)
      e. Safety Manual
      f. Letter from Bonding Company
      g. Current Insurance Certificate and Additional Insured forms CG2010 and CG2037. (Reference Instructions to Bidders Section 002113 for Insurance information).
   2. Resources:

a. Prequalification Setup and Submission Guide (27 Pages)
https://www.bartonmalow.com/wp-content/uploads/2020/11/sample-tradetapp-prequalification.pdf
1) This guide provides information for all new BuildingConnected users as well as users who previously used BuildingConnected and TradeTapp as separate software tools. These tools have been combined so that Contractors only need to have a BuildingConnected account.

3. The email contact used for the company profile will be the email contacted in subsequent years for pre-qualification renewal, so be sure to use the email address of the person who will be completing the renewal. Additionally, please ensure that your company is allowing emails from both the TradeTapp.com and BuildingConnected.com domains so you do not miss out on important notifications.

2.03 BUILDINGCONNECTED OVERVIEW

A. This free, web-based software is used by Barton Malow Builders to successfully manage the bidding process and provide a streamlined process for the prospective bidders and the Owner.

B. Bid Invitation: The Barton Malow Builders representative may invite a company to bid a particular Bid Package for a given project. If a company wishes to submit a bid for multiple work categories, notify Barton Malow Builders for an invitation for each scope of work.

C. Prospective bidders shall take the steps to familiarize themselves with the BuildingConnected interface, bid form, and processes prior to submitting a bid. Enter all information requested, including breakout prices, unit prices, allowances, etc. Respond to each question on the Bid Form to be considered fully responsive.

D. Upload requested documents as attachments (i.e. bid security, clarifications, labor rates, proposals, etc.).

E. As BuildingConnected is a web-based interface, ensure a stable internet connection is available. Save your progress often as you complete the Bid Form.

F. Bidding Multiple Categories
1. When submitting bids for multiple categories, provide a bid separately for each Bid Package. When offering a combined bid discount, enter this information as a Voluntary Alternate.

G. Bidders may revise their proposals right up until the Bid Due Date. After submission, this feature is not available.

H. Resources :
1. BuildingConnected Home Page: https://www.buildingconnected.com/
2. Completing your BuildingConnected Profile
3. Contractor Bidding Guide
4. BuildingConnected Help Desk

END OF SECTION 003200.01

SECTION 004100
BID FORM

DELIVER 3 COPIES OF THIS BID FORM TO THE FOLLOWING ADDRESS PRIOR TO THE BID DUE DATE AND TIME.

1.01 ATTN: ADAM LEWIS

1.02 BARTON MALOW

THE PROJECT AND THE PARTIES

2.01 TO:

A. Troy School District (Owner)

2.02 FOR:

A. Project: TSD BP#5 - Administration Building Renovation

B. Owner's Project Number: Enter Owner's Project Number

C. Barton Malow Builders Project Number: 230018-5
4400 Livernois Road
Troy, Michigan48098

2.03 DATE: _____

2.04 SUBMITTED BY:

A. **Bidder's** Full Name _____

B. **Company** Name
1. Address _____
2. City, State, Zip_____
3. E-mail Address_____
4. Phone Number _____

2.05 OFFER

A. Bidder, in compliance with the Bidding Documents for Bid Package No. 5 having carefully examined the Bidding Documents and the site of the proposed Project and the conditions affecting the proposed Work in the Bid Category(ies) including the condition of the Project site, any surface or subsurface obstructions, the actual levels, all excavating, filling in, removal and demolition, measurements and quantities involved in the Work, the availability of labor, materials and equipment, and the weather conditions that may possibly may be experienced in the Project vicinity, proposes to furnish all labor, materials, tools, equipment, machinery, equipment rental, transportation, superintendence, and services as are necessary to perform all Work in the Bid Category(ies) stated in accordance with the Contract Documents for the Base Bid and Alternate amounts stated below.

B. If identified as one of the apparent lowest bidder(s) for a Bid Category, Bidder agrees to meet immediately with Barton Malow Builders and shall submit post bid information as described in Section 00 2113 Instructions to Bidders.

C. Bidder, if awarded a contract, agrees to: (1) execute the Agreement within fifteen (15) days of receiving notice of the award; (2) provide performance/payment bonds and insurance certificates in full compliance with the Contract Documents, (3) submit the Project Safety Program as described in the Barton Malow Safety Manual, (4) commence Work upon execution of the Agreement or at such other time as directed in the notice of award, and (5) to complete

its Work in accordance with the Contract Documents and within the milestone activity dates and durations set forth in the Bidding Documents and subsequent construction project master schedule established by Barton Malow Builders. In the event Bidder defaults in complying with any portion of this paragraph, Bidder specifically agrees that the entire bid security amount shall become the property of Owner as liquidated damages constituting the reasonable estimate of the damages that the Owner would incur for delays and additional expenses in the event of such default, and not as a penalty.

2.06 BASE BID:

A. The cost of the Performance Bond and Payment Bond shall be included in the bae bid and treated as a deduct Alternate should the Owner decide to waive the requirement for the successful Bidder providing same.

B. Bidder agrees to perform all Work for Bid Category(ies) as described in the Contract Documents, for the Base Bid(s) stated below. The Base Bid(s) shall include the cost of Performance and Payment Bonds unless stipulated otherwise. For each Bid Category to be bid, include (a) the Base Bid, written and in figures, (b) the cost of the Performance Bond and Payment Bond which is included in the Base Bid, written and in figures, and (c) the Bid Category and description.

C. All applicable taxes and bond costs are included in the below Base Bid and all listed alternates and Unit Prices.

D. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Bid Documents prepared by TMP Architecture, Inc. and Barton Malow Builders for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:

Bid
Category: _____

_____ dollars

($_____)

E. We have included the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders. The included cost is:

_____

_____ dollars

($_____)

F. Bid Category and Description: _____

G. If awarded a contract, Bidder's Surety will be _____

H. A Bid Security in the form of a [ ] Bid Bond from a qualified surety, [ ] certified check, or [ ]cashier's check (check one) accompanies this proposal in the amount of five (5) percent of the Base Bid Amount(s).

I. We have included the required performance assurance bonds in the Bid Amount as required by the Instructions to Bidders.

J. All applicable federal taxes are included and State of Michigan taxes are included in the Bid Sum.

K. All Cash and Contingency Allowances described in Section 012100 - Allowances are included in the Bid Sum.

L. Bidder accepts Barton Malow Terms and Conditions (Section 00 5200 Agreement Form). _____

If no, please reference Addendum or Exceptions.

M. Bidder is prequalified with Barton Malow _____.

N. Bidder acknowledges required insurance coverage and limits and will be provided _____

O. Bidder included all material handling equipment required for this scope of work _____

P. Bidder has visited the site _____

Q. Bidder has bid per the project documents without deviation _____.

R. Bidder's site requirements: (i.e. site trailers, parking, laydown, hoisting etc.); _____

S.

_____

T. List any Long Lead Items (greater than 6 weeks) _____

_____

U. Bidder understands the requirements for the payment process, preparation of the SOV, retention, and timely completion of closeout document preparation? _____.

V. Bidder understands allowable Markup on self-perform (15%) and sub-tier contractors (5%) _____.

W. List MBE, WBE, Veteran Owned, or Service Disabled Veteran Owned _____.

2.07 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for ninety (90) days from the bid due date.

B. Bidder understands that the Owner reserves the right to reject any or all Bid Proposals and to waive any informalities or irregularities therein.

2.08 ALTERNATES

A. The following Alternate(s) to Base Bid(s) are required to be offered by the respective Bidders. In the event the Alternate is accepted, Bidder agrees to perform all Work necessary to complete the Work as modified by the Alternate in full accordance with the Contract Documents, for the following add or deduct from the Base Bid as indicated: (Enter written amount and in figures. In case of discrepancy, amount shown in words will govern. Enter a dollar amount in each, even if the amount is $0.00. Terminology such as "No Bid", "Not Applicable", "No Change" or "Does Not Apply", shall not be used. If the Alternate does not apply to the Bidder, enter $0.00.)

B. See project drawings and/or specifications for alternate write-up descriptions.

C. Alternate pricing shall include the cost of Performance and Payment Bonds and taxes.

D. Alternate 1: _____

1. _____

_____ dollars

($_____)

E. Alternate 2: _____

1. _____

_____ dollars

($_____)

2.09 VOLUNTARY ALTERNATES

A. The following voluntary Alternates are offered by the Bidder. Bidder agrees that the amounts indicated below shall be added to or deducted from the Base Bid, as indicated, for each voluntary Alternate that is accepted.

B. Voluntary Alternate pricing shall include the cost of Performance and Payment Bonds and taxes.

C. Show amount(s) in both words and figures for voluntary alternates. In case of discrepancy, amount shown in words will govern.

D. Bidder is required to submit sufficient detailed information to fully describe each voluntary Alternate(s) on a separate sheet(s) attached to this Bid Proposal form.

E. Voluntary Alternate 1: _____(enter description)

_____

_____ dollars

($_____)

F. Voluntary Alternate 2: _____(enter description)

_____

_____ dollars

($_____)

2.10 HOURLY LABOR RATES

A. All bidders are required to provide their company's hourly labor rates as they apply to this project. The contract may be awarded based upon this information. Failure to quote eh following hourly labor rates will result in an incomplete bid proposal form and may be disqualified by Owner. Include fringes and all benefits. A detailed breakdown of each labor rate that Bidder lists below is subject to revise and acceptance by Barton Malow prior to contract award. Include the detailed breakdown of labor rates in the sealed envelope when submitting the bid for review and approval.

2.11 UNIT PRICES

A. The following Unit Prices to Base Bid Categories are required to be offered by the respective Bidders. Bidder agrees that the following amounts will be used in determining contract changes from the Base Bid for authorized Changes in the Work. Bidder shall not include these unit costs in the Base Bid amount(s).

B. All unit prices shall include Bidder's mark-up for overhead and profit.

2.12 COMBINED BID

A. Bidder agrees to perform all Work necessary to complete the Work in Bid Categories _____, _____, _____, in full accordance with the Contract Documents, for the lump sum of:

_____

_____ dollars

($_____)

2.13 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
   1. Addendum # _____ Dated _____.
   2. Addendum # _____ Dated _____.
   3. Addendum # _____ Dated _____.

2.14 SAFETY

A. As of the date of submission of the Bid, Bidder's worker's compensation Experience Modification Rate (EMR) for the state in which the Work is performed is _____.

B. Bidder has included the OSHA Form 200 and 200S indicating recordable incident rates for the prior calendar year per 200,000 man hours for the following categories:
   1. Total Cases _____
   2. Lost Workday Cases _____
   3. Non-fatal Cases Without Lost Workdays _____
   4. Employee Hours Worked Last Year _____
   5. Fatalaties in the last year (if any, please describe below) _____

      _____

      _____

   6. Has Bidder been cited by state or federal OSHA for any serious or willful violation? If yes, please describe:

      _____

      _____

2.15 BID FORM SIGNATURE(S)

A. Bidder accepts the provisions of the Bidding and Contract Documents and certifies that this Bid Proposal is submitted in good faith and without collusion with any other person or entity

submitting a Bid Proposal for the Work. Bidder hereby affixes its authorized signature(s) representing (check one B-G):

B. _____An individual doing business as _____

C. _____A partnership

D. _____A limited liability company, organized in (enter state)

E. _____A corporation, organized in (enter state)

F. _____Joint venture formed between and(Signature from authorized representatives of each partner are required)

G. _____An Agent with a Current Power of Attorney (must be attached to this bid form).

H. Signature(s):

_____

I. Title:

_____

J. Legal Name of Firm:

_____

K. Business Address:

_____

L. Telephone Number:

_____

END OF SECTION 004100

SECTION 005200
AGREEMENT FORM

PART 1 GENERAL

1.01 FORM OF AGREEMENT

A. The form of Agreement (AIA Document A132-2019 Standard Form of Agreement between Owner and Contractor, Construction Manager as Advisor Edition) that will be used for Work under this Bid Package and associated Terms and Conditions and AIA Document A232-2019 General Conditions of the Contract for Construction and Insurance Requirements. A copy of the AIA General Conditions is found immediately following this section. The Agreement further includes the Barton Malow Builders Project Manual (this document) and its Exhibits.

1.02 INSURANCE REQUIREMENTS

A. Barton Malow Builders Document No. 2 Insurance Requirements shall govern this Project. A copy of Document No. 2 is included in this Section.

B. Barton Malow Builders requires insurance on all contracts, as noted in the contract terms and conditions. All insurance coverage must be reviewed and deemed acceptable at prequalification.

C. Contractors must create an account in TradeTapp and upload its renewal blanket certificate of insurance and all additional insured forms. Contractors will be required to manually enter the insurance coverage periods when uploading and at each renewal.

D. Contractors must also have an account in www.buildingconnected.com. Contractor entity name and mailing address must be typed EXACTLY the same in both TradeTapp and BuildingConnected as the two systems sync with each other.

E. In most cases, insurance approval in TradeTapp satisfies insurance approval for multiple contracts, if applicable.

F. Please review the required insurance endorsement or contract language with your insured. We have confirmed that the requested insurance coverage is commercially available.
   1. The required additional insurance, as stated in our current contracts provides:
   2. Barton Malow Holdings (“BMH”), Contractor (if other than BMH), and their partners (if applicable), Owner, and all other entities as required in the Prime Contract, shall be endorsed as additional insureds on *Contractor’s liability insurance policies (including general liability, excess liability, automobile liability and pollution liability, where applicable) for liability arising out of activities, operations or “work,” performed by or on behalf of Contractor, including BMH and/or Contractor’s general supervision of Contractor, products and completed operations hazard of Contractor, and automobiles owned, leased, hired or borrowed by Contractor. The coverage provided by the additional insured endorsement(s) shall be at least as broad as that provided in the Insurance Service Office, Inc.’s Additional Insured Endorsement Form CG 20 10 11 85. Forms that do not provide additional insurance for the “products and completed operations hazard,” will not be accepted. In no case shall any additional insured endorsement exclude coverage for BMH or Contractor’s own negligence, nor limit coverage for BMH or Contractor only to potential liability incurred solely as a result of Subcontractor’s acts or omissions.

G. Barton Malow Builders will accept the following additional insurance endorsements:
   1. CG 2010 11 85
   2. CG2010 10 01 coupled with the CG2037 10 01 forms.
   3. CG7048 10 15 (this is not an ISO form, but it is an example of an acceptable “scripted equivalent” form)

H. We will accept any manuscript form or “scripted equivalent” form that provides the following coverage:
   1. Blanket additional insured form as required by written contract:

a. For liability arising out of your ongoing operations AND
b. For liability arising out of “your work” performed for that insured and included in the “products-completed operations hazard”

I. The description box on the ACORD certificate must be endorsed as follows:
1. For TSD BP#5 - Administration Building Renovation #66560
2. Ensure Barton Malow Builders and TMP Architecture, Inc. are added as additional insureds on the Insured’s commercial general liability policy, excess liability policy, automobile liability policy, and contractor’s pollution liability policy, if applicable with respect to liabilities arising out of the operations or “work” performed by or on behalf of the Insured and in accordance with all Contract requirements for such coverage. Coverage for the additional insureds is primary and non-contributory with any other insurance available to the additional insureds, whether such other insurance is available on a primary or excess basis. Waivers of subrogation apply in accordance with Contract requirements.

J. Barton Malow Builders also requires:
1. The additional insurance coverage provided must be primary and non-contributory with any other insurance or self- insurance maintained by the additional insured, whether on a primary, umbrella or excess basis.
2. Each insurer must carry AM Best's Rating of A-VII or better
3. Each policy must be endorsed so that the issuing insurer will provide thirty (30) days written notice of cancellation to the BHM, Contractor and/or any additional insureds.
4. Waiver of subrogation required for all coverages.

K. A sample of the Certificate of Insurance (ACORD) form is included at the end of this Section.

1.03 PERFORMANCE AND PAYMENT BOND REQUIREMENTS

A. Troy School District will require the Contractor to furnish a Performance Bond and a Payment Bond, in amounts equal to the Agreement Contract Sum, by a qualified surety and naming both the Owner and Barton Malow Builders as Obligees. All sureties providing bonds on this Project must be listed in the Department of Treasury’s Circular 570, entitled “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” with the bond amounts less than or equal to the underwriting limitation indicated in the Circular, and/or must have an A.M. Best rating of A – VII or better. Bonds shall be duly executed by the Contractor, as principal, and by a surety that is licensed in the state in which the work is to be performed.

B. The Contractor shall deliver the required bonds to Barton Malow Builders prior to the execution of the Agreement. If the work is to be commenced prior thereto in response to a letter of intent, the Bidder, at a minimum, shall submit evidence to the satisfaction of Troy School District and Barton Malow Builders that such bonds will be furnished prior to commencement of on-site Work. In no event may the Contractor commence on-site work without the required bonds properly issued and delivered.

C. Performance Bond and Payment Bond AIA Document A311 (1970 Edition), AIA Modified A312, or A312 (2010 Edition) must be used for this Project.

D. The Bidder’s proposed surety must be acceptable to the Troy School District and Barton Malow Builders. If, at any time, after acceptance of the Contractor’s bonds, the surety fails to meet the stated criteria the Contractor must replace the bonds with bonds from a surety that meets the stated criteria as a precondition to continuing Work and receiving further payments.

E. The Performance and Payment Bond penal sums (i.e., the Agreement Contract Sum) must be listed as a separate line item in the schedule of values.

F. In the event of a Change Order, the penal sum of any required Performance and Payment Bonds shall be adjusted to equal the adjusted Contract Price. Troy School District and Barton Malow Builders shall have the right to request submission of bond riders, issued by the original

qualified surety, evidencing that such adjustments to the penal sum of the bonds have been accomplished. Notwithstanding the foregoing, in the next pay application after the Agreement price has been increased by twenty-five percent (25%) or more, as a condition precedent to payment, the Contractor shall deliver a bond rider issued by the original qualified surety evidencing that the appropriate adjustment in penal sums has been accomplished.

1.04 SUPPLEMENTARY GENERAL CONDITIONS

A. _____

B. _____

1.05 RELATED REQUIREMENTS

A. Section 007200 - General Conditions.

B. Section 007300 - Supplementary Conditions.

C. Section 002113 - Instructions to Bidders

D. Section 014216 - Definitions.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 005200

SECTION 006000
PROJECT FORMS

TSD BP#5 - ADMINISTRATION BUILDING RENOVATION AUTODESK BUILD FILES CONTAIN PROJECT FORMS

END OF SECTION 006000

SECTION 007100
CONTRACTING DEFINITIONS

PART 1 GENERAL

1.01 DEFINITIONS - TIME PERIODS AND MILESTONE DATES

A. Construction: The time period from the beginning of work on the project site until substantial completion as defined by the Conditions of the Contract.

B. Substantial Completion: The date as defined in the Conditions of the Contract. Date of Substantial Completion is the due date for the following:
   1. Barton Malow Builders Punch List items have been completed and accepted.
   2. Architect/Engineer Punch List and Commissioning items have been completed and accepted.
   3. Owner's punch list of items have been completed and accepted.
   4. Compliance with requirements of governing authorities, for submittals, inspections, and permit finals.
   5. Compliance with Owner's requirements for access to areas occupied by the Owner.

C. Closeout: The time period during which all details of both construction and commissioning are completed.
   1. The Closeout period is the time from Date of Substantial Completion until final payment, both as defined by the Conditions of the Contract.
   2. Before and during the Closeout period, the Owner, Architect/Engineer, and Barton Malow Builders will ascertain whether the completed project complies with Contract Documents.

D. Occupancy: The time period during which the project is occupied for its intended purpose.
   1. The Occupancy period begins at Date of Substantial Completion, as defined by the Conditions of the Contract.

E. Correction Period: The time period defined by the Conditions of the Contract.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 007100

SECTION 007200
GENERAL CONDITIONS

FORM OF GENERAL CONDITIONS

1.01 RELATED DOCUMENTS

A. All Bidders shall review all of the Bidding Documents, all Bid Category Work descriptions, and all Contract Documents, immediately advise Barton Malow Builders of any adverse factors, conflicts or ambiguities that might affect the execution of Work of this Bid Package. Each Bidder is responsible to review all Bid Category descriptions and Contract Documents and coordinate the Work accordingly. Each Bidder shall incorporate into its Bid Proposal the cost of coordination of the Work with the requirements of all related Contract Documents, as shown, specified, or required.

B. A complete set of reference documents, geotechnical reports, hazard surveys, and separate bid package documents are available in the Barton Malow Builders cloud-based file storage system, Autodesk Build.

1.02 PROVISIONS

A. The following provisions form a part of each Bid Category Work Scope and apply to each Contractor's Scope of Work.

B. Information pertaining to the existing building has been obtained through photographs and investigations and is indicated on the Project Drawings. This information is not warranted to be complete or accurate. Contractor shall verify all dimensions in the field prior to ordering materials or construction and any costs or expenses arising out of its failure to do so shall be borne solely by Contractor.

C. All costs for agency permits, disposal, demurrage, freight charges, roadway escorts, and trucking or tipping fees associated with this Contractor's work shall be included.

D. Contractor shall be responsible for any transport, handling, loading, unloading and conveying of all materials required by this Contractor.

E. All Contractors must include all cutting, drilling, punching and reaming required for the completion of their scope of work. Contractors must perform rebar scanning for all slab cuts and core drilling larger than 3" for review by EOR.

F. Contractor shall include penetrations and reinforcing of penetrations, identified and located on returned shop drawings in accordance with the Contract Documents.

G. All work under Contractor's Scope of Work shall comply with proper trade jurisdictions, even if it is necessary to assemble composite crews or subcontract to appropriate trades.

H. Special Safety provisions:
   1. Refer to the Barton Malow Builders Safety Manual or specific safety requirements for this project such as:
   2. Mandatory safety orientation (approximately 1 hour) & post-accident drug screens.
   3. Fall protection requirements - At or above six feet warrants tie-off.
   4. Daily pre-task documented safety meetings.
   5. OSHA 30 hour course required for designated safety representatives.

1.03 COORDINATION

A. All Contractor's are to coordinate all Work with the work of other trades for proper function and sequence. Contractor must furnish approved copies of shop drawings, templates, mock-ups, and technical data to other contractors designated by Barton Malow Builders for the purposes of coordination of this Work.

B. Each phase of the Work shall be coordinated, and the coordination plan approved by Barton Malow Builders prior to proceeding. Contractor shall keep informed as to Work of all trades

engaged in the Project, and shall execute Work in such a manner as not to delay or interfere with the progress of other trades involved.

C. Contractor is required to schedule its Work so that no other party is delayed in execution of its work.

D. Contractor is required to employ competent supervision on the Project throughout the entire period of construction ensure proper coordination and supervision of subcontractors.

1.04 OWNER EQUIPMENT COORDINATION

A. The Owner Furnished and Contractor Installed (OF/CI) equipment as listed in the contract documents and/or work scopes, shows the Contractor responsible to schedule delivery, receive the equipment and accessories F.O.B. to the jobsite, inspect, protect, store, handle and move into position, provide all coordination with applicable trades for rough-in requirements and final connections, marshal the appropriate trades as a composite installation crew, and assist in initial startup.

B. Refer to the Drawings to determine quantities.

C. Each piece of equipment provided by the Owner will include a cut sheet, reference information or drawing, indicating the specific rough-in, backing, sized and final connection information for use by the Contractors. Furthermore, the Owner will arrange with its vendor/manufacturer of new equipment to have the piece of equipment delivered F.O.B. to the Loading Dock or Jobsite Entrance, clearly marked, identifying the item, location installed, complete itemized bill of shipped material and indicating which Contractor, by category number, it is to be received by.

D. If indicated on the drawings and Contractors work scopes, some items may require relocation from adjacent locations for integration into the project. Relocation of these items require disconnect, packaging, moving, reinstallation, and reconnecting of equipment. If applicable, Contractor shall also start up relocated equipment.

1.05 OCCUPIED BUILDING COORDINATION

A. Due to consistent occupancy of the existing building, each Contractor must approach their Work with the safety of the existing building occupants and visitors in mind.

B. All noisy and vibratory activities which could affect building activities or occupants must be kept to a minimum and scheduled with Barton Malow Builders.

C. Contractors which perform any noisy or vibratory activities are required to communicate with Barton Malow Builders.

D. Material and equipment deliveries must also be scheduled as to minimize impacts to building occupants, passersby, and visitors. All deliveries to be coordinated and preapproved by Barton Malow Builders. Any deliveries crossing over active owner occupied areas will require proper safety flaggers. All pathways will be immediately cleaned and restored to existing conditions by the responsible Contractor.

E. All work must be completely separated from the public access within the building with A.H.J. approved temporary walls or fencing. Contractors are responsible for their own separation walls or temporary fencing not shown on the phasing plan.

RELATED REQUIREMENTS

2.01 SECTION 007300 - SUPPLEMENTARY CONDITIONS.

2.02 SECTION 014216 - DEFINITIONS.

SUPPLEMENTARY CONDITIONS

3.01 REFER TO DOCUMENT 007300 - SUPPLEMENTARY CONDITIONS FOR AMENDMENTS TO THESE GENERAL CONDITIONS.

END OF SECTION 007200

SECTION 007300
SUPPLEMENTARY CONDITIONS

PART 1 GENERAL

1.01 SUMMARY

A. These Supplementary Conditions amend and supplement the General Conditions defined in Document 007200 - General Conditions and other provisions of Contract Documents as indicated below. Provisions that are not so amended or supplemented remain in full force and effect.

B. The terms used in these Supplementary Conditions that are defined in the General Conditions have the meanings assigned to them in the General Conditions.

1.02 MODIFICATIONS TO GENERAL CONDITIONS

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 007300

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General Conditions of the Contract for Construction, Construction Manager as Adviser Edition

for the following PROJECT:
(Name, and location or address)

Troy School District
2022 Bond Election

THE CONSTRUCTION MANAGER:
(Name, legal status, and address)

Barton Malow Builders LLC
26500 American Drive
Southfield, Michigan 48034

THE OWNER:
(Name, legal status, and address)

Troy School District
4400 Livernois
Troy, Michigan 48098

THE ARCHITECT:
(Name, legal status, and address)

TMP Architecture, Inc.
1191 W. Square Lake Road
Bloomfield Hills, Michigan 48302

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Documents A132™–2019, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132™–2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132™–2019, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents. The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the ~~Agreement)~~ "Agreement" or "Contract") and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the ~~Architect. Unless specifically enumerated~~ Architect or the Owner. Unless specifically excluded in the Agreement, the Contract Documents do ~~not~~ include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or ~~proposals, the Contractor's bid or proposal,~~ proposals including the Owner's Request For Proposals, including the Project Manual (collectively the "RFP"), the Contractor's bid or proposal (but only to the extent it does not conflict with Owner's RFP and specifically excludes any general terms and conditions provided by the Contractor in its bid/proposal unless expressly accepted by the Owner) or portions of addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract. The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract Documents intended to facilitate Contractor's performance of ~~their~~ its duties.

§ 1.1.3 The Work. The term "Work" ~~means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations.~~ consists of all goods and services, such as labor, transportation, materials, tools, and equipment (1) to be incorporated into the Project (or the Contractor's portion of the Project if the Contractor is not responsible for the entire Project), (2) required of the Contractor under the Contract Documents, or (3) necessary or appropriate to fully construct, operate and maintain the Project (or the Contractor's portion of the Project if the Contractor is not responsible for the entire Project). The Work shall be performed in accordance with the Contract Documents. The Work may constitute the whole or a part of the Project. The term "Work" shall also include labor, materials, equipment and services provided or to be provided by Subcontractors, Sub-subcontractors, suppliers or any other entity for whom the Contractor is responsible under or pursuant to the Contract Documents. .

§ 1.1.4 The Project. The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by other Contractors, and by the Owner's own forces and Separate Contractors.

§ 1.1.5 Contractors. Contractors are persons or entities, other than the Contractor or Separate Contractors, who perform Work under contracts with the Owner that are administered by the Architect and Construction Manager. For purposes of this Agreement and the Contract Documents, the terms Construction Manager and Contractor are not to be used interchangeably. Construction Manager shall mean Barton Malow Builders LLC.

§ 1.1.6 Separate Contractors. Separate Contractors are persons or entities who perform construction under separate contracts with the Owner not administered by the Architect and Construction Manager.

§ 1.1.7 The Drawings. The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

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§ 1.1.8 The Specifications. The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.9 Instruments of Service. Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.10 Initial Decision Maker. The Initial Decision Maker ~~is the person~~ shall be the Architect, unless otherwise identified in the Agreement to render initial decisions on Claims in accordance with Section ~~15.2.~~ 15.2 and certify termination under Article 14. The Initial Decision Maker shall not ~~show partiality to the Owner or Contractor and shall not~~ be liable for results of interpretations or decisions rendered in good faith.

§ 1.1.11 The Project Manual
The Project Manual is a volume of documents and information assembled for the Work which may include the bidding requirements, sample forms, Conditions of the Contract, Specifications, Drawings, the Contract and other information furnished by the Owner.

§ 1.1.12 Applicable Laws
Applicable Laws means all applicable federal, state and local codes, statutes, ordinances, laws including, but not limited to, the Americans with Disabilities Act ("ADA"), the Revised School Code, MCL 380.1 et seq., including but not limited to MCL 380.1264, as amended, the School Building Construction Act, MCL 388.851 et seq., the Stille-Derosett-Hale Single State Construction Code Act, MCL 125.1501 et seq., the Michigan Building Code, federal, state and local environmental laws and regulations, and the rules and regulations, policies, guidelines and consent, administrative or other lawful orders of all public authorities having jurisdiction over the Project, the Work site, the Work or the prosecution of the Work.

§ 1.1.13 Construction Schedule
The Construction Schedule is the Critical Path Method ("CPM") schedule for construction of the Work submitted as part of the Contractor's Contract Sum prepared by the Construction Manager and approved by the Owner, in writing, in accordance with Section 3.10. The Construction Schedule can be modified only by Change Order. Following any such modification, the term "Construction Schedule" shall mean the most recent Owner-approved version. The initial agreed upon Construction Schedule is attached to the Contract as an Exhibit and is referred to as the Project Schedule.

§ 1.1.14 Milestone Dates
The Milestone Dates are those dates included in the Master Design and Construction Schedule and that are critical to ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents.

§ 1.1.15 Construction Team
The Construction Team includes the Contractor, Subcontractors, Sub-subcontractor at any tier and suppliers and (1) all other persons in privity of contract with any of them in connection with the Work (except the Owner), (2) anyone else providing labor, materials, supplies, equipment or services as part of or in connection with the Work (except those, if any, hired directly or indirectly by the Owner) and (3) all of their officers, employees, agents, and independent contractors.

§ 1.1.16 Contract Time
The Contract Time is the number of calendar days described in the Construction Schedule in which (or, alternatively, the date set forth in the Construction Schedule by which) Substantial Completion shall be achieved, subject to any extensions granted in executed Change Orders or otherwise specifically permitted by the Contract Documents.

§ 1.1.17 Extraordinary Measures
Extraordinary Measures are corrective measures necessary to expedite the progress of the Work, including (1) working additional shifts or overtime, (2) supplying additional manpower, equipment, and facilities, (3) expediting the delivery of materials, and (4) other similar measures. Subject to the Contractor's rights under Section 7.5, the Owner shall have the right to order the Contractor to take Extraordinary Measures when it determines that the performance of

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the Work, as of a Milestone Date, has not progressed to or reached the level of completion required by the Contract Documents, at Contractor's sole cost and expense.

§ 1.1.18 Master Design and Construction Schedule
The Master Design and Construction Schedule is the preliminary schedule for the Work to be developed by the Owner or Contractor during the bidding process and which shall, at a minimum, provide for major elements such as preparation of the design, phasing of construction, the time of commencement and completion required for each anticipated Bid Package.

§ 1.1.19 Punchlist
Punchlist means a list of uncompleted or unacceptable items of Work which do not interfere with the use or occupancy of any part of the Work for its intended purpose and which, unless delayed by a need to order materials that could not reasonably have been anticipated by the Contractor, collectively are capable of being completed within thirty (30) days.

§ 1.1.20 The term "Product(s)" as used in the Contract Documents refers to the materials, systems and equipment provided by the Contractor for use in the Work of the Project.

§ 1.1.21 The terms "Warranty" and "Guarantee" as used in the Contract Documents shall have the same meaning and shall be defined as "legally enforceable assurance of satisfactory performance or qualify of a product or "Work."

§ 1.1.22 Where materials, systems and equipment items are referred to in the singular, such reference shall not serve to limit the quantity required. The Contractor shall furnish quantities as required by the Contract Documents to complete the Work.

§ 1.1.23 Unless specifically limited in the Contract, the words "furnish," "install," and "provide," or any combination thereof mean to furnish and incorporate into the Work, including all necessary labor, materials, and equipment and other items required to perform the Work indicated.

§ 1.1.24 Value Engineering
Value Engineering means the detailed analysis of systems, equipment, materials, services, facilities, and supplies required by the Contract Documents for the purpose of achieving the desired and essential functions of the Owner's program at the lowest cost consistent with required and necessary performance, reliability, quality and safety.

§ 1.1.25 The words "consent," "approved," "satisfactory," "proper," "as directed," any derivatives of them, or similar terms, mean written approval by the Owner, and may include approval of the Architect if the Owner so directs. Except where a different standard is specifically established, the Owner has the right to grant or withhold such approval in its sole discretion.

§ 1.1.26 The word "provide" and any derivatives thereof, and similar terms, mean to properly fabricate, complete, transport, deliver, install, erect, construct, test and furnish all labor, materials, equipment, apparatus, appurtenances, and all items and expenses necessary to properly complete in place, ready for operation or use under the terms of the Contract Documents.

§ 1.1.27 The terms "known," "knowledge," "recognize," "believe," and "discover," and any derivatives thereof and similar terms, when used in reference to the Contractor, shall mean that which the Contractor knows or should reasonably know, recognized or should reasonably recognize, and discovers or should reasonably discover in exercising the care, skill, and diligence required of the Contractor by the Contract. The expression "reasonably inferable" and similar terms mean reasonably inferable by a Contractor familiar with the Work an exercising the care, skill and diligence required of the Contractor by the Contract.

§ 1.1.28 The word "including" shall not be a word of limitation, but instead shall be construed as introducing one or more nonexclusive examples.

§ 1.1.29 Words or abbreviations that are not defined but have well-known technical, trade or construction industry meanings, shall have those meanings ascribed to them. The singular shall include the plural and vice versa. Pronouns are interchangeable. The word "person" includes human beings and recognized legal entities. Unless the context

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clearly requires otherwise, reference to a Section shall include all subsections beneath it bearing identical introductory numbers.

§ 1.1.30 Owner Delay. An Owner Delay means an actual delay to Contractor's completion of the Work to the extent caused by one or more of the following: (i) Modifications (excluding minor changes in the Work and Architect interpretations), (ii) the Owner's failure (or that of any other person for whom the Owner is responsible to the Contractor including, the Architect or a separate contractor hired by the Owner) to provide any data or information requested by the Contractor in writing that is reasonably necessary for Contractor to carry out its duties and is the Owner's obligation to provide (so long as the Owner and any other responsible person are given adequate time to respond); or (iii) unreasonable interference by the Owner or persons for whom it is responsible to the Contractor, including, the Architect or a separate contractor hired by the Owner, with the Contractor's performance of the Work, which is not cured within five (5) business days of written notice to the Owner.

§ 1.1.31 Hazardous Materials. Hazardous Materials means any solid, liquid or gaseous waste, regulated substance or material in any Applicable Law, and shall include, without limitation, any petroleum or petroleum products or by-products, Urea Formaldehyde, flammable explosives, radioactive materials, asbestos in any form, lead paint, polychlorinated biphenyls and any other substance or material which constitutes a threat to health, safety, property or the environment or which has been or is in the future determined by any governmental entity to be prohibited, limited or regulated by any applicable environmental law or regulation. It is the intent of the parties, for purposes of this Agreement, that the term Hazardous Material is broadly construed.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by ~~all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.~~all. Work called for on the Drawings and not mentioned in the Specifications, or vice versa, shall be performed as though fully set forth in both. Nothing in this Section 1.2, however, shall relieve the Contractor of any of its obligations under the Contract Documents. Whenever a provision of the Contract Documents conflicts with agreements or regulations in force among members of trade associations, unions or councils, which regulate or distinguish the portions of the Work which shall or shall not be performed by a particular trade, the Contractor shall make necessary arrangements to reconcile the conflict without delay, damage, cost or recourse to the Owner. Delays in the Work resulting from the failure of the Contractor to use its best efforts to reconcile any such conflicts shall not result in an extension of the Construction Time and shall not result in the increase of the Contract Sum.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. Where responsibility for particular Work is required of the Contractor, the Contractor shall not be released from that responsibility by reason of the location of the Specification or Drawing information which establishes the responsibility. Thus, the Contractor shall be responsible for all Work required of it, even though that responsibility may be shown only in that portion of the documents typically pertaining to another contractor or trade. Similarly, the organization of the Contractor's duties into different phases or categories in the Agreement is for convenience only and shall not limit the generality of the Contractor's obligation to provide all of the Work whenever necessary.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings. All standards referred to, except as modified in the Contract Documents, shall have the same force and effect as though printed therein. These standards will not be furnished to the Contractor, as the Contractor and all members of the Construction Team are required to be familiar with their requirements.

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§ 1.2.4 All references in the Contract Documents to standards (such as commercial standards, federal specifications, trade association standards or similar standards), whether for materials, processes, assemblies, workmanship, performance or any other purpose, shall mean, unless otherwise noted, the most recent available published version of such standard as of the date of that part of the Contract Documents bearing the reference. All standards referred to, except as modified in the Contract Documents, shall have the same force and effect as though printed therein. These standards will not be furnished to the Contractor, as the Contractor and all members of the Construction Team are required to be familiar with their requirements.

§ 1.2.5 If there should be a conflict between two or more of the Contract Documents, the following order of interpretation shall apply:

§ 1.2.5.1 Where requirements specifically set forth in the Agreement are in conflict with other Contract Documents, the Agreement shall govern.

§ 1.2.5.2 Where there is conflict between the requirements of the General Conditions and the Agreement, the requirements of the Agreement shall govern, except where the requirements set forth in the Agreement are contrary to Applicable Laws, in which case the legal requirements shall govern.

§ 1.2.5.3 Where there is a conflict among Drawings and Specifications, or among any other Contract Documents not identified in Sections 1.2.5.1 or 1.2.5.2, the conflict shall be resolved by complying with the provision that requires the better quality or greater quantity of Work to the Owner.

§ 1.2.5.4 When a duplicate of material or equipment occurs in the Drawings, the Specifications or other Contract Documents, each Contractor shall be deemed to have bid on the basis of each furnishing such material or equipment. The Owner, Construction Manager and Architect will decide which Contractor(s) shall furnish the same and which Contract amount shall be adjusted for not incorporating such material or equipment into the Project.

§ 1.2.5.5 Documents of a later date shall always govern, except that if a conflict exists between the Owner's Bidding Documents and the Contractor's proposal/bid the Owner's Bidding Documents shall control unless expressly modified in the Agreement.

§ 1.2.5.6 The specific shall govern over the general.

§ 1.2.6 The Contractor acknowledges that there may be items of the Work, which the Contractor is responsible to provide under the Contract that are not drawn or specified in the Design but are necessary for the proper execution and completion of the Work and are consistent with and reasonably inferable from the Drawings and Specifications. All such items shall be provided as part of the Work without delay in its progress and without any increase in the Contract Sum.

§ 1.2.7 Delegated Design

§1.2.7.1 In the event the Contract Documents delegate the design of a portion of the Work to the Contractor or the Construction Team, or otherwise require the performance of professional services, the Contractor will provide all such services with the standard of care that would be followed on a comparable project by a reasonably skilled design professional in the same field working in the locality of the Project. The Contractor shall provide the services through a properly licensed design professional whose signature and seal shall appear on all drawings, specifications, submittals, and other deliverables. All Work designed by the Contractor or Construction Team shall be in accordance with Applicable Laws.

§ 1.2.7.2 The Contractor will cooperate with the Architect and the Owner's consultants in the performance of any design that has been delegated to it in order to ensure its design can be coordinated with the Architect's design for the other portions of the Project.

§ 1.2.7.3 The Contractor will promptly inform the Owner of information needed to meet the Contractor's obligations under this Section 1.2.7.

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§ 1.2.7.4 The Contractor grants, or will cause to be granted, to the Owner a perpetual, nonexclusive license to use all designs prepared by or for the Construction Team for constructing, using, maintaining, altering, and adding to the Project in the future.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The ~~Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights.~~ construction plans, Drawings, Specifications, Project Manual and all other documents and like materials relating to the Project, including those in electronic form, prepared by the Architect and the Architect's consultants ("Instruments of Service" or "Project Documents"), electronic or otherwise, and all data used in compiling, and the results of, any tests, surveys or inspections at the Project Site, as well as all photographs, schedules, data processing output, building information modeling (BIM), computer-aided design/drafting (CADD) system disks/tapes, computations, studies, audits, reports, models and other items of like kind, and all intellectual property, prepared or created for or in connection with the Project, regardless of whether they were prepared by the Owner, the Architect, the Contractor, or a third party, shall constitute the Project Documents, and shall belong to the Owner. The Contractor may retain one set of the Project Documents. All copies of them, except Contractor's record set, shall be returned or suitably accounted for upon completion of the Work. They are for use solely with respect to the Project. The Contractor shall not, without the prior written consent of the Owner, use or permit anyone to use any Project Documents prepared for or in connection with the Project, or any concepts or ideas developed in connection with the Project, for any purpose other than the Project. The Owner shall at all times have access to and control over the disposition of any Project Documents pertaining to the Project. The Contractor, Subcontractors, sub-subcontractors, and suppliers shall not own or claim a copyright in the Contract Documents or Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the ~~Architect's~~ Owner's Architect's or Owner's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, ~~Sub-subcontractors, and~~ Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to ~~them, subject to any protocols established pursuant to Sections 1.7 and 1.8,~~ them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of ~~Service on other projects or for additions to the Project outside the scope of the Work~~ Service, or any other documents prepared for or in connection with the Project, or any concepts or ideas developed in connection with the Project, for any purpose other than the Project without the specific written consent of ~~the Owner, Architect, and the Architect's consultants.~~the Owner. The Owner shall at all times have access to and control over the disposition of any Drawings, Specifications, Instruments of Service, and other documents pertaining to the Project.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is ~~set forth~~ expressly permitted in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the other party and the Architect as set forth in Section 15.1.3 to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

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§ 1.7 Digital Data Use and Transmission

~~The parties shall agree upon protocols governing the transmission and use of~~ If the parties transmit Project Documents or Instruments of Service or any other information or documentation in digital ~~form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.~~form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model ~~and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.~~shall be in accordance with the protocols established by the parties, unless otherwise already provided in the Agreement or the Contract Documents.

§ 1.9 Confidentiality

§ 1.9.1 The Contractor shall not knowingly or negligently communicate or disclose at any time to any person any information concerning the Work or the Project, except: (1) with prior written consent of the Owner, (2) information which has become part of the public domain prior to the Date of the Contract, (3) information which becomes part of the public domain by means other than an unauthorized act or omission of the Contractor, (4) as may be required to perform the Work or by any Applicable Law or (5) to its professional advisors or lender (all of whom shall be required to maintain such information in confidence.)

§ 1.9.2 The Contractor shall promptly upon the request of the Owner return and surrender to the Owner the original or legible copies of any materials, records, notices, memoranda, recordings, Drawings, Specifications and mock-ups and any other Contract Documents furnished by the Owner to the Contractor.

§ 1.9.3 The Contractor shall maintain, and shall cause all members of the Construction Team, and its and their directors, officers, employees, and agents, to maintain during and after the term of the Contract, the confidentiality of all trade secrets, know-how, confidential data or other proprietary information of the Owner when designated as such and shall not use such information for any purpose whatsoever except for uses permitted by Section 1.9.1.

§ 1.9.4 The Contractor shall not identify, either expressly or by implication, the Owner, or its corporate affiliates, or use any of their trademarks, trade names, service marks, other proprietary marks, or reference the services performed under the Contract, in any advertising, press releases, publicity matters, or other promotional materials without the Owner's prior written approval.

§ 1.9.5 The Contractor shall not, without the express written consent of the Owner, discuss the Work or any part thereof with persons under circumstances in which such communications can reasonably be expected to be published in newspapers, magazines or trade journals or broadcast on radio or television. This restriction shall not apply to statements consistent with a crisis management plan development and agreed to by both parties with respect to the Work. This restriction also shall not apply to any fair response by the Contractor to publicity released by the Owner that is detrimental to the reputation of the Contractor. Any such contact shall be referred to the Owner for response. Further, without the Owner's consent, the Contractor shall not participate in professional or trade seminars or publish or submit articles for publication, the subject of which is, in whole or in part, the Work. Any such proposed article or publication shall be submitted to the Owner for review and approval, which shall not be unreasonably withheld.

§ 1.9.6 The Contractor shall cause all members of the Construction Team to specifically acknowledge that the provisions of this Section 1.9 are binding upon them.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express

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authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Construction Manager and the Architect do not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner ~~shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.~~
may at any time and from time to time designate a third-party, such as an architect or engineer or other professional consultant, to perform any of its duties under the Contract. In the event of any such designation, the Owner shall provide written notice to the Contractor. The duties, responsibilities and limitations of authority of any third party designated by the Owner pursuant to Section 2.1.1, shall not be restricted, modified or extended without written consent of the Owner.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work, and upon reasonable written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. ~~The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.~~

§ 2.2.2 Following commencement of the ~~Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only~~ Work, the Contractor may only request such evidence required under Section 2.2.1 if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; ~~(2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.~~or (2) a change in the Work materially increases the Contract Sum.

§ 2.2.3 ~~After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.~~Reserved.

§ 2.2.4 ~~Where the Owner has designated information furnished under this Section 2.2 as "confidential," the~~ The Contractor shall keep the information confidential in accordance with Section 1.9 and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' written notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree in writing to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, ~~including~~ including, but not limited to, those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities. Unless otherwise provided under the Contract Documents, the Owner, ~~assisted by~~ through the Construction Manager, shall secure and pay for the building permit. All permits, fees, licenses and approvals not specifically identified in the Contract or Contract Documents as the responsibility of the Owner shall be the responsibility of the Contractor.

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§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 The Owner shall retain a construction manager adviser lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.4 If the employment of the Construction Manager or Architect terminates, the Owner shall employ a successor construction manager or ~~architect to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Construction Manager or Architect,~~ architect, respectively.

§ 2.3.5 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work. The Contractor shall immediately notify Owner of any errors, inaccuracies or problems which Contractor becomes aware of in the course of its use of the survey(s).

§ 2.3.6 ~~The~~ Upon written request by the Contractor, the Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.7 Unless otherwise provided in the Contract Documents, the ~~Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.~~ Contractor will be furnished, pursuant to Section 1.5.2, copies of Drawings and Project Manuals as follows:

§ 2.3.7.1 One reproducible set or an electronic file copy of Drawings and Project Manuals, including revisions thereto. If additional copies are desired by the Contractor, copies will be furnished upon Contractor's request for the actual cost of reproduction and handling.

§ 2.3.7.2 All instruments, Change Orders, Field Directives, and other like correspondence pertaining to the Work will be provided to the Contractor in the form of one (1) signed copy by the Owner.

§ 2.3.7.3 Change Proposal Documents, including Bulletins, revised drawings, etc. will be provided to the Contractor in the form of one reproducible set and four (4) printed sets.

§ 2.3.8 The Owner shall endeavor to forward all communications to the Contractor through the Construction Manager. Other communication shall be made as set forth in Section 4.2.6.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or ~~repeatedly~~ fails to carry out Work in accordance with the Contract Documents, or fails to meet any other obligation imposed by the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or ~~entity, except to the extent required by Section 6.1.3.~~ entity. This right shall be in addition to and not in limitation of the Owner's rights under any provision of the Contract Documents and Owner's right to stop Work shall not relieve Contractor of any of its obligations under the Contract Documents.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults on any obligations imposed by the Contract Documents or fails or neglects to carry out the Work in accordance with the Contract Documents and fails within a ~~ten-day~~ three-day period after receipt of written notice from the Owner or the Owner's designee to commence and continue correction of such failure, default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, ~~correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to review by the Construction Manager and prior approval of the Architect, and the Construction Manager or Architect~~

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~~may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for~~ including any claim against the Contractor's Performance Bond, correct such deficiencies; provided, however, that if such failure, default or neglect results in a threat to the safety of persons or property, the Contractor shall immediately correct such failure, default or neglect. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses, including any and all legal expenses incurred to effectuate and enforce this provision, and compensation for the Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall immediately pay the difference to the Owner. ~~If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.~~In the event the Owner directs another entity to perform Work pursuant to this Section that otherwise is the obligation of the Contractor, including correction of safety violations, either at the Contractor's request or as a result of the Contractor's failure to perform such Work, that other entity or Owner may charge the Contractor all costs for labor, material and equipment plus that other entity's administrative, profit and overhead costs. The Contractor shall pay that other entity or the Owner, at Owner's sole discretion, within ten (10) days of the date of invoice. If not paid within ten (10) days, the Contractor authorizes the Owner, without impacting its other rights and remedies, to withhold and deduct that amount from the Contractor and to pay the same to that other entity from the next payment due the Contractor. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall immediately pay the difference to the Owner.

§ 2.5.1 Upon notification to the Contractor, the Owner shall have the right to place and install equipment and machinery during the progress of the Work before the completion of the various parts of the Work. Such placing and installing of equipment and machinery shall not in any way evidence the completion of the Work or any portion thereof by the Contractor, nor signify the Owner's acceptance of the Work or any portion thereof. If the Owner places or installs such equipment and machinery with its own forces, the Owner shall be responsible for any damage to Work of the Contractor caused by the Owner's workers. If the Owner engages another contractor for such placement or installation, the Owner shall require said contractor to be responsible for such damages caused by its work, its workers, or its subcontractor(s). Upon discovery of any such damage, Contractor shall immediately notify Owner in writing.

§2.6 Limitation on Owner's Responsibility

§2.6.1 The Owner and Architect will not, under any circumstances, have control over or charge of and will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, since these are solely the Contractor's responsibility. Owner will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Owner will not have control over or charge of and will not be responsible for acts or omissions of any member of the Construction Team.

§2.6.2 The Contractor shall only be entitled to rely upon instructions and directions provided in writing by the Owner's authorized representative(s).

§2.6.3 The Owner may, in addition to delivering them to the Architect and Construction Manager, from time to time review and approve or take other appropriate action upon the Contractor's submittals, such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with the Owner's objectives and goals. Review of such submittals will not be conducted for the purpose of determining their accuracy and completeness of details, such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor. The Owner's review and approval of or taking other appropriate action on the Contractor's submittals shall not relieve the Contractor, the Architect or the Construction Manager of any of their obligations. The Owner's approval of a specific item shall not indicate approval of an assembly of which the item is a component. The Owner's receipt of any informational submittals, of any submittals relating to equipment or system designed by the Contractor, or of any submittals relating to alternatives proposed by any member of the Construction Team shall not constitute approval of or action by the Owner on such submittals. All such submittals will be received by the Owner for record purposes only.

§2.6.4 The Owner may from time to time review or observe or take other appropriate action concerning the Work and any documents, and the selection of Subcontractors and Suppliers. The Owner's doing so shall be solely for the limited purpose of providing the Contractor with information as to how such items relate to the Owner's objectives and goals with respect to the Work and not for the purpose of determining their accuracy and completeness and shall in

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no way create any responsibility on the part of the Owner for or complicity by the Owner in errors, inconsistencies, or omissions, nor shall any such review, approval, other action or payment of the Contractor alter or in any way reduce the Contractor's obligations under the Contract.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Owner, Construction Manager or Architect in their administration of the ~~Contract,~~ Contract or Contract Documents, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.1.4 These General Conditions refer to the relationship between the Owner and Contractor. As to the contract between the Contractor and its Subcontractors, the General Conditions shall be read as the Contractor having the position of the Owner and the Subcontractors having the position of the Contractor. The Subcontractors are bound to the Contractor just as the Contractor is bound to the Owner. The Subcontractor shall have all the rights, duties and obligations to the Contractor as the Contractor has rights, duties and obligations to the Owner. The Subcontractors shall agree to and accept the same responsibility to the Owner as the Contractor. In the event any failure of a Subcontractor causes any type of injury or loss to the Owner, direct or indirect, the Contractor shall be jointly and severally liable to the Owner for such injury or damage in addition to any responsibility or liability of the Subcontractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the Project site, become generally familiar with local conditions (including weather conditions) under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.1.1 The Contractor shall perform all reasonable and customary non-destructive field investigation activities to the extent necessary to develop an informed understanding of the Project's existing conditions necessary to deliver the Project within the Owner's anticipated design and Construction Schedule and budget for the Cost of the Work. The Contractor's field investigation activities shall include, but not be limited to, meeting with the Owner's facility and maintenance staff to review the applicable systems and known conditions. The Contractor shall provide Owner prompt written notice should it become aware of any reason why additional investigation of the existing conditions is warranted to develop the necessary informed understanding of the Project's existing conditions.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.5, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the Project site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted to the Construction Manager in such form as the Construction Manager and Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. Failure by the Contractor to report to, or request clarification from, the Architect and Construction Manager of any errors, omissions or inconsistencies shall result in interpreting and resolving such errors, omissions or inconsistencies in favor of the Owner and with no additional compensation to the Contractor.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with ~~applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities,~~ Applicable Laws, but the

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Contractor shall promptly report to the Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Construction Manager and Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to ~~applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.~~Applicable Laws. If the Contractor permits any construction activity to be performed that involves an error, inconsistency or omission in the Contract Documents or a physical condition at the Project site it recognized or should, employing the degree of diligence required of that Contractor under the Contract Documents, have recognized without providing notice to the Owner and receiving authorization to proceed, the Contractor shall assume responsibility for such performance and bear all costs attributable to correction, without recovery, whether under the Contract Sum or otherwise. The Contractor shall not be liable to the Owner or Construction Manager or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents or for differences between field measurements or conditions and the Construction Documents unless the Contractor recognized such errors, inconsistency, omission or difference and knowingly failed to report such to the Architect and Construction Manager.

§ 3.2.5 Prior to submitting its bid, the Contractor shall have studied and compared the Contract Documents and shall have reported to the Architect any error, inconsistency or omission in the Contract Documents. It will be presumed that the Contractor's bid and the Contract Sum include the cost of correcting any such error, inconsistency or omission, which should have been discovered by the exercise of reasonable diligence. Unless the Contractor establishes that such error, inconsistence or omission could not have been discovered by the exercise of reasonable diligence, the Contractor will make such corrections without additional compensation so that the Work is fully functional.

§ 3.2.6 If the Contractor encounters concealed or unknown conditions that differ materially from those anticipated or expected, the Contractor shall promptly notify the Owner, in writing of such conditions so that the Owner can determine if such conditions require design details, which differ from those design details shown in the Design or some other remedial action. The Contractor shall be liable to the Owner for any extra costs incurred as the result of the Contractor's failure to give such required notice.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner, the Construction Manager, and the Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. The Construction Manager shall review the proposed alternative for sequencing, constructability, and coordination impacts on the other Contractors. Unless the Architect or the Construction Manager objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors (at any tier) and their respective agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors. References in the Contract Documents to the Work, obligations or acts or omissions of Contractor shall be interpreted to apply to the Subcontractors, Sub-subcontractors at any tier, suppliers, materialmen, and those employees and agents, irrespective if they are identified.

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§ 3.3.3 The Contractor shall be responsible for inspection of portions of the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The Parties acknowledge and agree that Contractor accepts the risk of escalation in costs for material, equipment, and labor for the Project; that Owner shall not be responsible for escalations of any such costs; and that Contractor shall remain responsible for completing all Work in accordance with the Agreement despite any such escalation in costs. Such provision of labor and materials shall occur in sufficient time to satisfy the existing Construction Schedule. The Contractor bears the risk of any failure to timely provide such labor and materials for any reason. The Contractor agrees to execute the appropriate UCC forms to effectuate the Owner's ownership of the material and equipment furnished pursuant to the Contract.

§ 3.4.1.1 By making requests for substitutions based on Subsection 3.4.2 below, the Contractor:

(1) Represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;

(2) Represents that the Contractor will provide the same warranty for the substitution that the Contractor would for that specified;

(3) Certifies that the cost data presented is complete and includes all related costs, including but not limited to the Architect's redesign costs; and waives all claims for additional costs related to the substitution which subsequently became apparent; and

(4) Will coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be completed in all respects.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect with Owner's approval in accordance with Section 7.4, the Contractor may make substitutions only with the prior written consent of the Owner, after evaluation by the Architect, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. The Contractor shall only employ labor on the Project or in connection with the Work capable of working harmoniously with all trades, crafts and any other contractors and individuals associated with the Project. The Contractor shall also minimize the likelihood of any strike, work stoppage or other labor disturbance.

§ 3.4.3.1 The Contractor shall cause pre-purchased equipment and material to be delivered to the Project Site or temporarily stored to assure coordination with other trades. The Contractor shall be responsible to verify that such equipment is in accordance with the Specifications.

§ 3.4.3.2 To the extent practicable, materials and equipment will be delivered to the Project site in original containers or wrappings. Used materials or equipment will not be permitted to be incorporated into the Work without the written approval of the Architect and the Owner or unless specifically permitted or required by the Contract Documents. The Architect and the Owner shall have the right to have any such improperly used materials or equipment removed from the Project site or completed Work whenever detected. The Architect's or Owner's failure to detect such used materials or equipment shall not relieve the Contractor of its obligations under this section. Neither the Architect nor the Owner shall have any obligation to inspect for or improperly detect used materials or equipment.

§ 3.4.4 The Contractor agrees that neither it nor its Subcontractors, Sub-subcontractors, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor, will discriminate

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against any employee or applicant for employment, to be employed in the performance of the Work under the Contract, with respect to hire, tenure, conditions or privilege of employment, or any matter directly or indirectly related to employment, because of race, age, sex, color, religion, national origin, ancestry or physical disability. Breach of this covenant may be regarded as a material breach of the Contract.

§ 3.4.5 Asbestos, PCB, Lead, And Urea Formaldehyde-Free Product Installation

§ 3.4.5.1 It is hereby understood and agreed that no product, substance, or material containing or treated with asbestos, including chrysolite, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, asbestos in vermiculite, erionite, and taconite (hereinafter collectively "asbestos"), polychlorinated biphenyls (PCB), lead at or in excess of any limits imposed by Applicable Laws, or urea formaldehyde and any combination of these substances shall be installed or introduced into the Work by the Contractor, its employees, Subcontractors, Sub-subcontractors at any tier, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors or Sub-subcontractors at any tier or other individuals or entities over whom the Contractor has control. The Contractor shall be required to provide a signed certification statement ensuring that all products or materials installed or introduced into the Work all be asbestos, PCB, lead (as stated above), and Urea Formaldehyde-free.

§3.4.5.2 The Contractor shall also be required to furnish certified statements from the manufacturers of supplied materials used during construction verifying their products or materials to be asbestos, PCB, lead, and Urea-Formaldehyde-free in accordance with the requirements of Section 3.4.5.1.

§3.4.5.3 The Contractor shall complete and submit to the Owner a certification evidencing asbestos, PCB, lead, and Urea Formaldehyde-free product and material installation prior to issuance of the final Certificate for Payment, in a form acceptable to the Owner.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner, Construction Manager, and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. ~~The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.~~

In addition to any other warranties, guarantees or obligations set forth in the Contract Documents or applicable as a matter of a law and not in limitation of the terms of the Contract Documents, the Contractor warrants and guarantees that:

.1 The Owner will have good title to the Work and all materials and equipment incorporated into the Work and, unless otherwise expressly provided in the Contract Documents, will be new;

.2 The Work and all materials and equipment incorporated into the Work will be free from all defects, including any defects in workmanship or materials;

.3 The Work and all equipment incorporated into the Work will be fit for the purpose for which they are intended;

.4 The Work and all materials and equipment incorporated into the Work will be merchantable; and

.5 The Work and all materials and equipment incorporated into the Work will conform in all respects to the Contract Documents.

Upon notice of the breach of any of the foregoing warranties or guarantees or any other warranties or guarantees under the Contract Documents, the Contractor, in addition to any other requirements in the Contract Documents, will commence to correct such breach within seventy-two (72) hours after written notice thereof and thereafter will use its best efforts to correct such breach to the satisfaction of the Owner; provided that if such notice is given after final payment hereunder, such seventy-two (72) hour period shall be extended to seven (7) days. The foregoing warranties and obligations of the Contractor shall survive the final payment and/or termination of the Contract.

§ 3.5.2 ~~All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.~~The Contractor shall assign and or pass-through to the Owner at the time of Substantial Completion, as set forth in accordance with Section 9.8.4, any and all manufacturer's warranties relating to materials and labor used in the Work.

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Contractor shall perform the Work in a manner that will preserve any and all manufacturer's warranties. The Contractor further warrants that the Work will conform with the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. All warranties shall be in the form and substance required by the Owner and/or Contract Documents.

§ 3.5.3 If the Contractor uses any portion of the Work or the Owner's other property, such items will be restored to the condition they were in immediately prior to such use at or before the time of Substantial Completion, or as otherwise specified in the Contract Documents. The Contractor's warranty and agreement to correct defective Work includes the Contractor's obligations under this Section.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contract Sum includes all applicable taxes and the Contract Sum shall not be modified as a result of Contractor's failure to include all such applicable taxes, or a change in Contractor's tax liability. The Contractor shall pay all state and federal taxes levied on its business, income or property and shall make all contributions for social security and other wage or payroll taxes. The Contractor shall be solely responsible for such payments and shall indemnify the Owner and hold it harmless from any assessment and payment of the same.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, ~~assisted by~~ through the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by ~~applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.~~Applicable Laws.

§ 3.7.3 If the Contractor performs Work ~~knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities,~~ contrary to Applicable Laws, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction. To the fullest extent permitted by law, the Contractor shall indemnify, defend, and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, liabilities, and expenses, including but not limited to professional and attorneys' fees, arising out of or resulting from its and the Construction Team's activities or performance of the Work in violation of Applicable Law. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the Project site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide written and dated notice to the Owner, Construction Manager, and the Architect before conditions are disturbed and in no event later than ~~14~~ fourteen (14) days after first observance of the conditions. The Architect and Construction Manager will promptly investigate such conditions and, if the Owner and the Architect, in consultation with the Construction Manager, ~~determines~~ determine that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect, in consultation with the Construction Manager, determines that the conditions at the Project site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner, Construction Manager, and Contractor, in writing, stating the reasons.

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If the Owner or Contractor disputes the Architect's determination or recommendation, ~~either party~~ the Contractor may submit a Claim as provided in Article 15. The Contractor shall be on alert to any indication or evidence of existing underground or concealed utilities or structures not shown on the Contract Documents and shall immediately notify the Owner of discovery of such evidence. It the Contractor encounters such utilities or structures, it shall cease operations immediately to minimize damage and shall notify the Owner, Architect and Construction Manager. The Contractor shall bear the cost of damage resulting from its failure to exercise reasonable care in its construction activity or from continuing operations without notifying the Owner.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall ~~notify~~ provide written and dated notification to the Owner, Construction Manager, and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be ~~made~~ made, as necessary, as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents:

- **.1** allowances shall cover the cost to the Contractor of materials and equipment delivered at the Project site and all required taxes, less applicable trade discounts;
- **.2** Contractor's costs for unloading and handling at the Project site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- **.3** whenever costs are ~~more than or~~ less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor. Superintendent shall be on site and provide adequate supervision over the Work covered under the Contract. The superintendent shall be satisfactory to the Owner in all respects, and the Owner shall have the right to require the Contractor to remove any superintendent from the Project whose performance is not satisfactory to the Owner and to replace such superintendent with a superintendent who is satisfactory to the Owner, and without additional cost or compensation to the Owner.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and ~~Architect,~~ Architect in writing, through the Construction Manager, of the name and qualifications of a proposed superintendent. Within ~~14~~ fourteen (14) days of receipt of the information, the Owner and/or Construction Manager may notify the Contractor, stating whether the Owner, the Construction Manager, or the Architect (1) has reasonable objection to the proposed superintendent or (2) require additional time for review. ~~Failure of the Construction Manager to provide notice within the 14-day period shall constitute notice of no reasonable objection.~~

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner, Construction Manager, or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's ~~consent, which shall not unreasonably be withheld or delayed.~~ prior written consent, except with another superintendent who is satisfactory to the Owner.

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§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, or at other times requested by Owner or set forth in the Contract, shall prepare and submit for the Owner's and Architect's information, and the Construction Manager's ~~use in developing the Project schedule, a Contractor's construction schedule~~ approval, a proposed Construction Schedule for the Work. The schedule shall ~~contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.~~ not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project schedule to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. In no event shall the Contractor's Construction Schedule be extended due to action or inaction of the Contractor, except with prior written approval of the Owner within the Owner's sole discretion. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Multiple Prime Contractors or the construction or operations of the Owner's own forces. The Construction Schedule shall be in a detailed format satisfactory to the Owner which shall also: (1) provide a graphic representation coordinating and sequencing all activities and events that will occur during performance of the Work; (2) identify each phase of construction and occupancy; (3) set forth Milestone Dates and manpower loading. Upon review and acceptance by the Owner, the Construction Schedule shall be deemed part of the Contract Documents and shall not be subject to change except in accordance with Section 8.3 and Article 7. If it is not approved, the Construction Schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and Architect and resubmitted for approval. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Contractors, or the construction or operations of the Owner's own forces or Separate Contractors.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Construction ~~Manager's~~ Manager's, Owner's and Architect's approval. The Owner, Architect and Construction Manager's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Construction Manager and Architect reasonable time to review ~~submittals.~~ submittals, and (3) shall provide for expeditious and practical execution of the Work. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall participate with other ~~Contractors,~~ contractors, the Construction Manager, and the Owner in reviewing and coordinating all schedules for incorporation into the ~~Project schedule~~ Construction Schedule that is prepared by the Construction Manager. The Contractor shall make revisions to the construction schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the ~~Project schedule.~~Construction Schedule.

§ 3.10.4 The Contractor shall ~~perform the Work in general~~ proceed strictly (not substantially) in accordance with the Construction Schedule. The Contractor shall monitor the progress of the Work for conformance with the requirements of the Construction Schedule and shall promptly advise the Owner of any delay or potential delays. If any progress report indicates any delays, the Contractor shall, at no cost to the Owner, propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report constitute an adjustment of the Contract Time or any Milestone Date or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to a Change Order. The Contractor shall perform the Work in accordance with the most recent schedules submitted to the Owner, Construction Manager, and Architect, and incorporated into the approved ~~Project schedule.~~Construction Schedule.

§ 3.10.5 The Contractor shall cooperate and coordinate with the Construction Manager in scheduling and performing its Work to avoid conflict or interference with the Work of others, including the Owner's Consultants and other Contractors, and shall be responsible for any such conflict or interferences caused. The Construction Manager and the Contractor acknowledge and understand that the Work schedule will be modified from time-to-time to work around the work of other Contractors, in an effort to avoid conflicts or interference in the work of the Construction Manager or other

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contractors, and that such schedule changes do not give rise to a claim for damages by the Contractor for delay or otherwise. If the Construction Manager's schedule for the Work is revised, the Contractor shall conform to the most recent schedule. The Contractor acknowledges that the Construction Manager's schedule may change during the duration of the Project and that fact was taken into account by the Contractor when it agreed to the Contract Sum and entered into this Contract under the terms of the conditions set forth herein. As a result, the Contractor shall not be entitled to any additional monies or damages as a result of such schedule changes and the Contractor agrees that the Project Schedule, as modified, shall be an accepted term and contractual requirement. The Contractor shall complete Work in accordance with the Construction Schedule and Milestone Date(s).

§ 3.10.6 The Contractor shall cooperate with the Construction Manager in working out the proper sequence of operations between the Work of the Contractor and that of other trades on the Project site. The Contractor acknowledges that the Construction Manager's schedule for the Work may change during the duration of the Project and the Contractor took that fact into account when it entered into the Contract. As a result, the Contractor shall not be entitled to any additional monies or damages as a result of such schedule changes.

§ 3.10.7 Contractor shall prosecute the Work undertaken in a prompt and diligent manner whenever such Work, or any part of it, becomes available, or at such other time or times as the Owner or Architect or Construction Manager may direct so as to promote the general progress of the entire construction. The Contractor shall not, by delay or otherwise, interfere with or hinder the Work or the work of the Construction Manager any other Contractor. Any materials that are to be furnished by the Contractor shall be furnished in sufficient time to enable the Contractor to perform and complete its Work within the time or times provided in the schedule. If the Contractor shall, through its action or inactions, including the actions or inactions of its Subcontractors or suppliers, fall behind in furnishing necessary labor and/or materials to meet the construction needs in accordance with the established schedule, then it shall increase its forces or work such overtime as may be required, at its own expense, to bring its part of the Work up to the proper schedule. In the event that Contractor does not take such action necessary to bring its part of the Work up to schedule, as determined by the Construction Manager, within twenty-four (24) hours of receiving notice from the Owner or Architect or Construction Manager, then, the Construction Manager as allowed by law and with the Owner's written consent may supplement Contractor's forces or remove Contractor from the Project and retain others to complete part or all of the remainder of Contractor's Work. Contractor shall be responsible for any and all costs of performing or completing the Work. Contractor shall pay any such sums within ten (10) days of date of invoice. If not paid within ten (10) days, the amount will be withheld from Contractor and paid to the relevant parties from next payment due Contractor.

§ 3.11 Documents and Samples at the Site

The Contractor shall ~~make available,~~ maintain, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These documents shall be in electronic form or paper copy, available to the Construction Manager, Architect, and Owner, and delivered to the Construction Manager for submittal to the Owner upon completion of the Work as a record of the Work as ~~constructed.~~constructed together with a certification that they are "as-built" documents.

§ 3.12 Shop Drawings, Product Data, and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work. All Work shall be furnished and installed in accordance with the Drawings, Specifications and as additionally required by the manufacturer's printed instructions. The Contractor shall review the manufacturer's instructions, and where conflict occurs between the Drawings or Specifications and the manufacturer's instructions, the Contractor shall request clarification from the Architect prior to commencing the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

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§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect and Construction Manager is subject to the limitations of Sections 4.2.10 through 4.2.12. Informational submittals upon which the Construction Manager and Architect are not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Construction Manager or Architect without action.

§ 3.12.4.1 As part of the document control system, the Contractor shall develop and keep current a Submittal log, which is coordinated with the Construction Schedule.

§ 3.12.4.2 The Contractor shall monitor the time required for submission of Submittals to the Architect, as well as the time required for their review and approval by the Architect. The Contractor shall take corrective action as appropriate to insure the timely submission and review of Submittals.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Construction Manager, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the ~~Project~~ Construction Schedule and submittal schedule approved by the Owner, Construction Manager and Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of other Contractors, Separate Contractors, or the Owner's own forces. The Contractor shall cooperate with the Construction Manager in the coordination of the Contractor's Shop Drawings, Product Data, Samples, and similar submittals with related documents submitted by other Contractors.

§ 3.12.5.1 The Contractor shall check thoroughly all such submittals, including those it prepares itself, as to measurements, sizes of members, materials and all other details, to assure that they conform to the intent of the Contract Documents.

§ 3.12.5.2 The Contractor shall promptly return to the Subcontractors and/or Suppliers, for correction, any of the submittals that are found inaccurate or otherwise erroneous be corrected.

§ 3.12.5.3 After the Contractor has checked and approved such submittals, the Contractor shall place thereon the date of its approval and the legible signature of the individual who reviewed them and shall then submit them to the Architect and Construction Manager for review. The Construction Manager and/or Architect may refuse to check or review any submittals, which are not submitted in compliance with these requirements.

§ 3.12.5.4 Submittals describing manufactured equipment must be "Project Specific." Every submission copy must be clearly marked to fully define the intended model number, configuration and other applicable product information.

§ 3.12.5.5 Among other things, the Contractor shall be responsible for the constructability, content, completeness and consistency of all submittals.

§ 3.12.5.6 The Contractor shall notify the Owner when submittals are received. It shall deliver copies to the Owner upon request.

§ 3.12.5.7 The Contractor shall notify the Owner, Construction Manager and the Architect in writing if any submittals appear to modify the requirements of the Contract Documents. This notice shall identify each and every change.

§ 3.12.5.8 The Contractor shall furnish to the Construction Manager and Architect for review when requested, or when required by the Contract Documents, samples of all materials and finishes to be used in the execution of the Work. Such samples shall be of sufficient size to be representative and the required number of them shall be submitted before the Work utilizing the materials they exemplify is commenced and in ample time to permit examination thereof. In all cases, samples shall be submitted at least three (3) weeks prior to when approval is needed to maintain the progress required by the Construction Schedule. All materials furnished and finishes applied to the Work shall be fully equal to the submitted samples.

.1 Samples shall be forwarded to the Architect with all shipping charges prepaid. Unless otherwise directed, samples shall be submitted in triplicate, boxed or wrapped properly, each labeled with the

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name, type or brand of the materials, its place of origin, the names of its producer, Contractor and the Project.

.2 The approval of Samples is generally directed towards establishing quality, color and finish criteria, and does not modify the requirements of the Contract Documents at to dimensions or design.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner, Construction Manager, and Architect, that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.6.1 The Architect will check and review the submittals with reasonable promptness and within any time limits agreed upon in writing and will return them as hereinafter described, indicating by notation, or by written instructions, or other directions, any corrections, which in the judgment of the Construction Manager and Architect, may be necessary to meet the requirements of the Contract Documents. The Contractor shall then review such notations, instructions, or directions, and if the Contractor concurs therein, shall make or have made such corrections, and shall, when so noted on the submittals or requested by the Construction Manager and Architect, resubmit corrected submittals to the Construction Manager and Architect as soon as possible, for final check and review. Such final check and review by the Construction Manager and Architect of submittals so corrected and resubmitted will be limited to the corrections only, and the Contractor, by such resubmission shall be held to have represented that such submittals contain no other alterations, additions, or deletions, unless the Contractor, in writing, directs the Construction Manager and Architect's specific attention to same. Should the Contractor question or disagree with such notations, instructions, or directions, the Contractor shall direct the Architect's attention to same for further clarification before resubmitting them. Corrections or changes indicated on submittals shall not be construed as an order for a change in the Work or to perform extra work.

§ 3.12.6.2 The Construction Manager and Architect's review of submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment of systems, all of which remain the responsibility of the Contractor. The Construction Manager and Architect do not assume responsibility for errors, omissions or deviations from the Contract Documents contained in such submittals. Any such errors, omissions or deviations from the Contract Documents must be corrected by the Contractor, irrespective of the receipt and review of the submittals by the Architect, and even through the Work is done in accordance with such submittals, unless such error, omission or deviation from the Contract Documents is specifically called to the Construction Manager and Architect's attention by the Contractor in a separate written letter of communication, at the time of submittal, and the Construction Manager and Architect has given written approval of such error, omission or deviation.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been reviewed and approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's review and approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Construction Manager and Architect in a detailed writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.8.1 Any proposed substitution which requires modification of any details on the Drawings, or which affects other work, to cause modification to that work, shall be accompanied by detailed Drawings from the proposer showing changes in the affected details. All cost for changes to the Contract Documents, and necessary changes in the work of others will be paid by the proposing Contractor.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Construction Manager and Architect on

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previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect ~~will~~ shall specify all performance and design criteria that such services must satisfy. ~~The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents.~~ The Contractor shall cause such services or certifications to be provided by ~~an appropriately~~ a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner, the Architect, and the Construction Manager shall be entitled to rely upon the ~~adequacy and accuracy~~ adequacy, accuracy and completeness of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor ~~the~~ all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Construction Manager shall review submittals for sequencing, constructability, and coordination impacts on other Contractors.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Construction Manager and Architect at the time and in the form specified by the Owner and Architect.

§ 3.12.11 The Architect's review of shop drawings and samples does not constitute or imply final acceptance of materials, equipment, etc. actually furnished or installed if such should be defective or not as represented by reviewed shop drawings and/or samples.

§ 3.12.12 Owner will provide shop drawings to Contractor for all fabricated materials, specialty items, pre-purchased equipment, etc. which will be furnished by Owner for installation by Contractor. Contractor must give Owner at least three (3) days' notice prior to time drawings will be required.

§ 3.12.13 The Architect's Basic Services under its agreement with the Owner limits the review of the Contractor's submittals to an initial submittal and three (3) re-submittals. Services by the Architect for review of additional re-submittals shall be billed to and paid directly to the Architect by the Contractor; provided however, upon receipt of the Owner's written approval the Architect shall give notice to Contractor prior to the commencement of such services for which Contractor will be liable.

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the ~~site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and~~ Project site to areas permitted by Applicable Laws, and the Contract Documents and shall not unreasonably encumber the ~~site with materials or equipment.~~ Project site with materials or equipment. Only materials and equipment which are to be used for the Project or carry out the Work shall be stored at the Project site. Protection of such materials and equipment shall be the sole responsibility of the Contractor. No off-site storage is permitted without the Owner's prior written consent.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the Project site. No one except the Owner is permitted to connect to or activate any utility services in any building or facility owned or occupied by the Owner. When such connection or activation services are required, the Owner shall be contacted, and unless otherwise specifically provided in the Contract Documents. In all cases, the Contractor shall give notice of the need for such services, to the Owner, in a timely

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manner (at least seventy-two [72] hours in advance) in order to avoid delays to the Project's progress.The control of the use of the Project site will be through the Construction Manager. Contractors are responsible for cooperation in all matters involving the use of the Project site.

§ 3.13.3 No member of the Construction Team shall erect any sign on the Project Site without the Owner's prior written consent.

§ 3.13.4 The Contractor shall ensure that the Work is at all times performed in a manner that affords the Owner, the Construction Manager, the Architect, and the Owner's Separate Contractors reasonable access, both vehicular and pedestrian, to the Project Site and all adjacent areas. The Work shall be performed, to the fullest extent reasonably possible, in such a manner that public areas adjacent to the Project site shall be free from all debris, building materials and equipment. Without limiting any other provision of the Contract Documents, the Contractor shall use its best efforts to minimize any interference with the occupancy or beneficial use of (1) any areas and buildings adjacent to the Project site or (2) portions of the Project in which Work is not being carried out in the event of partial occupancy.

§ 3.13.5 The Contractor shall not, without the Owner's prior written approval, permit any workers to use any existing facilities at the Project site, including, without limitation, lavatories, toilets, entrances, and eating and parking areas, other than those designated by the Owner. Without limiting any other provision of the Contract, the Contractor shall enforce compliance with all policies, procedures, rules and regulations promulgated by the Owner in connection with the use and occupancy of the Project site and the surrounding area. The Contractor shall also cause all members of the Construction Team to comply with all insurance requirements and collective bargaining agreements applicable to use and occupancy of the Project site and the surrounding area. However, the Contractor shall not be responsible to regulate the workers' conduct outside of work hours except as may be permitted under Applicable Laws and collective bargaining agreements.

.1 Should any room or part of an existing building or facility be temporarily used by any member of the Construction Team as a shop, storeroom, locker room, an office, or for any other purpose, such room or part shall, prior to completion and when so directed, be thoroughly cleaned and returned to its original condition. All damage to any such room or part of an existing building or facility arising therefrom shall be corrected, and the whole left in a condition acceptable to the Owner by the Contractor. No room or part of an existing structure shall be so used without the prior written consent of the Owner.

§ 3.13.6 Anything contained in the Contract Documents to the contrary notwithstanding, no one except the Owner shall be permitted to disrupt the operation of any building system, utilities, or any other services without the Owner's prior written consent. Any request to perform such work shall be in writing, received by the Owner no less than five (5) days prior to the commencement of the requested disruption, and shall detail (1) the exact nature and duration of such interruption, (2) the area affected, and (3) any impact upon the Construction Schedule caused by such proposed temporary disruption. Except in the case of extraordinary measures, all Work shall be performed during the hours and on the days set forth in the Specifications. The Contractor's failure to comply with the notice provisions of this section shall constitute a waiver by the Contractor of any right it may have to an adjustment of its Contract Sum, or the Contract Time, on account of any postponement, rescheduling, or other delays ordered by the Owner in connection with any Work affecting a critical service for which appropriate notice was furnished.

§ 3.13.7 The Contractor will consult with the Owner concerning any necessary operations at the Project site, including staging area limits, office or storage trailer locations, dumpster operations, equipment and material deliveries, hoisting areas and any other construction impacts on the Owner's grounds.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents. Only skilled tradespersons shall perform any cutting, fitting or patching work.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner, Separate Contractors, or of other Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner,

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Separate Contractors, or by other Contractors except with written consent of the Construction Manager, Owner, and such other Contractors or Separate Contractors. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Separate Contractors, other Contractors, or the Owner, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The ~~Contractor shall keep the premises~~ Contractor, its employees, Subcontractors, Sub-subcontractors at any tier, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors or Sub-subcontractors at any tier shall keep the Project site and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to ~~clean up as provided in the Contract Documents,~~ keep the Project site clean as required by the Owner or as provided in the Contract Documents or fails to clean up the Project site upon completion of the Project, the Owner, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement ~~from the Contractor.~~ for all costs and expenses for clean-up from the Contractor.

§ 3.15.3 Any areas and/or concurrently occupied space both occupied by the Owner and used in the progress of the Work, both within the limits of the Project site and the adjacent areas leading to it shall be maintained, opened to travel and kept in a clean condition. Failure by the Contractor to maintain said areas will result in the Owner's cleaning of same, at the expense of the Contractor for all costs and expenses for clean-up from the Contractor.

§ 3.15.4 Unless the Contract Documents require a higher standard, the Contractor shall leave all Work installed or modified under the Agreement and all existing materials and surfaces affected by the Work and each area of the Project site clean to the satisfaction of the Owner. This shall include at a minimum: complete dusting, sweeping, vacuuming, mopping, polishing, and other activities as necessary to remove all dust, dirt and other construction residues, and removal of all tools and equipment, construction debris, rubbish, and surplus materials.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager, and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall indemnify, defend and hold the Owner, Construction Manager, and Architect harmless from ~~loss on account thereof, but shall not be responsible for~~ any and all costs, damages and losses on account thereof, including, but not limited to, actual attorneys' fees, but shall not be responsible for such defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner, Architect, or Construction Manager. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or ~~patent is discovered by, or made known to, the Contractor,~~ patent, the Contractor shall be responsible for ~~the~~ such loss unless ~~the~~ such information is promptly furnished to the Architect through the Construction Manager. The review by the Owner or Architect or Construction Manager of any method of construction, invention, appliance, process, article, device or materials of any kind shall be for its adequacy in the Work and shall not be an approval for the use thereof by the Contractor in violation of any patent or other rights of any third person.

§ 3.18 Indemnification

§ 3.18.1 ~~To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Construction Manager, Architect, Construction Manager's and Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not~~

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~~be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.~~

The Contractor shall indemnify, defend and hold harmless the Owner, its Board of Education, its Board Members, in their official and individual capacities, its administrators, employees, agents, contractors, successors, assigns and its Architect and Construction Manager (collectively "Indemnitees"), from and against any and all claims, counter claims, suits, debts, demands, actions, judgments, liens, costs, expenses, damages, injuries and liabilities, including actual attorney's fees and actual expert witness fees arising out of or in connection with the Work to the extent that the claims, counter claims, suits, debts, demands, actions, judgments, liens, costs, expenses, damages, injuries and/or liabilities are the fault of Contractor and/or its Subcontractors, suppliers, laborers, and consultants including, but not limited to: (i) the negligent acts or willful misconduct of the Contractor, its officers, directors, employees Subcontractors, Sub-subcontractors at any tier, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor; (ii) any breach of the terms of the Contract by the Contractor, its officers, directors, employees, Subcontractors, Sub-subcontractors at any tier, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor; (iii) any violation or breach of any Applicable Law and/or licensing and permitting requirements applicable to providing the Work; or (iv) any breach of any representation or warranty by the Contractor, its officers, directors, employees, Subcontractors, Sub-subcontractors at any tier, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor under this Contract. The Contractor shall notify School District by certified mail, return receipt requested, immediately upon actual knowledge of any claim, suit, action, or proceeding for which the Owner may be entitled to indemnification under the Contract. This section shall survive the expiration or earlier termination of the Contract and shall not be limited by the Contractor's insurance obligations contained in this Contract.

§ 3.18.2 In ~~claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.~~addition to and not in limitation of the Contractor's other indemnity obligations, the Contractor hereby accepts and assumes exclusive liability for and shall indemnify, defend and hold harmless the Owner, Construction Manager and Architect from and against the payment of the following to the extent the fault of Contractor and/or its Subcontractors, suppliers, laborers, and consultants: (i) all contributions, taxes or premiums (including interest and penalties thereon) which may be payable under the unemployment insurance law of any state, the federal Social Security Act, federal, state, county and/or municipal tax withholding laws, or any other law, measured upon the payroll of or required to be withheld from employees by whomsoever employed, engaged in the Work to be performed and furnished under the Contract; (ii) all sales, use, personal property and other taxes (including interest and penalties thereon) required by any federal, state, county, municipal or other law to be paid or collected by the Contractor or any of its Subcontractors or vendors or any other person or persons acting for, through or under it or any of them, by reason of the performance of the Work or the acquisition, ownership, furnishing, or use of any materials, equipment, supplies, labor, services or other items for or in connection with the Work; and (iii) all pension, welfare, vacation, annuity and other benefit contributions payable under or in connection with respect to all persons by whomsoever employed, engaged in the Work to be performed and furnished under the Contract.

The Contractor shall indemnify, defend and hold the Owner harmless from any claim, damage, loss or expense, including but not limited to actual attorney fees, incurred by the Owner related to any Hazardous Materials or waste, toxic substance, pollution or contamination brought into the Project site or caused by the Contractor or used, handled, transported, stored, removed, remediated, disturbed or dispersed of by Contractor, including its Subcontractors, suppliers, laborers, and consultants, to the extent the fault of Contractor and/or its Subcontractors, suppliers, laborers, and consultants..

§ 3.19 Record Documents

§ 3.19.1 The Contractor shall maintain at the Project site on a current basis for review by the Owner, the Architect, the Construction Manager and all members of the Construction Team, the Record Documents, which include: a record copy of all logs, reports, Contract Documents, and Record Drawings, in good order and marked to record all changes made during construction; all approved Shop Drawings, Product Data, Samples, and other submittals; applicable handbooks; maintenance and operating manuals and instructions; and other related documents and revisions which arise out of the Contract Documents or the Work. As part of the Record Documents, the Contractor shall maintain records of principal building layout lines, elevations of the bottoms of footings, project floor levels and key site

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elevations certified by a qualified surveyor. The Contractor shall at all times make all records (excluding internal memoranda or reports, privileged communications and documents with incidental references to the Work, or documents which discuss multiple projects) available to the Owner, Construction Manager and the Architect, and, at the completion of the Work, shall deliver all such Record Documents to the Owner neatly organized, bound and indexed. The Contractor shall monitor preparation of as-built Drawings by Subcontractors on a monthly basis and shall take corrective action as appropriate when as-builts are not being properly updated. The Contractor shall be permitted to retain a copy of the Record Documents for its own use after the Work is completed and, in any event, the Owner shall continue to provide access to the Record Documents, for the Contractor to inspect and copy.

§ 3.19.2 The Record Drawings shall be prepared and updated during the prosecution of the Work. The prints for Record Drawing use will be a set of blackline prints provided by the Architect to the Contractor at the start of construction. The Contractor shall maintain said set in good condition and shall use colored pencils or other methods reasonably acceptable to the Owner to mark-up said set with "record information" in a legible manner to show: (1) deviations from the Drawings made during construction; (2) details in the Work not previously shows; (3) changes to existing conditions or existing conditions found to differ from those shown on any existing drawings; (4) the actual installed position of equipment, piping, conduits, light switches, electric fixtures, circuiting, ducts, dampers, access panels, control valves, drains, openings and stub-outs; and (5) such other information as the Owner may reasonably request.

§ 3.19.3 The Contractor shall keep note of all the deviations and discrepancies in the underground, concealed conditions and other items of construction and the Work on field Drawings. At the completion of the Project the Contractor's notes on the record field Drawings shall be neatly transcribed onto a clean set of Drawings furnished by the Architect. The Contractor shall submit the final Record Drawings to the Architect for review.

§ 3.19.4 During construction, the Contractor shall maintain on the Project site, a separate, clean set of Drawings for the sole purpose of recording changes and actual 'as installed' information. This set shall be accessible for inspection by the Owner, the Construction Manager and the Architect at all times. The Contractor shall bring this set of Drawings to the scheduled construction progress meetings. The Contractor shall record all information as the Work progresses, clearly and neatly, in color and maintain it on a current basis as directed by the Owner and submit these Drawings to the Owner within thirty (30) days after Substantial Completion. As a general guide, the type of information to be recorded includes, but is not limited to: (1) revisions made except minor or non-critical dimensional changes, (2) omissions, including Work omitted by Change Order or accepted alternates, (3) exact dimensioned locations of concealed lines, (4) locations of all control devices, (5) any additions to Work, (6) changes in significant details, (7) and any other information of a similar nature.

§ 3.19.5 Upon Substantial Completion of the Project, the Contractor shall submit to the Owner the Contractor's mechanical and electrical coordination Record Drawings prepared during construction by the Contractor. Examples of such drawings include sheet metal ductwork drawings, piping drawings, fire protection piping drawings, electrical raceway drawings, and the like. When the Contractor produces drawings by computer aided drafting, the Contractor shall also submit their coordination drawings on electronic data files compatible with AutoCAD computer software. All such documents shall contain the Owner's Project Number for identification purposes.

§ 3.20 Warranties and Manuals

§ 3.20.1 Unless the Contract Documents require otherwise, the Contractor shall bind and turn over to the Owner, through the Construction Manager two (2) sets of manufacturers' warranties and operating and/or maintenance manuals, instructions, or schedules for all equipment and special materials requiring such. Such binders will clearly categorize and index each piece of equipment and material included, and shall be clearly marked noting "Project Specific" equipment, model numbers, and other applicable information. Such manuals will be collected and organized by the Contractor and submitted to the Owner at one time, prior to the issuance of the Certificate of Substantial Completion.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement. The term "Architect," "Architect/Engineer," "Engineer," or "Design Professional" as used herein means the Architect or the Architect's authorized representative.

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§ 4.1.2 The Construction Manager is the person or entity retained by the Owner pursuant to Section 2.3.3 and identified as such in the Agreement.

§ 4.1.3 Duties, responsibilities, and limitations of authority of the Construction Manager and Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without ~~written consent of the Owner, Construction Manager, Architect, and Contractor.~~ the prior written consent of the Owner and Construction Manager or Architect, respectively. Consent shall not be unreasonably withheld.

§ 4.1.4 If the employment of the Construction Manager or Architect is terminated, the Owner shall employ a successor construction manager or architect

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the final Certificate for ~~Payment.~~ Payment and, the Owner's and the Certificate for Payment is accepted by the Owner, during the correction period.. The Construction Manager and Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site ~~at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner,~~ as construction requires or as otherwise agreed to by the Owner or required by Applicable Law, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner and the Construction Manager reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner and Construction ~~Manager~~ Manager, in writing, known deviations from the Contract Documents and the most recent Construction Schedule prepared by the Construction Manager and defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide a staffing plan to include one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner and Architect reasonably informed of the progress of the Work, and will promptly report to the Owner and Architect known deviations from the Contract Documents and the most recent ~~Project schedule,~~ Construction Schedule, and defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Contractors in accordance with the latest approved ~~Project schedule.~~Construction Schedule.

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of, or be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work. The Construction Manager will schedule and coordinate the work of all Contractors on the Project, including the Contractors' use of the Project site. The Construction Manager will keep the Contractors informed of the Project Construction Schedule to enable the Contractors to plan and perform the Work in a timely manner.

§ 4.2.6 Communications. ~~The Owner shall communicate with the Contractor and the Construction Manager's consultants through the Construction Manager about matters arising out of or relating to the Contract Documents. The Owner and Construction Manager shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Construction Manager otherwise relating to the Project.~~ Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and the Contractor shall endeavor to communicate with each other through the Construction Manager, and

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shall contemporaneously provide the same communications to the Architect.. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with other Contractors shall be through the Construction ~~Manager.~~ Manager and shall be contemporaneously provided to the Architect if those communications are about matters arising out of or related to the Contract Documents. Communications by and with the Owner's own forces and Separate Contractors shall be through the Owner. ~~The Contract Documents may specify other communication protocols.~~

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 The Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents, and will notify each other about the rejection. The Construction Manager shall determine in general whether the Work of the Contractor is being performed in accordance with the requirements of the Contract Documents and notify the Owner, Contractor and Architect of any and all known defects and deficiencies discovered through its inspections of the Work or which through reasonable care should have been discovered by the Construction Manager through its inspections of the Work. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require additional inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, upon written authorization of the Owner, whether or not the Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations ~~and decisions~~ of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 Utilizing the submittal schedule provided by the Contractor, the Construction Manager shall prepare, and revise as necessary, a Project submittal schedule incorporating information from other Contractors, the Owner, Owner's consultants, Owner's Separate Contractors and vendors, governmental agencies, and participants in the Project under the management of the Construction Manager. The Project submittal schedule and any revisions shall be submitted to the Architect for approval.

§ 4.2.10 The Construction Manager will receive and promptly review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data, and Samples. Where there are other Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from the Contractor and other Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.11 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.12 Review of the Contractor's submittals by the Construction Manager and Architect is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Construction Manager and Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Construction Manager and Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item

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shall not indicate approval of an assembly of which the item is a component. However, should the Construction Manager or Architect discover during the course of such review any inaccuracies, incompleteness, or other irregularities, they shall immediately notify the Owner of the same to determine an appropriate corrective course of action or notify the Contractor of the same to correct the irregularities.

§ 4.2.13 The Construction Manager will ~~prepare~~ prepare, with the assistance of the Architect, Change Orders and Construction Change Directives.

§ 4.2.14 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7, and the Architect will have authority to order minor changes in the Work as provided in Section 7.4. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.15 ~~Utilizing the documents provided by the Contractor, the~~ The Construction Manager will maintain at the Project site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples, and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner in good condition and reasonably organized upon completion of the Project.

§ 4.2.16 The Construction Manager will assist the Architect in conducting inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.17 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the ~~site. The Owner shall notify the Construction Manager of any change in the~~ Project site. The duties, responsibilities and limitations of authority of the Project ~~representatives.~~ representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.18 The Architect will interpret ~~and decide~~ matters concerning performance under, and requirements of, the Contract Documents on written request of the ~~Construction Manager, Owner, or Contractor~~ Owner through the Construction Manager. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. The Contractor shall reimburse Owner for all costs and expenses for the Architect's time to interpret and decide matters it deems clear and unambiguous.

§ 4.2.19 Interpretations ~~and decisions~~ of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such ~~interpretations and decisions,~~ interpretations, the Architect will endeavor to secure faithful performance by ~~both Owner and~~ the Contractor, will not show ~~partiality to either,~~ partiality, and will not be liable for results of interpretations ~~or decisions so rendered in good faith.~~ rendered in good faith and without negligence. The Contractor shall, and shall cause all Subcontractors, Sub-subcontractors at any tier, and their respective agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor to comply with an interpretation and decision of the Architect.

§ 4.2.20 The ~~Architect's decisions~~ Owner's interpretations on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.21 The Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing, through the Construction Manager, to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable ~~promptness.~~ promptness given the particular circumstances. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

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ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the Project site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include other Contractors or Separate Contractors or the subcontractors of other Contractors or Separate Contractors. The term "Subcontractor" shall also include material and equipment suppliers. Each and every subcontract shall be understood to have the Owner as a third party beneficiary and the Owner shall enjoy all third-party beneficiary rights permitted by law.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the Project site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall ~~notify~~ furnish in writing to the Construction Manager, for review by the Owner, Construction Manager and Architect, the names of ~~the~~ persons or entities proposed for each principal portion of the Work, including those who are to furnish supplies, materials or ~~equipment~~ equipment, including those fabricated to a special design. Within ~~14~~ fourteen (14) days of receipt of the information, the Construction Manager may notify the Contractor whether the Owner, the Construction Manager or the Architect (1) has reasonable objection to any such proposed person or entity or, (2) requires additional time for ~~review. Failure of the Construction Manager to provide notice within the 14-day period shall constitute notice of no reasonable objection.~~review All contractual agreements with additional persons or entities serving as a Subcontractor or Sub-subcontractor shall expressly identify the Owner as a third-party beneficiary, and the Owner shall enjoy all third-party beneficiary rights not prohibited by law.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution. The Contractor shall notify the Owner, the Architect and the Construction Manager of any proposed Subcontractor or Sub-subcontractor substitution a minimum of ten (10) days prior to such proposed change.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each ~~Subcontractor,~~ Subcontractor and Sub-subcontractor, to the extent of the Work to be performed by the ~~Subcontractor,~~ Subcontractor and Sub-subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's and Sub-subcontractor's Work, that the Contractor, by these Contract Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor and Sub-subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the ~~Subcontractor,~~ Subcontractor and Sub-subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into

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similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.1.1 Work performed for the Contractor by a Subcontractor shall be performed pursuant to a written subcontract, which shall (in addition to the requirements of Sections 5.3 and 5.4) contain provisions that:

.1 Requires that such portion of the Work be performed in accordance with the requirements of the Contract Documents;

.2 Requires timely submission of Subcontractor's applications for payment and ancillary materials in order to enable the Contractor to apply for payment in accordance with the provisions of Article 9;

.3 Waives all rights the contracting parties may have against one another or that the Subcontractor may have against the Owner for damages caused by fire or other perils covered by the property insurance described in Article 11;

.4 Recognizes the rights of the Owner pursuant to the Contingent Assignment of Subcontracts contained in these General Conditions and require the Subcontractor (upon notice by the Owner that the Owner has terminated the Contract with the Contractor pursuant to the terms of Article 14, and that the Owner has elected to retain the Subcontractor pursuant to the terms of its Subcontract with the Contractor) to complete the unperformed obligations under such Subcontract and, if requested by the Owner, to enter into an appropriate agreement evidencing the fact that the Subcontractor is bound to the Owner under its Subcontract in the manner in which it had been bound to the Contractor;

.5 Requires the Subcontractor performing labor at the Project site to carry and maintain the insurance described in Article 11, unless otherwise approved by the Owner, and to deliver certificates of insurance to the Contractor prior to commencement of its portion of the Work;

.6 Includes the following sentence: "Owner is an intended third-party beneficiary of this Subcontract.";

.7 Requires each Subcontractor to make all claims for changes or extensions of time to the Contractor strictly (not substantially) in the manner provided in the Contract;

.8 Limits claims and damages in the manner provided in the Contract;

.9 Are in no way inconsistent with any provision of the Contract; and

.10 Requires the Subcontractor to indemnify the Owner the same extent required under Sections 3.6, 3.7.3, 3.17, 3.18, 9.3.3.1, 9.3.3.2, 9.6.8, 9.10.2, 9.10.4, 10.1, 10.3.3, 10.3.4, 10.3.5, 10.3.8 and Article 11.

Sub-subcontracts and supply contracts shall be subject to identical conditions, except: (1) suppliers that are not performing any Work on the Project site are not subject to the insurance requirements described in Article 11; and (2) Subcontractors and Sub-subcontractors may satisfy the insurance requirements described in Article 11 by being named as an additional insured under the Contractor's insurance policies or, in the case of a Sub-subcontractor, by being named as an additional insured under a Subcontractor's insurance policies.

§ 5.3.1.2 Upon request, the Contractor shall deliver a copy of any Subcontract, Sub-subcontract or Supply Contract to the Owner.

§ 5.3.2 Coordination of Subcontractors

§ 5.3.2.1 The Contractor shall provide supervisory, administrative, management, inspection and related services as required to properly coordinate, schedule and sequence the Work of the Subcontractors with each other (to avoid both supplication and omission of Work) and with the activities and responsibilities of the Contractor, the Owner, the Construction Manager and the Architect to complete the Work in accordance with the requirements of the Contract Documents with respect to cost, time and quality and to ensure that the other goals of the Work are otherwise met or exceeded.

§ 5.3.2.2 The Contractor shall schedule and conduct with the Subcontractors and Sub-subcontractors construction progress and any other meetings deemed necessary to discuss such matters as procedures, progress, problems, safety, inspections, sequencing, and scheduling, and shall prepare and promptly distribute minutes. Construction progress meetings will be conducted by the Contractor weekly unless otherwise directed by the Owner and attended by all Subcontractors and Sub-subcontractors whose Work has not been completed. All progress meetings minutes shall be provided to the Owner by the Contractor within five (5) days after the meeting and distributed to all attendees promptly after they have been approved by the Owner. The Owner will act promptly in providing its approval.

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§ 5.3.2.3 Schedule of Subcontractors' Work. The Contractor shall require each Subcontractor to agree to be contractually bound to the requirements of the Construction Schedule. The Contractor shall require each Subcontractor to agree to cooperate with the Contractor in developing a detailed schedule applicable to its portion of the Work within forty-five (45) days after award of contract unless otherwise specified. The Contractor shall assist in the development of all Subcontractor schedules and shall prepare such schedules if any Subcontractor fails to do so. The Contractor shall require all Subcontractors to meet as often as necessary with the Contractor to complete their detailed schedules. However, the Construction Schedule will take precedence over any schedules prepared by Subcontractors with respect to time of completion for each bid package. If any such schedule indicates that additional time or effort will be required to maintain these schedules, the Contractor, Subcontractor shall agree to work additional time, including weekends if necessary, or to add manpower, all at no extra cost to the Owner. The Contractor will require all their Subcontractors to include the requirements in Sections 5.3.2.3 and 5.3.2.4 in their sub-subcontractor contracts.

§ 5.3.2.4 Subcontractors' Performance. The Contractor shall ensure satisfactory and timely (with reference to both Milestone and Substantial Completion Dates) performance from each of the Subcontractors. The Contractor shall take appropriate measures when any Subcontractor is not performing its obligations satisfactorily.

§ 5.3.2.5 Payments to Subcontractors. Upon award of the Subcontract, the Contractor shall have each Subcontractor prepare and submit a schedule of values allocating that portion of the Cost of the Work attributable to its Subcontract to the various portions of the Work. Each schedule of values shall be prepared in a form and substance acceptable to the Contractor (which form shall previously have been approved by the Owner) and supported by such data as may be necessary to substantiate its accuracy. The Contractor shall develop and implement procedures for the review and processing of applications by Subcontractors for progress and final payments. Payment packages shall include, but shall not be limited to, each of the following documents: schedule of values, sworn statements, and appropriate forms of full or partial construction lien waivers or other similar waivers and releases of claims.

§ 5.3.2.6 Safety Programs. The Contractor shall provide a general review of safety programs developed by each of the Subcontractors, including a verification that each Subcontractor has submitted its report of the recommended safety precautions and programs, as required by the Contract Documents. If the Contractor observes a safety violation, the Contractor shall require a Subcontractor to correct it. After written notification to the Subcontractor to correct the safety violation, if the Subcontractor does not correct the problem in a timely fashion, the Contractor shall cause the Work to be corrected by other means. The performance of such services by the Contractor shall not relieve the Subcontractors of their responsibilities for performance of the Work and for the safety of persons and property, and for compliance with all federal, state and local statute, rules, regulations and orders applicable to the conduct of the Work. The Contractor shall conduct regular safety meetings with Subcontractors' superintendents to ensure the Subcontractors' compliance with federal, state or local statutes, rules, and regulations relating to the Workers' safety or any other aspect of the Work.

§ 5.3.2.7 Work. The Contractor shall determine in general that the Work of each Subcontractor is being performed in accordance with the requirements of the Contract Documents, and shall guard the Owner against defects and deficiencies in the Work. As appropriate, the Contractor shall require special inspection or testing, or make recommendations to the Architect regarding special inspection or testing, of Work not in accordance with the provisions of the Contract Documents whether or not such Work has been then fabricated, installed or completed, and shall reject Work which does not conform to the requirements of the Contract Documents. The Contractor shall coordinate any inspections which may be required by any governmental agencies.

§ 5.3.2.8 Interpretation. The Contractor shall consult with the Architect, Construction Manager and the Owner if any Subcontractor requests interpretations of the meaning and intent of any of the Contract Documents, and shall assist in the resolution of questions, which may arise.

§ 5.3.2.9 Insurance Certificates. The Contractor shall receive certificates of insurance from the Subcontractors, and shall review such certificates for compliance with the requirements of the Contract Documents, and shall forward the original certificates to the Owner, through the Construction Manager. The Construction Manager shall be responsible for collecting, reviewing for compliance, and maintaining all insurance certificates required on behalf of the Owner and make them available upon the Owner's request. No member of the Construction Team shall be permitted to commence any portion of the Work or have a presence at the Project Site without complying with all insurance requirements of the Contract Documents. The Contractor shall monitor the same to ensure the certificates of insurance remain current, and shall advise the Subcontractors of the impending expiration of their respective certificates, but the failure of Contractor

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to give such advice shall not, as between the Contractor and any of the Subcontractors, excuse the obligation of the Subcontractors to maintain current, unexpired certificates.

§ 5.3.2.10 System Readiness. The Contractor shall, in the company of the Architect and the Owner's maintenance personnel, observe the Subcontractors' evaluation of utilities, operational systems and equipment for readiness, and shall assist in their initial start-up and testing.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and ~~Contractor;~~ Contractor in writing; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than ~~30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.~~120 days, the Subcontractor's compensation may be equitably adjusted as negotiated by the parties.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor Contractor or other entity. ~~If the Owner assigns the subcontract to a successor Contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor Contractor's obligations under the subcontract.~~

§ 5.5 Contractor and Subcontractors' Warranty Acknowledgment.

§ 5.5.1 The Contractor shall execute and deliver to the Owner, and shall cause anyone giving warranties that is contractually bound to the Contractor to execute and deliver to the Owner, the following Warranty Acknowledgment before a Certificate of Final Completion is issued:

Warranty Acknowledgment

(Name of Subcontractor) ("Contractor") warrants that all of its Work complies with the requirements of the Contract Documents. If, within two (2) years after the date of Substantial Completion of the Work or designated portion of the Work, any of Contractor's Work is found to be not in accordance with the requirements of the Contract Documents, Contractor shall correct the Work at its sole expense promptly after receipt of written notice from the Owner. This two (2) year period shall be extended (i) with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of Contractor's Work, and (ii) with respect to warranty work for an additional two (2) year period following each correction. This obligation shall survive acceptance of the Work and termination of our Contract.

This warranty shall be in addition to the terms of any other warranty or longer period of obligation specified in the Contract Documents, any applicable special warranty required by the Contract Documents, or the terms of any general warranty and is not in lieu of any of them. This warranty shall not be construed to establish a period of limitation with respect to other obligations which Contractor might have under the Contract Documents and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced or to the time which any proceeding may be commenced.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 The Owner reserves the ~~right~~ right, but assumes no obligation, to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to ~~insurance and waiver of subrogation.~~insurance. The Contractor shall be responsible for coordinating the Work with

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the work of other Contractors, including the Owner's own forces or Separate Contractors, so as to complete the Work in accordance with the Construction schedule.

§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces or Separate Contractors, the Owner shall provide for coordination of such forces and Separate Contractors with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 ~~Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.~~Reserved.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner's own forces, Separate Contractors, Construction Manager and other Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner's own forces, Separate Contractors or other Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Construction Manager and Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor or other Contractors that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Construction Manager and the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's or other Contractors' completed or partially completed construction is fit and proper to receive the Contractor's ~~Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractors or other Contractors that are not apparent.~~Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a Separate Contractors or to other Contractors, because of the Contractor's delays, improperly timed activities or defective construction. ~~The Owner shall be responsible to the Contractor for costs the Contractor incurs because of delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces, Separate Contractors, or other Contractors.~~

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor ~~wrongfully~~ causes to completed or partially completed construction, or to property of the Owner, Separate Contractors, or other Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner, Separate Contractors, and other Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.2.6 Subject to the provisions of, and rights to recover from, any property insurance that the Owner is responsible to maintain, the Contractor shall, at its expense, without recovery from the Owner, under the Contract Sum, any contingency or otherwise, promptly remedy damage caused by any member of the Construction Team to completed or partially completed construction or to property of the Owner or separate contractors.

§ 6.2.7 Costs caused by delays or by improperly timed activities or defective construction shall be borne by the party responsible therefor.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, other Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and ~~the Construction Manager, with notice to the Architect, will~~ allocate the cost among those responsible. The Owner's right to clean up shall in no event be deemed a duty, and should the Owner choose not to pursue this remedy, the Contractor necessitating such action shall remain fully responsible for the same.

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ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, only by Change Order, Construction Change ~~Directive~~ Directive, written contract amendment or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Construction Manager, Architect and Contractor. A Construction Change Directive requires agreement by the Owner, Construction Manager and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect ~~alone.~~ with the Owner's prior written approval.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.1.4 There shall be no changes on the Contract Sum as a result of a Change Order unless the Change Order is in writing and issued prior to effectuating the Work under the Change Order. If notice of any extra Work or change in the Work affecting the general scope of the Work or the provisions of the Contract Documents is required by the provisions of any bond, to be given to any surety issuing such bonds, the giving of any such notice shall be the Contractor's sole responsibility. In any event, in computing any increase in the Contract Sum, fees allowable for overhead and profit shall not exceed the following percentages: 10% for materials purchased and for Work completed by a Contractor's own forces; and 5% for Work completed by a Subcontractor.

§ 7.1.5 In order to facilitate the timely submission and processing of proposed changes, the Construction Manager, Contractor and Architect shall establish an efficient process for their review and shall reserve for the Owner an appropriate amount of time for the review and approval of proposed changes in the Work.

§ 7.2 Change Orders

~~A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, stating their agreement upon all of the following:~~ **§ 7.2.1** A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager, Architect, and Contractor, stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Written agreement by the Owner, Architect, Construction Manager and Contractor on any Change Order shall constitute a final settlement of and a waiver of and permanent bar to all claims by Architect, Construction Manager or Contractor relating to the change in the Work which is the subject to the Change Order, including all direct and indirect costs and consequential damages associated with such change and any and all adjustments to the Contract Sum and the Contract Time. The Contractor shall include the Work covered by such Change Orders in its Applications for Payment as if such Work were originally part of the Contract Documents. No blanket reservation by the Contractor of any right to bring further claims for the subject of the Change Order, whether or not included in the Change order, shall be given effect.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the ~~Construction Manager~~ Architect and signed by the Owner, Construction Manager and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

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§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one or more of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

.2 Unit prices stated in the Contract Documents or subsequently agreed upon;

.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

.4 As provided in Section 7.3.4.

However, the Contract Time shall be adjusted only if the Contractor demonstrates to the Owner that the changes in the Work required by the Construction Change Directive adversely affect the critical path of the Work.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine with the Owner's approval the method for adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, ~~an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount.~~ a reasonable amount for overhead and profit not to exceed ten percent (10%) on Work self-performed by the Contractor and five percent (5%) for Work performed by Subcontractors. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

.1 ~~Costs~~ Actual costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Owner, Construction Manager and Architect;

.2 ~~Costs~~ Actual costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and

.4 ~~Costs~~ Actual costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the ~~change; and~~ Work.

~~.5 Costs of supervision and field office personnel directly attributable to the change.~~

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time. Contractor's agreement to a Construction Change Directive shall require a follow-up writing or signature as contemplated in Section 7.3.7.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Construction Manager and Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for undisputed Work completed under the Construction Change Directive in Applications for Payment. ~~The Construction Manager and Architect~~ For those undisputed portions, the Construction Manager and Architect, in conjunction with the Owner, will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Construction Manager and Architect ~~determine~~ determine, and that the Owner confirms to be reasonably justified. The interim determination of ~~cost~~ cost, if agreed to

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by the Owner in writing, shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of ~~either party~~ the Contractor to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree in writing with a determination made by the Construction Manager and Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the ~~adjustments,~~ adjustments in writing, such agreement shall be effective immediately and the Construction Manager shall prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.3.11 In no event shall the Contractor be entitled to receive, and the Contractor hereby waives the right to receive any payment or any extension of time for additional or changed Work, whether partially or fully completed or simply proposed, unless such additional Work is authorized by a written Change Order or Construction Change Directive signed by the Owner, nor shall the Contractor be obligated to proceed with any such Work. Only the Owner shall have the right to issue a written Change Order or Constructive Change Directive to the Contractor authorizing an addition, deletion or other revision in the scope of the Work and/or an adjustment in the Contract Sum or the Construction Schedule.

§ 7.4 Minor Changes in the Work

The ~~Architect may~~ Architect, with the Owner's approval, has the authority to order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. ~~The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Construction Manager and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Construction Manager that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.~~ Such changes shall be effected by written order issued through the Construction Manager and shall be binding on the Owner and Contractor. The Contractor shall carry out such written orders promptly. The Construction Manager or Architect shall not, without written approval of Owner, order changes in the Work under this Section 7.4 that (1) are inconsistent with the intent of the Contract Documents; (2) render the Drawings and Specifications not in material conformity with the Work; or (3) materially affect the quality, utility or general aesthetics of the Work or any component, or result in the use of materials or equipment which are not equivalent to or better than the materials and equipment set forth in the Drawings and Specifications prior to such change.

§ 7.5 Contractor Change Requests In addition to the Contractor's remedies under Article 8 in the case of delays (which shall be governed solely by Article 8 and to which this Section 7.5 shall not apply), if the Contractor believes any act, error or omission of the Owner or persons for whom Owner is responsible, including but not limited to the Architect and Owner's separate contractors, constitutes a change in the Work entitling it to additional compensation, it shall within twenty-one (21) days after the date the Contractor discovers, or should with the exercise of appropriate diligence have discovered, the pertinent act, error or omission of the Owner (provided that the necessity of extra cost and/or time is already determinable, even if such extra cost and/or time has not yet been incurred), submit a Contractor Change Order Request stating the amount of the additional compensation to which it is entitled and justifying the request. The Contractor shall submit such additional information as may reasonably be required by the Owner to evaluate the Contractor Change Order Request. The Owner shall evaluate the request within ten (10) days and advise the Contractor within such ten (10) day period whether to grant, grant in part, or deny the Contractor Change Order Request. Any additional compensation granted shall be recorded in the form of a Change Order. If the Contractor disagrees with the Owner's decision, the Contractor shall pursue the remedies it has under Article 15. Failure of the Contractor to timely submit a Contractor Change Order Request strictly (not substantially) in accordance with the requirements of this Section 7.5 shall constitute a waiver of and shall forever bar any recovery arising out of the pertinent act, error or omission of the Owner, even if the Owner was not prejudiced thereby."

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 ~~Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.~~ See Section 1.1 for Basic Definitions.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

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§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time ~~is~~ and the Construction Schedule contain a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the ~~Work~~ operations on the Project site or elsewhere prior to the effective date of insurance required by Article 11, or delivery of the performance and payment bonds required by law, to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall see to the diligent, expeditious performance of the Work, with adequate resources so that all the Work will be completed within the Contract Time. The Contractor shall require overtime, multiple shifts and any other action necessary to complete of the Work within the Contract Time, all without additional cost to the Owner except as otherwise specifically provided in Section 8.4 in a Change Order or Construction Change Directive. The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. All Work shall be completed in sufficient time to allow for clean-up and preparation for Owner move-in prior to the date of Substantial Completion.

§ 8.2.4 Should the Contractor fail, refuse or neglect to supply sufficient workers or to cause the delivery of equipment and materials promptly to prevent delay, or fail in any material respect to commence and prosecute the Work diligently in accordance with the Contract Documents, or if the Work falls behind schedule, the Owner may require the Contractor to take Extraordinary Measures and to have the members of the Construction Team do likewise, all at no additional cost to or compensation from the Owner unless otherwise agreed to in writing by the Owner. Such Extraordinary Measures shall continue until the progress of the Work complies with the stage of completion required by the Contract Documents. The Owner's right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the Construction Schedule.

.1 The Contractor shall not be entitled to an adjustment in its compensation in connection with Extraordinary Measures required by the Owner under or pursuant to this Article 8 except as specifically provided in Section 8.4.2 or in a Change Order or Construction Change Directive.

.2 The Owner may exercise the rights furnished it under or pursuant to this Article 8 as frequently as necessary to ensure that the Contractor's performance of the Work will comply with any Milestone Date or completion date set forth in the Contract Documents.

.3 Subject to reasonable prior notice and opportunity to cure, and except to the extent caused by Owner delay, the Owner shall also have the right to offset against any amounts then or thereafter due to the Contractor, or to be reimbursed by the Contractor for, any costs incurred as a result of an increase in the Owner's own labor force or for overtime, Saturday, Sunday, and/or holiday work as a result of implementing Extraordinary Measures for which the Contractor is responsible to pay.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 ~~If~~ Except as provided in this Section 8.3, the Contractor shall be fully responsible for the timely completion of the Work in accordance with the Construction Schedule. The Contractor shall cause all members of the Construction Team to meet all Milestone Dates in the Construction Schedule. The Contractor agrees to use its best efforts to avoid the occurrence of any cause for delay, to avoid any extension of performance dates, and to mitigate the effect of any delay that does occur. The Contract Time will be extended only under the exact circumstances described in this Section 8.3 and then if and only if the Contractor complies strictly (not substantially) with the requirements of this Section 8.3. Provided the Contractor submits a written request for an extension not more than fourteen (14) days after the occurrence that gives rise to the delay, if the Contractor is delayed at any time in the commencement or progress of the Work by ~~(1)~~ an act or neglect of the Owner, ~~Architect, Construction Manager,~~ Owner's own forces, Construction Manager, Architect, any of the other Contractors or an employee of any of them, or ~~of the Owner's own forces,~~

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~~Separate Contractors, or other Contractors; (2) by changes ordered in the Work; (3)~~ by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable ~~casualties, adverse weather conditions documented in accordance with Section 15.1.6.2,~~ casualties or other causes beyond the Contractor's control; ~~(4)~~ or by delay authorized by the Owner pending mediation and ~~binding dispute resolution; or (5) by other causes that the Contractor asserts and~~ arbitration, litigation, mediation, or arbitration, as applicable, or by other causes that the Architect, based on the recommendation of the Construction Manager, determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may ~~determine.~~determine may be extended by Change Order. Failure of the Contractor to submit a timely request for an extension shall irrevocably waive the Contractor's right to such an extension of time. If the Contract Time is subject to extension pursuant to this subsection, such extension shall be the exclusive remedy of the Contractor and the Contractor shall not be entitled to recover damages from the Owner.

§ 8.3.2 ~~Claims relating to time shall be made in accordance with applicable provisions of Article 15.~~Notices in connection with delays shall be made by the Contractor to the Owner and Construction Manager in accordance with this Section 8.3.2. The Contractor shall use its best efforts to provide verbal notice to the Owner and Construction Manager within twenty-four (24) hours after the commencement of a delay. It must in any event do so as soon as possible and not later than three (3) days after commencement of the delay. Any verbal notice given shall be confirmed in writing within four (4) days. If the Contractor fails to deliver verbal notice within three (3) days after the commencement of a delay, it shall not be entitled to any relief pertaining to the period of time before it gave verbal notice. If the Contractor fails to confirm any verbal notice within four (4) days after the verbal notice was given, it shall not be entitled to any relief for the period of time beginning after the passage of such four (4) days and ending when the confirmation is actually received by the Owner. And, if the Contractor fails to provide verbal notice within ten (10) days after the commencement of a delay or to confirm any verbal notice in writing within ten (10) days after the verbal notice was given, the Contractor shall be barred from seeking any relief whatsoever relating to the delay. Immediately following the commencement of any such cause for delay, representatives of the Contractor, Construction Manager, Architect and Owner shall confer for the purpose of determining the probable length of the delay and a course of action which would end or eliminate the occurrence or event which is causing delay. The Contractor shall also within twenty-one (21) days after the cessation of such delay notify the Owner of the date of such cessation and the total amount of delay, if any, in performance dates which the Contractor is entitled to claim by reason of any such occurrence. If the Contractor intends to request an extension of time for any delay, it shall accompany the notice of cessation of delay with a Change Order Request stating the specific extension or adjustment requested and justifying the reason for the request. The Contractor shall thereafter submit such additional information as may be required by the Owner to evaluate the Change Order Request. The Owner, in consultation with the Construction Manager, shall decide whether to grant, grant in part or deny the Change Order Request. Any extension of time or adjustment granted shall be memorialized in the form of a Change Order. Acceptance and execution of any such Change Order by the parties shall constitute an accord and satisfaction that forever bars any and all claims arising out of or in connection with the delay giving rise to the Change Order. If the Contractor disagrees with the Owner's decision, it may pursue the remedies available to it under Article 15. However, failure of the Contractor to timely assert any alleged delay or claim for extension strictly (not substantially) in accordance with the provisions of this Section 8.3.2 shall constitute a waiver of and shall forever bar that claim, even if the Owner was not prejudiced thereby.

§ 8.3.3 ~~This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.~~Except in the case of changes to the Work covered by Article 7, the Contractor shall not be entitled to an extension of time unless set forth in a Change Order. The Contractor acknowledges that in preparing the Construction Schedule and in agreeing to the times or dates of completion required by the Contract Documents it will make a reasonable allowance for commercially anticipated delays. Adjustments in the Contract Time will be permitted only to the extent such delay (1) is not caused or contributed to, and could not have been anticipated, by the Contractor using the degree of diligence required by the Contract Documents, (2) could not be limited or avoided by the Contractor's timely notice to the Owner of the delay, and (3) is of a duration of not less than one (1) day.

§ 8.3.4 The Owner's exercise of any of its rights under the Contract Documents or the Owner's good faith exercise of any of its remedies, including requirement of correction or re-execution of any defective Work, regardless of the extent, number or frequency of the Owner's good faith exercise of such rights or remedies, shall not under any circumstances be construed as unreasonable interference with the Contractor's performance of the Work or an event of default.

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§ 8.3.5 The Contractor shall use its best efforts to mitigate the effects of any delay.

§ 8.3.6 This Section 8.3 does not preclude the recovery of other damages by the Owner for delay under other provisions of the Contract. However, the Contractor acknowledges that the Schedule for the Work may change during the duration of the Project and that fact was taken into account by the Contractor when it agreed to the Contract Sum and entered into this Contract under the terms and conditions set forth herein. As a result, the Contractor shall not be entitled to any additional monies as a result of such schedule changes.

§ 8.3.7 The Contract Sum includes all costs associated with known and current COVID-19 impacts, including impacts on materials, the supply chain, labor, productivity and schedule. To the extent the Contractor's performance of the Work under the Contract is impacted as a result of unknown events arising out of the COVID-19 pandemic after the date of Contract execution, any claims relating to delay and cost impacts associated with COVID-19 shall be made in accordance with the terms and conditions of the Contract Documents.

§ 8.4 No Damage for Delay

§ 8.4.1 If the Contractor fails to complete its Work on time resulting in loss or damage to the Owner, whether or not liquidated damages are called for in the Contract Documents, the Owner shall be entitled to recover any damages caused by the Contractor's breach, including overhead, profit, extended general conditions, actual attorney fees, etc.

§ 8.4.2 In the event of Owner delay, the Contractor shall be entitled to an equitable adjustment in the Contract Sum. This adjustment shall be based solely upon and limited to additional direct actual out-of-pocket expenses to the extent they are incurred directly as a result of the Owner delay. Without limiting the generality of the foregoing, such out-of-pocket expenses shall be calculated on an "actual cost" basis, and shall exclude home office expense and other overhead, profit and the value of lost opportunities. However, the Contractor shall use its best efforts to avoid or reduce delay damages to any member of the Construction Team caused by Owner delay. The Owner and Contractor shall mutually agree to the amount of this equitable adjustment in writing.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably ~~adjusted.~~adjusted, unless the Contractor provided such unit prices as a part of a competitive bid, in which case the unit price may not increase.

§ 9.2 Schedule of Values

~~Where the Contract is based on a stipulated sum or Guaranteed Maximum Price,~~ Before the first Application for Payment, the Contractor shall submit a schedule of values ~~to the Construction Manager, before the first Application for Payment,~~ allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Construction Manager and the Architect. The initial schedule of values shall be consistent with the Contract Sum prepared by Contractor and shall include actual Subcontractor bids. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Construction Manager shall forward to the Architect the Contractor's schedule of values. ~~Any changes to the schedule of values shall be submitted to the Construction Manager and supported by such data to substantiate its accuracy as the Construction Manager and the Architect may require, and unless objected to by the Construction Manager or the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.~~

§ 9.3 Applications for Payment

§ 9.3.1 At least fifteen (15) days before the date established for each progress payment, the Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner, Construction Manager or Architect require, such as copies of ~~requisitions, and releases of waivers of lien~~ requisitions from Subcontractors and

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suppliers, and shall reflect retainage if provided for in the Contract Documents. The Construction Manager and Contractor must provide copies of the insurance certificates, bonds, and the same for all of the Contractors and Subcontractors prior to commencing Work and prior to submitting the first Application for Payment.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Construction Manager and Architect, but not yet included in Change Orders. A request for payment of sums related to Work regarding Construction Change Directives shall, unless qualified in writing at the time of request, constitute full and complete consent to the Construction Change Directive(s) and to the issuance of a Change Order.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 The Contractor shall submit with each monthly Application for Payment (1) an Affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the previous application was submitted and the Owner might in any way be responsible have been paid or otherwise satisfied, (2) a release or waiver of liens arising out of the Contract from each Contractor and/or Subcontractor, materialmen, supplier and laborer or the Contractor addressing all previous Applications for Payment submitted for the Project, and (3) if applicable, an updated Schedule of Values incorporating changes in the Work.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the Project site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the Project site at a location agreed upon in writing. Payment for materials and equipment stored on or off the Project site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the Project site, for such materials and equipment stored off the site. Payment to Contractor for materials stored off site is discouraged. When circumstances indicate that the Owner's best interest is served by off-site storage, the Contractor shall make written request to the Owner and Construction Manager for approval to include such material costs in his next progress payment. The Contractor's request shall include the following information:

.1 A list of the fabricated materials consigned to the Project site (which shall be clearly identified, giving the place of storage, together with copies of invoices and reasons why materials cannot be delivered to the site.

.2 Certification that items have been tagged for delivery to the Project and that they will not be used for another purpose.

.3 A letter from the Contractor's Surety indicating agreement to the arrangements and that payment to the Contractor shall not relieve either party of their responsibility to complete the Work.

.4 Evidence of adequate insurance covering the material in storage, which shall name the Owner as additionally insured.

.5 Costs incurred by the Owner, Construction Manager and Architect to inspect material in off-site storage shall be paid by the Contractor.

.6 Subsequent pay requests shall itemize the materials and their cost which were approved on previous pay requests and remain in off-site storage.

.7 When a partial payment is allowed on account of material delivered on the site of the Work or in the vicinity thereof or under possession and control of the Contractor, but not yet incorporated therein, such material shall become the property of the Owner, but if such material is stolen, destroyed or damaged by casualty before being used, the Contractor will be required to replace it at its own expense.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or

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encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities ~~that~~ making a Claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.3.3.1 Except with respect to liens resulting from Owner's failure to make properly due payments to Contractor, the Contractor hereby expressly agrees to indemnify, defend and hold harmless the Indemnitees, at the Contractor's sole cost and expense, from and against any and all costs (including without limitation reasonable attorney fees), liabilities, actions, lawsuits, claims or proceedings brought against Indemnitees as a result of any lien or claim of lien filed against the Work, the site of any of the Work, the Project site or any improvements thereon, payments due the Contractor or any portion of the property of any of the Indemnitees. Notwithstanding the above, Contractor acknowledges that in accordance with Applicable Laws, public property cannot be liened.

§ 9.3.3.2 In the event of any lien or claim of lien, Owner may withhold from payments otherwise due Contractor, such amounts as Owner deems suitable to protect it from the adverse effect of such lien or claim of lien. The Owner shall release any payments or portions thereof withheld due to a lien or claim of lien if the Contractor obtains security acceptable to the Owner or a lien bond which is (1) issued by a surety acceptable to the Owner, (2) in form and substance satisfactory to the Owner, and (3) in an amount not less than Two Hundred Percent (200%) of such lien or lien claim. By posting such bond or other acceptable security, however, the Contractor shall not be relieved of any responsibilities or obligations under this Section 9.3, including, without limitation, the duty to defend, hold harmless and indemnify the Indemnitees. Except with respect to liens resulting from Owner's failure to make properly due payments to Contractor, the cost of any premiums incurred in connection with such bonds and security shall be the responsibility of the Contractor and shall not cause any adjustment to the Contract Sum.

§ 9.3.3.3 Contractor's submission of an Application for Payment shall constitute a waiver by Contractor of any claims and damages in any way related to the Work performed through the date of the Application for Payment, including for delay, disruption, inefficiency, hindrance, acceleration, or cumulative impact, except for claims and damages identified in writing and submitted with the Application for Payment.

§ 9.3.4 Each Application for Payment shall be accompanied by the following, all in form and substance reasonably satisfactory to the Owner:

.1 A duly executed and acknowledged sworn statement with all required information provided, together with properly notarized sworn statements, from the Contractor and all of the Subcontractors; and

.2 Except as otherwise provided, duly executed unconditional releases in the form required by the Owner establishing payment or satisfaction of all obligations as reflected on the sworn statements referred to in Section 9.3.4.1, provided, however, that the Contractor may furnish with each Application for Payment applicable waivers of lien or releases and properly notarized sworn statements covering the immediately preceding Application for Payment, as opposed to the current Application for Payment, (i.e., 30 day lag), provided final payment shall not be forthcoming until final construction lien waivers or releases from all members of the Construction Team have been delivered.

.3 In addition to the final construction lien waiver, the Owner will require the Contractor and Subcontractors to provide a signed and notarized affidavit that releases and discharges the Owner and Owner's agents from all liability to the Contractor and Subcontractor, which has arisen or which shall arise in connection with any work performed or materials delivered to the Project.

.4 A written narrative summarizing the progress of the Project, including behind schedule Work that may adversely affect the critical path of the Work as established in the Construction Schedule or subsequent Subcontractor schedules that fall within the Construction Schedule. If such behind schedule Work would or could potentially affect the timely completion of the Work, the Contractor must also include a recovery plan describing in sufficient detail of overtime, multiple shifts and any other measures necessary to complete the Work within the Construction Time.

.5 An updated schedule of values, which unless objected to by the Architect shall be used as a basis for reviewing the Contractor's Application for Payment.

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§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven days after the Construction Manager's receipt of the Contractor's Application for Payment, review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either ~~(1)~~ issue to the Owner a Certificate for Payment, ~~in the full amount of the Application for Payment,~~ with a copy to the Construction ~~Manager; or (2) issue to the Owner a Certificate for Payment~~ Manager for such amount as the Architect determines is properly due, ~~and~~ or notify the Construction Manager and Owner in writing of the Architect's reasons for withholding certification in ~~part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole~~ whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there is more than one Contractor performing portions of the Project, the Construction Manager will, within seven (7) days after the Construction Manager receives all of the Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Contractor's application with information from similar applications for progress payments from the other Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.2.1 Within seven (7) days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either ~~(1)~~ issue to the Owner a Project Certificate for Payment, with a copy to the Construction ~~Manager; or (2) issue to the Owner a Project Certificate for Payment for~~ Manager for such amount as the Architect determines is properly due, ~~and~~ or notify the Construction Manager and Owner in writing of the Architect's reasons for withholding certification in ~~part as provided in Section 9.5.1; or (3) withhold certification of the entire Project Application for Payment, and notify the Construction Manager and Owner of the Architect's reason for withholding certification in whole~~ whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.3 The Construction Manager's certification of an Application for Payment or, in the case of more than one Contractor, a Project Application and Certificate for Payment, shall be based upon the Construction Manager's evaluation of the Work and the data in the Application or Applications for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager's knowledge, information, and belief, the Work has progressed to the point ~~indicated,~~ indicated and the quality of the Work is in accordance with the Contract ~~Documents, and that the Contractor is, or Contractors are, entitled to payment in~~ Documents. The certification will also constitute a recommendation to the Architect and Owner that the Contractor be paid the amount certified.

§ 9.4.4 The Architect's issuance of a Certificate for Payment or, in the case of more than one Contractor, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and data in the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, that the quality of the Work is in accordance with the Contract Documents, and that the Contractor is, or Contractors are, entitled to payment in the amount certified.

§ 9.4.5 The representations made pursuant to Sections 9.4.3 and 9.4.4 are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Construction Manager or ~~Architect.~~ Architect in writing, together with the Certification to which the qualification pertains.

§ 9.4.6 The issuance of a Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect ~~has~~ has, unless otherwise required by Contract or law, (1) made exhaustive or

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continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed the Contractor's construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.3 and 9.4.4 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.2. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, or subsequent observations, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

.1 defective Work not ~~remedied;~~remedied or the Contractor is in default of the Agreement;

.2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;

.3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;

.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;

.5 damage to the Owner or a Separate Contractor or other Contractor;

.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;~~or~~

.7 ~~repeated~~ failure to carry out the Work in accordance with ~~the Contract Documents.~~the Contract Documents;

.8 failure to provide documentation, including operations and maintenance manuals, Record Documents, certified weekly payroll reports, as required, and/or other information that may be required by other sections of the Contract Documents, in a timely manner;

.9 any failure by Contractor or a Subcontractor to fully perform any obligation under the Contract;

.10 the Work not having progressed to the extent set forth in the Application for Payment; and

.11 representations of the Contractor are untrue.

§ 9.5.2 ~~When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.~~Reserved.

§ 9.5.3 When the reasons above for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Construction Manager, and both will reflect such payment on the next Certificate for Payment.

§ 9.5.5 If the Contractor disputes any determination by the Owner, Construction Manager or Architect regarding any Certificate for Payment, the Contractor shall nevertheless continue to expeditiously perform the Work and such dispute shall provide no basis for any manner of delay or suspension of the Contractor's performance of the Work.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Construction Manager and Architect.

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§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Construction Manager will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven (7) days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner, Construction Manager nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The ~~Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.~~Owner may, in its sole discretion, after providing Contractor with ten (10) days prior written notice, make direct payments to the Contractor's Subcontractors, material men, laborers or claimants relating to labor or material provided to the Contractor for which the Contractor has not provided a waiver of lien, in the event the Subcontractors, material men, laborers or claimants threaten to or actually cease providing labor and/or materials for the Project such that, in the Owner's determination, progress of the Project and the Project's schedule are jeopardized. All payments made pursuant to this section shall be considered the same as if paid directly to the Contractor and shall constitute partial payment of the Contract Sum. Payment under this provision shall not jeopardize any other remedy available to the Owner.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 ~~Provided the Owner has fulfilled its payment obligations under the Contract Documents, the~~ The Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. ~~Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.~~

§ 9.6.9 Subject to Applicable Laws, if a petition in bankruptcy or any other arrangement or proceeding regarding insolvency, assignment for the benefit of creditors, trust, chattel mortgage, or similar state or federal proceeding, whether voluntary or involuntary, shall be filed with respect to the Contractor, the Owner may withhold the final balance, or any other payments, whether or not an application for progress payment has been properly filed, until expiration of the period of any guarantees or warranties required for the Contractor, and the Owner may pay out such funds the amount necessary to satisfy any claims or costs that otherwise would have been covered by such guarantees or warranties.

§ 9.6.10 Unless otherwise provided in the Agreement or Contract Document, the Owner may retain out of each progress payment a "Retainage" equal to ten percent (10%) of that payment, excluding any portion paid for the Contractor's General Conditions costs. Retainage on all individual Subcontractors which include both labor and material shall be ten percent (10%). Retainage will be paid upon Final Completion and acceptance of the Work in

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accordance with Section 9.10. Upon mutual agreement of the Owner, the Architect and the Contractor, payment in full may be made to Subcontractors whose Work is fully completed during early stages of the Project. The Contractor acknowledges and agrees that payments by the Owner shall only be made in respect of Applications for Payments, or portions thereof, approved by the Owner. If the Contractor disputes any good faith determination by the Owner with regard to any Certificate of Payment, or amount paid by the Owner in respect thereof, the Contractor shall nevertheless expeditiously continue to prosecute the Work while such dispute is being resolved in accordance with the provisions of Article 15.

§ 9.7 Failure of Payment

If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the ~~Contractor, within fourteen~~ Contractor and without justifiable basis under the Contract Document, within fourteen (14) days after the Construction Manager's receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven (7) days after the date established in the Contract Documents, the amount certified by the Construction Manager and Architect or awarded by ~~binding~~ dispute resolution, then the Contractor may, upon ~~seven additional days'~~ twenty-one (21) additional days' written notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents and when all required occupancy permits, if any, have been issued, so the Owner can occupy or utilize the Work for its intended use. The Work shall not be considered suitable for Substantial Completion review until all systems included in the Work are properly and operationally constructed in accordance with the Contract Documents, all required governmental inspections and certifications have been made and posted, training of Owner's personnel in the operation of systems has been completed, and all final finishes within the Contract Documents are in place. The only remaining Work shall be minor in nature, so that the Owner could occupy the building on the date of Substantial Completion and completion of the Work by the Contractor would not materially interfere or hamper the Owner's (or those claiming by, through or under Owner) normal operations. At Substantial Completion, the Contractor attests that all remaining Work is solely of a Punchlist nature and will be completed within forty-five (45) consecutive calendar days.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect ~~a comprehensive list~~ Punchlist of items to be completed or corrected prior to final payment. Failure to include an item on such ~~list~~ Punchlist does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the ~~list,~~ Punchlist, the Architect, assisted by the Construction Manager, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the ~~list,~~ Punchlist, which is not sufficiently complete in accordance with the requirements of the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item ~~upon notification by the Architect.~~ immediately. In such case, the Contractor shall then submit a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work of all of the Contractors, or designated portion thereof, is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute, a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the ~~list~~ Punchlist accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of ~~Substantial Completion of the Work~~ final acceptance of the Work by Owner following final completion and final payment in accordance with Section 9.10 or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

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§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.6 Notwithstanding Sections 9.8.1 and 9.8.2, as a condition precedent to establishing the date of Substantial Completion, the Contractor shall prepare and submit to the Architect and Construction Manager a comprehensive Punchlist of items to be completed or correct (a "Punchlist"). The Contractor shall respond immediately to correct Work deficiencies and/or Punchlist items. Should the Contractor fail to make corrections in a timely fashion, but not later than thirty (30) calendar days from the date of Substantial Completion or notification of the required corrections, whichever is earlier, such Work may be corrected by the Owner at the Contractor's sole expense, and the Contract Sum may be adjusted accordingly.

§ 9.8.7 The Contractor shall promptly notify the Construction Manager, in writing, when the Work deficiencies and/or Punchlist items are completed. Upon the review of the Work by the Construction Manager after such notification by the Contractor, if Work deficiencies and/or Punchlist items shall continue to exist, the Owner may correct such deficiencies and pay such costs out of retainage held by the Owner on the Contractor's Contract.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor ~~and Construction Manager shall jointly prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect after consultation with the Construction Manager.~~shall proceed with the Work in such a manner as reasonably directed and shall cooperate with the Owner to limit interruptions.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.9.4 Any agreement as to the acceptance of non-conforming Work not complying with the requirements of the Contract Documents, shall be in writing in the form of a Change Order, acceptable to the Owner's authorized representative and signed by all parties.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a written notice that the Work is ready for final inspection and acceptance, and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager shall perform an inspection to confirm the completion of Work of the Contractor. The Construction Manager shall make recommendations to the Architect when the Work of all of the Contractors is ready for final inspection, and shall then forward the Contractors' notices and Application for Payment or Project Application for Payment, to the Architect, who will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will promptly issue a final Certificate for Payment or Project Certificate for Payment stating that to the best of their knowledge, information and belief, and on the basis of their on-site visits and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Construction Manager's and Architect's final Certificate for Payment or Project Certificate for

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Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in ~~effect,~~ effect and will not be canceled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, ~~and (6),~~ and (6) an affidavit that states the Work is fully completed and performed in accordance with the Contract Documents and is satisfactory to the Architect and the Owner, (7) in the event of Contractor bankruptcy, at the Owner's option, an order entered by the court having jurisdiction of the Contractor's insolvency proceeding authorizing such payment, (8) a general release executed by the Contractor on a form provided by the Construction Manager; and (9), if required by the Owner, other data establishing payment or satisfaction of obligations, such as close-out documentation, the other documentation required by the Contract Documents, receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and ~~reasonable~~ actual attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect through the Construction Manager prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- **.1** liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- **.2** failure of the Work to comply with the requirements of the Contract Documents;
- **.3** terms of special warranties required by the Contract Documents; ~~or~~
- **.4** audits performed by the Owner, if permitted by the Contract Documents, ~~after final payment.~~ after final payment
- **.5** Owner's Claims arising after final payment, including, but not limited to, any defect or condition which is latent or not reasonably discoverable at the time of final payment;
- **.6** Owner's claims for indemnification; or
- **.7** Claims about which the Owner has previously given notice to the Contractor.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of all claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for ~~Payment.~~ Payment and specifically referenced as being an exception to the waiver contained in this Section.

§ 9.10.6 The amount of the final payment shall be the Contract Sum less the amount paid to date. If the aggregate of previous payments made by the Owner exceeds the amount due the Contractor, the Contractor shall immediately reimburse the difference to the Owner.

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§ 9.10.7 Project Closeout. The requirements for Project Closeout begin at the start of a Project. This section outlines the integration of the closeout process into the Construction Phase. Project Closeout requirements generally comprise of the following:

Certificate of Substantial Completion [by the Architect]
Certificate of occupancy, including proof of all final/ [closed] inspection permits
Operation & Maintenance Manuals
As-Built (Record) Drawings
Training of Owner's Personnel
Attic Stock Materials
Documents – Warranty, Asbestos free, Smoke & Flame Spread, etc.
Punchlist Completion (signed by the Architect and the Owner)
Copies of Shop Drawings, Product Data and Samples

§ 9.10.7.1 Operations and Maintenance Manuals and Training

.1 Upon reaching seventy-five percent (75%) completion according to the Subcontractor's Application for Payment, the Contractor shall cause its Subcontractors to submit to the Owner, through its Construction Manager, through the Contractor Operations and Maintenance Manuals and record copies of submittals.

.2 The Contractor shall cause its Subcontractors to schedule and conduct training for Owner personnel as specified. Training sessions shall include an agenda, video tape of the session, a sign-in sheet to document attendance, and documentation for the trainees. Each Subcontractor shall submit the video tape (labeled), attendance sign in sheet, and training documentation to the Contractor in the same quantities required for the Operations and Maintenance Manuals.

.3 Owner shall withhold an amount stipulated by the parties until receiving the Operations and Maintenance Manuals and training of Owner's operating personnel.

§ 9.10.7.2 As-Built (Record) Drawings

.1 The Contractor shall cause all of its Subcontractors to review As-Built Drawings with the Contractor on a weekly basis.

.2 Owner shall withhold an amount stipulated by the parties until receiving the final As-Built Drawings.

.3 Where the governmental and/or municipal agency/agencies having jurisdiction over the Project requires a certified (signed and sealed by a Registered Professional Engineer) set of civil and utilities As-Built Drawings of the Project, the Contractor shall deliver to the agency/agencies the necessary As-Build Drawings that is acceptable to the agency/agencies and provide one copy to the Owner.

§ 9.10.7.3 Attic Stock Materials

.1 Upon reaching ninety percent (90%) completion according to the Subcontractor's application for payment, the Contractor shall cause its Subcontractors to turn over to the Owner, through its Construction Manager, through the Contractor all stock parts and attic stock materials.

.2 Owner shall withhold an amount stipulated by the parties until receiving the required attic stock materials.

§ 9.10.7.4 Documents – Warranty, Asbestos Free, Smoke & Fire Spread, etc.

.1 Upon reaching ninety percent (90%) completion, according to the Subcontractor's Application for Payment, the Contractor shall cause its Subcontractors to submit to the Owner, through its Construction Manager, through the Contractor all required documents.

.2 Owner shall withhold an amount stipulated by the parties until receiving the required documents.

§ 9.10.7.5 Punchlist

.1 One (1) week before Substantial Completion, Contractors shall submit to the Owner, through its Construction Manager, a complete Punchlist and a list of incomplete items. The list shall include room number, description of work, and date for completion.

.2 The Construction Manager shall review the Contractor's list and add items, if necessary. In the event that Construction Manager's list comprises 25% or more of the items then the Contractor's list, then at the Construction Manager's sole discretion, a review fee of up to five hundred dollars ($500) may be deducted from the Contractor's Contract Sum and paid to the Construction Manager. For example, if a Contractor's list has 20 items, and after reviewing the Construction Manager finds an additional 6 items [(which exceeded 25% more items]), the Construction Manager shall be entitled to receive a review fee.

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.3 Punchlists prepared by the Architect or Owner will be distributed to the Contractors. Contractors will be given the opportunity to complete the items within fourteen (14) days of receipt of lists. Upon completion, the Contractor shall conduct a walk-through with the Construction Manager, Architect, and Owner to confirm satisfactory completion.

.4 Payment in an amount no less than four (4) times the estimated value of Punchlist items, as determined by the Construction Manager, and Architect will be withheld until the Punchlist is complete.

.5 In the event the Punchlist is reported complete; but found not to be complete, at the Construction Manager's sole discretion, an amount of up to one thousand dollars ($1,000) may be deducted from the Contract Sum owing to the Contractor and paid to the Construction Manager. If after fourteen (14) days, the Punchlist is still not complete or incomplete items are discovered during a walkthrough, the Owner and/or Construction Manager may immediately complete the items. The Owner and/or Construction Manager shall deduct the costs to complete the Punchlist from the amount owing the Contractor, including reasonable fee for supervision, plus up to two thousand five hundred dollars ($2,500) administrative costs to be paid to the Owner.

.6 The final acceptance of all Punchlist and incomplete work items is subject to the approval of the Architect and Owner.

.7 Owner shall withhold an amount no less than stipulated by the parties until the Contractor satisfactorily completes all the required Punchlist items.

§ 9.11 Audits By The Owner

§ 9.11.1 The Contractor agrees that the Owner or any of its duly authorized representatives shall, until the expiration of the record retention period (as described in Section 9.11.2), have access to and the right to examine where pertinent to verifying the Cost of the Work or other items reimbursed to Contractor under the Agreement on the basis of costs, books, documents, records, contracts, correspondence, instructions, receipts, vouchers, purchase orders, memoranda, papers, and all other records of the Contractor related to the Agreement for any reason.

§ 9.11.2 The Contractor shall maintain in accordance with generally accepted accounting principles separate records and accounts of its services and transactions on behalf of the Owner in connection with the Work and shall make such records and accounts available to the Owner for inspection and audit during normal business hours and upon reasonable prior notice. Records shall be kept in such form and detail as the Owner may reasonably request. Such records shall include time sheets, invoices from the Contractor and its Subcontractors memoranda and analyses in support of management decisions, and such other primary records as necessary to support and justify all business conducted in connection with the Work, but shall not include internal memoranda or reports, communications or discussions with incidental references to the Work or documents which discuss multiple projects. Such records will be kept by the Contractor for a period not less than seven (7) years.

§ 9.11.3 The Contractor shall include in all its Subcontracts under the Agreement a provision to the effect that the Subcontractors agree that the Owner or any of its duly authorized representatives shall, until expiration of three (3) years after final payment under the Subcontracts and supply agreements, have access to and the right to examine where directly pertinent to verifying the cost of change orders or other items reimbursed to such Subcontractor on the basis of cost, books, documents, papers, and records of such consultants, involving transactions related to the Work.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall ~~be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.~~continuously maintain adequate protection of all Work from damage and shall protect the Owner's property from injury or loss. The Contractor shall repair any such damage, injury or loss at no cost to the Owner, except to the extent directly caused by agents or employees of the Owner. The Contractor shall adequately protect the Work and Owner's property as required by Applicable Laws, the Contract Documents, or as otherwise required, to cause no damage to the Work and Owner's property during the execution of the Work. This requirement shall also apply to structures above and below ground as conditions of the Project site require. The Contractor shall at all times observe and comply with all Applicable Laws which may in any manner affect the equipment and materials used in the proposed construction, those employed on the Work, and the conduct of the Work. The Contractor shall indemnify,

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defend and hold harmless the Owner and its Board of Education (in its individual and official capacities), employees and administrators, against any claim or liability arising from the violation of any Applicable Laws, whether the violations are by the Contractor or any Subcontractor, Sub-subcontractor or any other person employed or engaged by the Contractor or Subcontractor.

§ 10.1.1 The Contractor is solely responsible to the Owner for health and safety at the Project site and, accordingly, shall be solely responsible for initiating, monitoring, maintaining and supervising all safety precautions and programs in connection with the performance of the Work. The foregoing does not relieve the Subcontractors of their responsibility to the Contractor for the safe performance of their Work in accordance with all Applicable Laws.

§ 10.1.2 The Contractor shall develop and implement a health and safety plan that complies with all Applicable Laws covering all activities on the Project site except those activities performed solely by the Owner. The Contractor shall provide to the Owner, through the Construction Manager, a copy of such health and safety plan prior to commencement of Work. The Owner shall have no duty to review the plan and shall assume no duty by doing so.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

.1 employees on the Work and other persons who may be affected thereby;

.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor;

.3 other property at the Project site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and

.4 construction or operations by the Owner, Construction Manager, Separate Contractors, or other Contractors.

§ 10.2.2 The Contractor shall comply with, and give notices required by ~~applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities,~~ Applicable Laws bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the ~~Contract, reasonable~~ Work, adequate safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards. The Contractor shall also be responsible for all measures necessary to protect any property adjacent to the Project site and improvements thereon. Any damage to such property or improvements shall be promptly repaired by the Contractor.

§ 10.2.3.1 The various parts of the structure and adjoining structures that cannot be maintained in their final positions with stability until other connecting or abutting parts or members are constructed and permanently secured shall be substantially braced and held in place. The Contractor shall protect the Project against all damage from the elements, overloading of the structure, and undermining or displacement due to conditions of the Project site or due to any other methods of construction.

§ 10.2.3.2 The Work shall be executed in a manner which will cause as little inconvenience as possible to the Owner in the Owner's use of the property and existing facilities and structures. Where applicable the Contractor shall provide and maintain adequate, dust tight, protective coverings, enclosures and barricades about the Work and shall keep the same in repair throughout the entire Work. Enclosures of appropriate fire rated construction shall be installed by the Contractor where necessary to divide the Work area from the Owner's occupied areas.

§ 10.2.3.3 During the prosecution of the Work, the Owner will use and occupy the buildings and site adjacent to and surrounding the Project site. At all times during the construction period, safe and convenient access shall be maintained to and from these buildings and any other portions of the Project site occupied by the Owner and/or Subcontractors.

§ 10.2.4 ~~When~~ No use or storage of explosives or other Hazardous Materials or equipment or unusual methods shall be allowed at the Project site without the Owner's express written consent. If use or storage of explosives or other

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~~hazardous materials~~ Hazardous Materials or equipment or unusual methods are ~~necessary~~ permitted by the Owner for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified ~~personnel.~~personnel and shall store and use in compliance with all Applicable Laws. When in the course of the Work use or storage of explosives or other Hazardous Materials or equipment or unusual construction methods are necessary, the Contractor shall give the Owner reasonable advance notice.

~~**§ 10.2.5** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.~~

§ 10.2.4.1 No explosives will be permitted on the Owner's premises unless written permission is given by the Owner not less than seventy-two (72) hours in advance of the time of delivery of such explosives. All risks, regardless of the Owner's approval, associated with the storage, handling and use of explosives are solely borne by the Contractor, as are any costs associated with damages, injuries or losses arising out of the use of such explosives.

§ 10.2.4.2 The use of disposal or flammable liquids or other combustible materials shall be handled in accordance with Applicable Laws.**§ 10.2.5** The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner, Construction Manager and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

~~If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.~~The Contractor shall take all necessary precautions for the safety of employees and visitors on the Project site and shall comply with Applicable Laws and provisions of federal, state, and municipal safety laws and building codes to prevent accidents or injury to persons on, about or adjacent to the Project site where the Work is being performed. The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards for the protection of workers and the public. The Contractor shall post danger signs warning against the hazards created by such features of construction such as protruding nails, hoists, holes, elevator hatchways, scaffolding, window openings, stairways, falling material and other such features.

§ 10.2.9 When all or a portion of the Work is suspended for any reason, the Contractor shall be responsible for securely fastening down all coverings and protecting the Work from injury by any cause.

§ 10.2.10 The Contractor shall promptly report in writing to the Owner and Construction Manager all accidents arising out of or in connection with the Work which cause death, personal injury, or property damage, giving full details and statements of any witnesses. In addition, if death, serious personal injuries, or serious property damages occur, the

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accident shall be reported immediately by telephone or messenger to the Owner and Construction Manager. The obligations in this Section are in addition to the Contractor's reporting obligations under Applicable Laws.

§ 10.3 Hazardous Materials

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding ~~hazardous materials~~ Hazardous Materials or substances. If the Contractor encounters a ~~hazardous material~~ Hazardous Material or substance not addressed in the Contract ~~Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the~~ Documents, the Contractor shall, upon recognizing the condition, immediately stop ~~Work~~ work in the affected area and notify the Owner, Construction Manager and Architect of the condition. The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding Hazardous Materials and shall not, nor shall it permit any member of the Construction Team to bring on, keep, store, use, release or dispose of any Hazardous or potentially Hazardous Material on, in or about the Project site, without the prior written consent of the Owner, which consent may be unreasonably withheld.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify ~~the~~ a presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor, Construction Manager and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of ~~the~~ such material or substance or who are to perform the task of removal or safe containment of ~~the~~ such material or substance. The Contractor, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. When the material or substance has been rendered harmless, ~~Work~~ work in the affected area shall ~~resume~~ resumed upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended ~~appropriately~~ appropriately, and the Contract Sum shall be increased ~~by~~ in the amount of the Contractor's reasonable additional costs of ~~shutdown, delay, and start-up.~~shut-down, delay and start-up. The Contractor shall cause the presence, use, storage and/or disposal of Permitted Materials by any member of the Construction Team to be in strict (not substantial) compliance in every respect with all Applicable Laws and shall promptly notify the Owner if any amount of Permitted Materials, Hazardous Materials or Potentially Hazardous Materials are released on the Project site at any time in a quantity that would have to be reported or remediated under any Applicable Laws.

§ 10.3.2.1 The Contractor shall at its expense, without recovery from the Owner, under the Contract Sum, any contingency or otherwise, fully and promptly remediate each and every release of Permitted Materials and any other Hazardous Materials in full compliance with all Applicable Laws to the most stringent standards, e.g., residential, available under all Applicable Laws, and in cooperation with the Owner, except to the extent the Hazardous Materials (i) existed uncontainerized, in or under the Project Site before Work began at the Project Site and neither the Contractor nor any other member of the Construction Team released or exacerbated such pre-existing contamination after recognizing the presence and general location of such contamination, or (ii) were caused directly by the Owner, the Architect, a contractor of the Owner who is not a member of the Construction Team, or any third party. Notwithstanding the foregoing limitations, the Contractor shall be responsible if and to the extent, after recognizing the presence and general location of Hazardous Materials that were pre-existing at the Site, or after it should have recognized such presence and general location, it exacerbates the condition or area impacted by the Hazardous Materials.

§ 10.3.3 ~~To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.~~The Contractor shall at its expense, without recovery from the Owner, the Contract or otherwise, be solely responsible to the Indemnitees for and shall indemnify, defend and hold harmless

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the Indemnitees and the Project site from and against all claims, suits, administrative proceedings, personal injury, investigations, damages, costs, fines, judgments and liabilities, including, but not limited to, attorneys' fees and costs, arising out of or in connection with the generation, release, transportation, storage, use, disposal or presence of Permitted Materials or Hazardous Materials at the Project site by or due to any member of the Construction Team or for any noncompliance with the Agreement. The indemnity in the previous sentence and in Section 10.3.4 does not include claims, fines, etc., to the extent they arise from (i) contamination that existed before Work began at the Project Site or (ii) contamination that was caused directly by the Owner, the Architect, a contractor of the Owner who is not a member of the Construction Team, or any third-party. In both (i) and (ii), the exclusion of Contractor obligations does not apply to circumstances in which the Contractor has exacerbated the presence of Hazardous Materials or triggered a response or removal requirement. In addition, the obligations of this section include, but are not limited to, Contractor's remediation and removal of any release of Hazardous Materials that it brought to the Project Site. Contractor's obligations herein are not limited by the extent of its insurance coverage.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for ~~hazardous~~ materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for ~~hazardous~~ materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances. Contractor's defense, indemnity, and hold harmless obligations shall include, but not be limited to, any and all governmentally mandated investigation, remediation, removal and/or clean-up of any such Permitted Materials or Hazardous Materials, and all related fees and costs.

§ 10.3.5 The Contractor shall ~~reimburse~~ indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of ~~hazardous materials or substances~~ a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence. If the Contractor shall receive any notice, whether oral or written, of any inquiry, test, investigation, enforcement proceeding, environmental audit or the like by or against the Contractor, any member of the Construction Team, or the Work with regard to any Hazardous Materials at or emanating from the Project site, the Contractor shall immediately notify the Owner, Construction Manager and Architect.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a ~~hazardous material~~ Hazardous Material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred. If any member of the Construction Team encounters on the Project site material, which it believes is a Hazardous Material in any form (other than Permitted Materials being used in an appropriate manner or asbestos, asbestos containing materials or polychlorinated biphenyl (PCBs) which have been rendered harmless), the Contractor shall (i) immediately stop work in the area affected, (ii) report the condition to the Owner, Construction Manager and Architect as expeditiously as possible, and (iii) clear all persons from the area of exposure. The Work in the affected area shall not be resumed until the Hazardous Material has been removed or rendered harmless as evidenced by written agreement of the Owner and the Contractor. The term "rendered harmless" shall be interpreted to mean that the levels are less than any applicable exposure standards set forth in OSHA/MIOSHA regulations and all Applicable Laws or the Hazardous Material is containerized for purposes of removal from the Project Site, in compliance with Applicable Laws. In no event, however, shall the Owner have any responsibility for any substance or material that is brought to the Project Site by any member of the Construction Team. No member of the Construction Team shall bring any off-site materials or soil on the Project Site to use as fill that are not compliance with and accompanied by a Uncontaminated Soil Certification by a licensed professional engineer or geologist or, in the case of aggregate stone, a receipt from the originating quarry.

§ 10.3.7 The Contractor shall work with asbestos or PCB or other Hazardous Material, except as provided for under the Work and in compliance with all Applicable Laws, including, but not limited to, employee protection, licensing, and training. In such a circumstance, the Contractor shall comply with all Applicable Laws, shall be fully responsible for any non-compliance with all Applicable Laws, and decreasing obligations otherwise stated in Section 10.3, shall indemnify, defend and hold harmless the Owner for any and all claims arising from the Contractor's or Construction Team's failure to so comply with an Applicable Law.

§ 10.3.8 The Contractor shall take care to minimize the use of any Hazardous Materials to the extent consistent with the orderly conduct of the Work. To the maximum extent practical, the Contractor shall cause Permitted Materials which contain Hazardous Materials (and any explosive materials which are not Hazardous Materials) to be stored off the

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Project Site and off Owner's premises. Except for Permitted Materials, all Hazardous Materials used, stored or generated at the Project Site by the Construction Team shall be used, stored, transported and disposed of in strict (not substantial) conformity with Applicable Laws and the Contractor shall maintain -- and provide promptly to Owner upon demand -- appropriate and complete documentation evidencing the Contractor's compliance with all such laws, codes, rules, regulations, guidelines and orders. The term "Permitted Materials" as used in the Contract Documents shall mean materials that are general supplies and equipment that have a hazardous or potentially hazardous nature and are or will be used for their intended purpose and which do not pose any significant threat of contamination to the Project Site or neighboring properties). The Contractor shall not permit inclusion of asbestos, polychlorinated biphenyls or urea formaldehyde in any construction materials (www.epa.gov/iaq/schooldesign/construction.html) The Contractor shall be responsible for the removal and cleanup of all Hazardous Materials and wastes brought to the Project Site or generated at the Project site by any member of the Construction Team.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

§ 10.5 Security

§ 10.5.1 All members of the Construction Team shall cooperate with the Owner's security personnel and shall comply with all of the Owner's security requirements. Such requirements shall include, without limitation, if requested by the Owner, delivering to the Owner's security personnel, prior to the commencement of the Work on each day, a list of all personnel who will be permitted access to the Work. The foregoing, however, shall not relieve the Contractor of any obligation to provide a safe and secure workplace for all parties entering the Project site.

.1 The Construction Manager and Contractors shall be responsible for providing Project site security to the extent necessary to safeguard the building, tools, materials, and completed Work. The Construction Manager and Contractor's written plan for Project Site security shall be submitted to the Owner for approval within twenty (20) days of the execution of the Agreement.

.2 The entrances to the Project site will remain open during normal working hours for the use of all members of the Construction Team. Prior to and after normal working hours, all entrances and exits will be closed and secured by the Contractor. The Contractor shall provide to the Owner copies of keys (2 each) for all doors and gates secured.

§ 10.5.2 The Owner reserves the right to bar access to any individual for reasonable security reasons. Furthermore, the Owner reserves the right to limit the location of entries to the Work which may be used by members of the Construction Team.

§ 10.6 Dust; Smoke; Fume

§ 10.6.1 The Contractor shall cause each member of the Construction Team to conduct operations in such a manner, which will control blowing dust. The amount of dust resulting from the operations of each of the Construction Team shall be controlled to prevent the spread of dust to adjacent public and private properties, to avoid creation of a nuisance in the surrounding area, and to avoid violation of any Applicable Law. Temporary methods consisting of sprinkling or similar methods will be permitted to control dust. Use of water will not be permitted when it will result in, or create, hazardous or objectionable conditions such as ice, flooding and pollution. Dust control shall be performed as the Work proceeds and whenever a dust or nuisance or hazard occurs.

§ 10.6.2 Smoke pipes, exhausts and fumes from boilers, engines, or other devices, shall in all cases be extended above roofs of buildings, or a substitute arrangement made subject to approval of the Architect and the Owner.

§ 10.6.3 The Contractor shall enforce the Architect's or the Owner's instructions regarding signs, advertisements, fires and smoking. No smoking will be permitted.

§ 10.7 Fire Precautions

§ 10.7.1 All members of the Construction Team shall take all necessary precautions to guard against and eliminate all possible fire hazards and to prevent fire damage to any construction Work, building materials, equipment, temporary field offices, storage sheds, and all other property, both public and private. The members of the Construction Team shall comply with all conditions and requirements set forth herein, and shall immediately correct any hazardous conditions resulting from their operations when brought to their attention.

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.1 Materials and/or equipment stored in cardboard cartons, wood crates, or other combustible containers, shall be stored in an orderly manner and shall be readily accessible.

.2 Before starting Work, the Contractor shall consult with the Owner, Construction Manager and Architect regarding established rules and regulations relative to fire protection requirements and procedures governing any welding and cutting operations. The Contractor shall strictly (not substantially) conform and shall cause all members of the Construction Team to strictly (not substantially) conform with such rules and regulations in carrying out the Work. No such operations shall be carried out without proper safeguards for fire safety.

.3 No open fires will be permitted. No tar or other melting kettles will be allowed within fifty (50) feet of any building.

.4 All tarpaulins used during the course of the Work shall be of flameproof type and shall be secured in place against damage or flapping from wind.

.5 All oil soaked rags, papers and other similar combustible material shall be removed from any building at the close of each day's Work, or more often if necessary, and placed in metal containers with self-closing lids.

.6 Gasoline, benzene or like combustible material shall not be poured into sewers, manholes, or traps, but shall be containerized on-site and disposed of off-site, together will all flammable or waste material subject to spontaneous combustion, in compliance with Applicable Laws and in a manner to avoid hazard or damage to persons or property.

.7 All heating devices in connection with temporary heating facilities shall be of the least hazardous type, shall have all proper safety provisions and shall be installed at such locations and in such manner as will minimize the hazard. Oil fired stoves, gas fired heaters and heating units shall be of types approved by Underwriters Laboratories and shall have proper safety combustion controls. Oil fired heaters shall have integral fuel tanks not to exceed fifteen (15) gallons capacity for each unit. No more than one (1) day's supply of fuel shall be permitted to each heater which are inside of any building or facility.

.8 Temporary heating facilities shall be inspected regularly to assure that they are in a safe and proper operating condition at all times. The Contractor shall provide continuously during operation properly trained personnel for said inspections.

.9 Temporary structures of combustible construction shall not be placed inside of any structure. Such temporary structures shall be detached at a sufficiently safe distance from any building. Totally non-combustible temporary structures may, if necessary and feasible, be located inside of the structure.

.10 Heaters and/or stoves installed in field offices or storage structures shall have fire resistant material underneath and at all sides, partitions and walls. Pipe sleeves shall be used where stove pipes run through walls or roof.

§ 10.7.2 The Contractor shall provide necessary personnel and firefighting equipment to effectively control fires resulting from welding, flame cutting, or other operations involving the use of flame, sparks, or sparking devices. During such operations, all highly combustible or flammable materials shall be removed from the immediate working area. If removal is impossible the same shall be protected with fire blankets or suitable non-combustible shields.

§ 10.7.3 Not more than one day's supply of flammable liquids or gases, such as oil, gasoline, solvent, propane, or roofing materials, shall be brought into any building at any one time. All flammable liquids having a flash point of 110 degrees F, or below, which must be brought into any building, shall be confined to Underwriters Laboratories labeled safety cans. The bulk supply of any flammable liquid shall be stored at a sufficiently safe distance from any building and from yard storage of building materials. Spigots on drums containing flammable liquids are prohibited on the Project site. Drums are to be equipped with approved vented pumps. The Contractor shall have a Spill Prevention, Control, and Countermeasure Plan ("SPCC"), all members of the Construction Team shall be trained with respect to the SPCC, and the SPCC shall provide for response materials to be available in all locations where Hazardous Materials that are brought to the Project Site by any member of the Construction Team are located, used, or stored.

§ 10.7.4 Only a reasonable working supply of flammable building materials shall be located inside of or on the roof of any building.

§ 10.8 Fire Protection

§ 10.8.1 The Contractor shall maintain free access to the building areas for firefighting equipment and shall at no time block off main roadways or fire aisles without providing adequate auxiliary roadways and means of entrance for firefighting equipment, including heavy fire department trucks, where applicable.

§ 10.8.2 The Contractor shall at all times cooperate with the Owner and keep the municipal fire department informed of

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the means of entrance and changes to roadways or fire aisles as needed to provide fire department access to or around to Project site.

§ 10.8.3 The Contractor shall, during the entire construction period and until the completion of the Work, provide and maintain all material, equipment and services necessary for adequate fire protection, which shall meet the approval of the Owner and/or the Architect. The system shall, at a minimum, meet the requirements set forth in the Contract Documents and of Applicable Laws. These requirements shall be augmented and/or the installations relocated, as may be necessary to meet, at all times, the demands of adequate protection in all areas and shall not be reduced prior to the completion of the Work without the written approval of the Owner and/or the Architect.

§ 10.8.4 The Contractor shall maintain during construction an appropriate number of fire extinguishers to meet Factory Mutual (FM) requirements. Fire extinguishers shall be in good working order, conveniently located, clearly visible and readily accessible for proper protection of the Work.

§ 10.8.5 Fire extinguishers shall be an approved type, equivalent to 2-1/2 gallon water pressurized, suitable for the hazards to be encountered. In areas of flammable liquid, asphalt, or electrical hazards, fire extinguishers shall be equivalent to the carbon dioxide type or dry chemical type. During freezing weather, extinguishers shall be enclosed in heated cabinets or be of an antifreeze type.

§ 10.8.6 All other parties with temporary structures on the Project site shall provide and maintain fire extinguishers in each of such structures.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and ~~maintain~~ maintain, at its sole cost and expense, insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and ~~maintain~~ maintain, at its sole cost and expense, the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is ~~located. The Owner, Construction Manager and Construction Manager's consultants, and the Architect and Architect's consultants, shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.~~located and which has/have an A.M. Best's Rating of "A" or better, such insurance as required by the Contractor under the Contract. Unless otherwise required by the Contract, said insurance shall protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by any member of the Construction Team or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;

.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;

.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;

.4 Claims for damages insured by usual personal injury liability coverage;

.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;

.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;

.7 Claims for bodily injury or property damage arising out of completed operations;

.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18;

.9 Liability insurance shall include all major divisions of coverage and e on a comprehensive basis including:

- Premises' Operations (deleting X, C, or U exclusions);
- Owner's and Contractor's Protective;
- Products and Completion Operations;
- Contractual – including specific for the Contractor's obligations under Section 3.18;
- Any auto; and

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- Broad Form Property Damage, including Completed Operations; and

.10 All Bonds required by law, including bid bond, performance bond and payment bond.

.11 The following insurance shall be maintained by each Contractor for the duration of this Agreement.

.1 Comprehensive General Liability with policy limits of not less than Two Million Dollars ($2,000,000) for each occurrence and Four Million Dollars ($4,000,000) in the aggregate for bodily injury and property damage.

.2 Automobile Liability covering owned and rented vehicles operated by the Contractor with policy limits of not less than One Million Dollars ($1,000,000) combined single limit and Two Million Dollars ($2,000,000) aggregate for bodily injury and property damage.

.3 Umbrella or excess liability insurance to achieve the required coverage for Comprehensive General Liability and Automobile Liability, provided that such umbrella or excess insurance results in the same type of coverage as required for the individual policies. The Contractor shall provide umbrella coverage with a policy limit of not less than Four Million Dollars ($4,000,000).

.4 Workers' Compensation at statutory limits and Employers Liability with a policy limit of not less than Five Hundred Thousand Dollars ($500,000).

.5 A Pollution liability insurance policy providing Million Dollars ($2,000,000) per job site pollution event and Two Million Dollars ($2,000,000.00) policy aggregate. Coverage may be provided on a "Claims made" or "occurrence" basis. However, if "Claims made" Contractor must agree to keep coverage in force for five (5) years after Project completion or until the statute of limitation runs, whichever is longer. This requirement applies to the Contractors which have fueled equipment onsite for operations such as sitework, excavation, foundations, flatwork, masonry, steel erection, roofing, mechanical and electrical.

Contractors shall provide the insurance indicted above or an amount equal to 20% of the Contract Sum, whichever is greater, for General Liability and Excess Umbrella Liability

§ 11.1.2 ~~The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.~~ Reserved.

§ 11.1.3 ~~Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.~~ The Owner, the Owner's Consultants; the Architect, and Architect's consultants, the Construction Manager and the Construction Manager's Consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations. Such coverages shall be primary and non-contributory. Such Certificates of Insurance shall be endorsed to specifically name the additional insureds.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. ~~Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice directly to the Owner, and separately to the Construction Manager, of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required~~ Certificates of insurance acceptable to the Owner shall be submitted by Contractor to the Construction Manager for transmittal to the Owner with a copy to the Architect prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. Owner shall be named as an additional insured. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled, reduced or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as

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required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.5. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness, but not less than thirty (30) days prior to any reduction in coverage.

§ 11.1.5 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract or other Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.6 The Contractor's liability and indemnification obligations to the Owner under the Agreement shall not be relieved or diminished by securing insurance coverage in accordance with the Owner's requirements or by the Owner's acceptance of certificates of insurance or policies. Any acceptance of insurance coverage by the Owner shall not be construed as accepting in any way deficiencies in the insurance.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall ~~purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.~~be responsible for purchasing and maintaining the Owner's usual liability insurance and builder's risk or equivalent policy form. .

~~**§ 11.2.2 Failure to Purchase Required Property Insurance.** If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform both the Contractor and the Construction Manager, separately and in writing, prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.~~

~~**§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance.** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice directly to the Contractor, and separately to the Construction Manager, of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.~~

§ 11.3 Waivers of Subrogation

§ 11.3.1 ~~The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Construction Manager and Construction Manager's consultants; (3) the Architect and Architect's consultants; (4) other Contractors and any of their subcontractors, sub-subcontractors, agents, and employees; and (5) Separate Contractors, if any, and any of their~~

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~~subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Construction Manager, Construction Manager's consultants, Architect, Architect's consultants, other Contractors, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this Section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.~~Reserved.

§ 11.3.2 ~~If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.~~Reserved.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor, Architect, and Construction Manager for loss of use of the Owner's property, due to fire or other hazards however caused. If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the ~~insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2.~~ Contractor, Subcontractors and suppliers, as their interests may appear. The Owner shall pay the Construction Manager, Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Construction Manager, Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 ~~Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.~~Reserved.

§ 11.6 Performance Bond and Payment Bonds

§ 11.6.1 The Owner shall have the right to require the Contractor to furnish separate Performance and Labor and Material Payment Bonds covering faithful performance of the Agreement and payment of obligations arising thereunder each in the penal sum of 100% of the Contract Sum and in accordance with Applicable Laws as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

§ 11.6.1.1 Bonds shall be executed by a responsible surety licensed in the state where the Work is located with a Best's rating of not less than A, XII or better and shall remain in effect for a period not less than two (2) years following the

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later of (1) the date of Substantial Completion or (2) the time required to resolve any items of incomplete Work and the payment of any disputed amount or expiration of the Warranty under the Contract.

§ 11.6.1.2 Bonds under this Section 11.6 must display the surety's bond number. A rider including substantially the following provisions shall be attached to each bond:

.1 Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contract Documents, the Subcontracts and the Sub-Subcontracts, any addition, alteration, change, extension of time, or other modification of the Contract Documents, the Subcontractors and the Sub-Subcontracts. Any addition, alteration, change, extension of time, or other modification of the Contract Documents, the Subcontracts or the Sub-Subcontracts, or a forbearance on the part of either the Owner, the Contractor or one or more Subcontractors to one or more of the other, shall not release the surety of its obligations and notice to the surety of such matters is hereby waived.

.2 Surety agrees that it is obligated under the bonds to any successor, grantee or assignee of the Owner or the Contractor.

§ 11.6.1.3 Each Subcontractor's surety shall also agree, in the form of a rider to each bond or via a separate agreement, that before it may seek exoneration, release or any kind of relief from its obligations under the bond as a result of any default by the Owner or the Contractor in the performance of any obligations to the Subcontractor under the Subcontract, the surety shall cause written notice of such default (specifying said default in detail) to be given to the Owner and the Contractor, and both of them shall have thirty (30) days from time after receipt of such notice within which to cure such default or cause it to be cured, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured immediately. Such Notice of Default shall be sent by certified or registered U.S. Mail, return receipt requested, first class postage prepaid, to the Owner and the Contractor.

§ 11.6.1.4 Each Subcontractor's Performance Bond and the Labor and Material Payment Bond shall each be "dual obligee" type bonds naming both the Owner and the Contractor as obligees.

§ 11.6.1.5 Each Subcontractor shall cause the attorney-in-fact who executes the required bonds on behalf of its surety to affix thereto a certified and current copy of his or her power of attorney indicating the monetary limit of such power.

§ 11.6.1.6 Upon the request of any person or entity appearing to be potential beneficiary of bonds covering payment of obligations arising under the Contract or any Subcontract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

§ 11.6.1.7 The Contractor shall keep the surety informed of the progress of the Work, and, without limiting the requirements of Section 11.6.1.2 (1) above, where necessary, obtain the surety's consent to, or waiver of: (1) notice of changes in the work; (2) request for reduction or release of retainage; (3) request for final payment; and (4) any other material required by the surety. The Owner shall be notified by the Contractor, in writing, of all communications with the surety requesting or pertaining to consents or waivers. The Owner may, in the Owner's sole discretion, inform sureties of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits pursuant to any bond issued in connection with the Work.

§ 11.6.1.8 The Contractor may, in its discretion, determine other members of the Construction Team who will be required to supply bonds. All such bonds shall be (1) purchased solely at the expense of the Contractor (or the persons supplying them), without reimbursement under the Contract Sum or otherwise, and (2) dual obligee bonds, naming the Owner as one of the Obligees.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their examination and be replaced at the Contractor's sole cost and expense without change in the Contract Time.

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§ 12.1.2 If a portion of the Work has been covered that the Construction Manager or Architect has not specifically requested to examine prior to its being covered, the Construction Manager or Architect may request with the Owner's written consent to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, ~~the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate.~~ costs of uncovering and replacement shall, by appropriate Change Order, be at Owner's expense. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion, and whether or not fabricated, installed or ~~completed.~~ completed, to be corrected without extension of the Contract Time or increase in the Contract Sum and without use of any contingency. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary ~~thereby, shall be at the Contractor's expense.~~thereby the Contractor shall pay them promptly upon demand.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within ~~one year~~ two (2) years after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall without interfering with Owner's facilities, personnel or operations correct it promptly after receipt of written notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the ~~condition. During the one year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty.~~ condition If the Contractor fails to correct nonconforming Work within a reasonable time during that ~~period after receipt of notice from the Owner, Construction Manager or Architect, the~~ period, the Owner may correct it in accordance with Section 2.5. This obligation shall survive the termination of the Contract.

§ 12.2.2.2 The ~~one year~~ two-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The ~~one year~~ two-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the Project site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner, Separate Contractors, or other Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the ~~one year~~ two-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.2.6 Each Contractor shall guarantee work for two (2) years, except where a longer guarantee period is stipulated in the Contract Documents, from the date of Substantial Completion of the Project. No provisions of the Contract Documents nor the Final Certificate for Payment shall relieve the Contractor of responsibility for satisfactory material or workmanship within the period described above. It shall be the Contractors responsibility to remedy any faulty

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material or workmanship and any damage to other work by removing and replacing same without any extra charge whatsoever.

§ 12.2.7 Unless the Owner authorizes otherwise, Substantial Completion shall not commence the Correction Period for any equipment or systems that:

.1 Are not fully operational (equipment or systems shall not be considered fully operational if they are intended to provide service to any portion of the building which the Owner has not accepted as substantially complete); or

.2 Are not accepted by the Owner.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract ~~Documents,~~ Documents or otherwise defective, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced ~~as appropriate and equitable.~~ by the equitable amount which reflects the loss of value to the Owner caused by such Defective Work. Such adjustment shall be effected whether or not final payment has been ~~made.~~made, but if it occurs after final payment is made, the Contractor shall pay the Owner whatever sum is owed upon demand. If, within one (2) years after the date of (i) Substantial Completion and acceptance of the Work or any designated portion thereof or (ii) the completion of Work not finished at Substantial Completion, or within the terms of an applicable special warranty required by the Contract Documents (the "Correction Period"), any of the Work is found by the Owner to be defective, the Contractor shall, without interfering with the Owner's facilities, personnel or operations, promptly cause it to be corrected, unless the Owner has previously specifically accepted such defect in writing. The Contractor shall bear all costs of correcting rejected Work, without increase in the Cost, including any additional testing and inspections made necessary thereby. These obligations shall apply regardless of whether such Work has been fabricated, installed, or completed and shall survive acceptance of the Work and termination of the Agreement.

§ 12.4 Owner's Right to Correct or Remove Defective Work

§ 12.4.1 If the Contractor fails to cause defective Work to be corrected within a reasonable time after receipt of notice from the Owner, the Owner may correct it and the Contractor shall pay the Owner all costs of correction (including the value of the Owner's staff time) upon demand. Alternatively, in the event of such failure, the Owner may (without being deemed a bailee) remove it and store the salvable materials or equipment at the Contractor's expense. If the Contractor does not pay costs of such removal and storage within ten (10) days after written notice, the Owner may upon ten (10) additional days' written notice sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting from the sale proceeds all costs, expenses and damages that should have been borne by the Contractor (including the value of the Owner's staff time and reasonable attorneys' fees). If the proceeds of sale do not cover costs which the Contractor should have borne, the Contract Sum shall be reduced by the deficiency, plus interest. If payments then or thereafter due the Contractor are not sufficient to cover the amount owed, the Contractor shall pay the difference to the Owner immediately upon demand.

§ 12.4.2 The Owner's right to store and sell such defective Work shall not give rise to a duty to do so. Instead, the Owner may upon ten (10) day's prior written notice simply dispose of such defective Work as it sees fit. All costs of disposal shall be borne by the Contractor, without recovery from the Owner, under the Contract Sum, any contingency or otherwise.

§ 12.4.3 Tests. If tests or inspections reveal that portions of the Work are Defective, any additional tests or inspections required to assure the Architect and the Owner that the defective Work has been remedied or is in an acceptable condition shall be conducted at the expense of the Contractor, without increase in the Contract Sum, and without use of any contingency. The Contractor shall pay all additional costs of the Architect and the Owner, which are associated with such additional tests or inspections.

§ 12.4.4 Periods of Limitation. Nothing contained in this Article 12 shall be construed to establish a period of limitation with respect to other obligations, which the Contractor might have under the Contract Documents or Applicable Laws. Establishment of the Correction Period relates only to the specific obligation of the Contractor to correct the Work under this Article 12 and has no relationship to the time within which the obligation to comply with the Contract may be sought to be enforced by the Owner, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to its obligations under the Contract.

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§ 12.4.5 The Owner's Right to Stop the Work. If the Contractor fails to correct Work, which is not in accordance with the requirements of the Contract Documents as required by Section 12.2.2 or fails to carry out the Work in accordance with the Contract Documents, the Owner may, by written order, direct the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§12.5 Damage

§ 12.5.1 If prior to the date of Final Completion any member of the Construction Team uses or damages any portion of the Work or other property, including, without limitation, mechanical, electrical, plumbing and other building systems, machinery, equipment or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner, without recovery from the Owner, under the Contract Sum , any contingency or otherwise.

§ 12.5.2 The Contractor shall bear the cost of correcting destroyed or damaged construction or other property, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

§ 12.5.3 Nothing in this Section 12.5 either limits the parties' rights to obtain recovery from any applicable property insurance or entitles the insurer to pursue a subrogation claim.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located excluding that jurisdiction's choice of law rules. ~~If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.~~

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section ~~13.2.2,~~ 13.2.3 neither party to the Contract shall assign the Contract as a whole or in part without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 ~~The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.~~Reserved.

§ 13.2.3 The Contractor shall not assign the whole or any part of the Agreement, or any monies due or to become due, without the express written consent of the Owner. If the Contractor, with the Owner's consent, assigns all or any part of the Agreement or any monies due or to become due, the instrument of assignment shall contain a clause satisfactory to the Owner and stating that it is agreed that the right of the assignee in and to any monies due or to become due to the Contractor shall be subject to the prior claims of all persons, firms and corporations for services rendered or materials supplied for the performance of the Work called for in the Agreement.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Construction Manager, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by ~~applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities.~~ Applicable Laws. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and

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approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Construction Manager, Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Construction Manager and Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract ~~Documents,~~ Documents or Applicable Law, all costs made necessary by such failure, including those of repeated procedures and compensation for the Construction Manager's and Architect's services and expenses, shall be at the Contractor's ~~expense.~~expense without increase in the Contract Sum and without use of any contingency.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager for transmittal to the Architect.

§ 13.4.5 If the Construction Manager or Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Construction Manager or Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid ~~unreasonable~~ delay in the Work.

§ 13.5 ~~Interest~~Reserved

§ 13.6 Written Notice

~~Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.~~Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by national overnight courier service providing a tracking system and proof of delivery to, the last business address known to the party giving notice. Wherever the Contract Documents require the Contractor to give "Notice" or "Timely Notice" to the Architect, Public Authority, and/or others, it shall be the Contractor's responsibility to furnish all such notices sufficiently in advance to allow the party receiving the notice reasonable time to react to such notice, including travel time on the job site as necessary, when such notices require the on-site presence of the Architect, Public Authority, their authorized representatives, or others for field observation of inspections, testing or approvals. Reasonable time shall be defined as no less than 24 hours plus normal travel time from the home office of the party being notified to the job site and must also accommodate known, standard, or reasonable processing periods.

§ 13.7 Surety Notice and Prior Approval

Except where otherwise expressly required by the terms of the Agreement, the Contract Documents or the General Conditions, exercise by the Owner of any contractual or legal right or remedy without prior notice to or approval by the Contractor's surety shall in no way bar or prohibit the Owner's ability to pursue such right or remedy. Further, pursuit of such a right or remedy without prior notice to or approval of surety shall in no way compromise, limit or bar any claim by the Owner against a surety bond of the Contractor.

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§ 13.8 Owner Policies

The Contractor agrees to follow the Owner's policies and procedures in regards to working in and around school facilities. The policies are all available on the Owner's Website. The Owner reserves the right to remove individuals from the Project sites who do not strictly comply.

§ 13.9 The Contractor acknowledges that it has certified to the Owner that no owner, employee, agent, representative, contractor and/or other personnel of the Contractor will be on any School District premises if they are a registered criminal sexual offender under the Sex Offenders Registration Act, Public Act 295 of 1994, or have been convicted of "Listed Offense" as defined under Section 722 of the Sex Offenders Registration Act, MCL 28.722 (the "Certification"). The Contractor acknowledges and agrees that if it is found to have submitted a false Certification or otherwise breaches or fails to comply with the requirements of the Certification, the Owner may immediately terminate the Contract and notwithstanding any other provision of this Contract, the Contractor shall be liable to the Owner for any and all costs and expenses incurred by the Owner to secure a replacement contractor to complete the Work in accordance with the Contract Documents, including, but not limited to, any costs or expenses required to be paid by the Owner to the replacement contractor in addition to those required to be paid to the Contractor, all attorney and/or professional service fees, and any and all other actual and consequential damages incurred by the Owner.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of ~~30~~ 120 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or

.2 An act of government, such as a declaration of national emergency, that requires all Work to be ~~stopped;~~stopped.

.3 Because ~~the Construction Manager has not certified or the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4, or because~~ the Owner has not made payment on a Certificate for Payment within the time stated in the Contract ~~Documents;~~ Documents subject to justifiable withholding of payment as described herein or; or

.4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the ~~Work,~~ Work under direct or indirect contract with the Contractor, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon ~~seven~~ 30 days' notice to the Owner, Construction Manager and Architect, terminate ~~the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.~~the Contract. Upon termination by the Contractor, the Owner will pay to the Contractor for Work properly executed as of the date of termination by the Contractor and subject to negotiation by both parties. Such payment will be the sole and exclusive remedy to which the Contractor is entitled in the event of termination of the Agreement by the Contractor pursuant to Section 14.1; and the Contractor will be entitled to no other compensation or damages whatsoever as a result of the termination of the Agreement and expressly waives any right to claim them.

§ 14.1.4 ~~If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees, or any other persons performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.~~Reserved.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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.1 ~~repeatedly~~ refuses or fails to supply enough properly skilled workers or proper materials;

.2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;

.3 ~~repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or~~disregards Applicable Laws;

.4 otherwise is guilty of substantial breach of a provision of the Contract ~~Documents.~~Documents; or

.5 the Contractor fails to prosecute the Work or any part thereof with promptness and diligence or fails to perform any provisions of this Contract, or goes into bankruptcy, liquidation, makes an assignment for the benefit of creditors, enters into a composition with its creditors, or becomes insolvent.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, ~~after consultation with the Construction Manager, and upon certification by the Architect that sufficient cause exists to justify such action,~~ the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven ~~days' notice, terminate employment of the Contractor~~ (7) days' written notice, terminate the Contractor's right to proceed with the Work, or such part of the Work as to which such defaults have occurred, and may, subject to any prior rights ~~of the surety:~~of the surety take any one or more of the following actions:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

In the event the Contractor's surety bond requires notice of intent to declare a default of the Contractor and if such bond notice is provided by the Owner, such notice shall be adequate to satisfy the three (3) day written notice described above in this section.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, and other damages incurred by the Owner in pursuing termination and completion of the Work, including actual attorney and legal fees and costs and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall, upon application, be certified by the Initial Decision Maker after consultation with the Construction Manager, and this obligation for payment shall survive termination of the Contract.

§ 14.2.5 If the Owner erroneously or improperly terminates the Contractor for cause, then the Owner's action shall be deemed to be a termination for convenience, subject to the provisions of Section 14.4.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and the Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent:

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of this Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, ~~terminate~~ terminate, in whole or in part, the Contract for the Owner's convenience and without cause. Termination by the Owner under this Section shall be by a written notice of termination delivered to the Contractor specifying the extent of termination and the effective date.

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§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall immediately, in accordance with instructions from the Owner, proceed with performance of the following duties regardless of delay in determining or adjusting amounts due under this Section:

.1 cease operations as directed by the Owner ~~in the notice;~~in the notice and deliver to the Owner the originals or legible copies of all Drawings, Specifications, reports and other data, records and materials in the Construction Manager's custody and control pertaining to the portion of the Work for which the employment of the Contractor was terminated;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly ~~executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.~~executed as of the date of termination by the Owner and subject to negotiation by both parties.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition. A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, including but not limited to, additional sums, additional time for performance, or damages for delay, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. ~~This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.~~

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of ~~action~~ action, in accordance with Michigan law regardless of the timeframes identified herein, against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than ~~10~~ ten (10) years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.2.1 Regardless of any provisions to the contrary, the statute of limitations with respect to any defective or nonconforming Work which is not discovered by the Owner shall not commence until the discovery of such defective or nonconforming Work by the Owner.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, ~~where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by~~ shall be initiated by written notice to the other party and ~~to the Initial Decision Maker with a copy sent to the Construction Manager and Architect, if the Architect is not serving as the Initial Decision Maker.~~ the Construction Manager and Architect. Claims by either party under this Section 15.1.3.1 shall be initiated within ~~21~~ twenty-one (21) days after occurrence of the event giving rise to such Claim or within ~~21~~ twenty-one (21) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 ~~Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.~~Reserved.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

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§ 15.1.4.2 The ~~Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The~~ Architect will issue Certificates for Payment in accordance with the decision of the ~~Initial Decision Maker.~~Architect.

§ 15.1.5 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Failure to provide such notice shall serve as an absolute bar against a claim for such an increase in the Contract Sum. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages. The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

.1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and

.2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude ~~assessment~~ an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 ~~Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker~~ Claims shall be referred to the Architect for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to ~~mediation~~ litigation or any mutually agreed upon dispute resolution forum of any Claim. If an initial decision has not been rendered within ~~30~~ thirty (30) days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand ~~mediation and binding~~ dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten (10) days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

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§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten (10) days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties, the Construction Manager, and the Architect, ~~if the Architect is not serving as the Initial Decision Maker,~~ of any change in the Contract Sum or Contract Time or both. ~~The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.~~

§ 15.2.6 ~~Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.~~ Reserved.

§ 15.2.6.1 ~~Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days of receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.~~Reserved.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 ~~If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.~~Reserved.

§ 15.3 ~~Mediation~~Alternative Dispute Resolution

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the ~~Contract,~~ Contract except those waived as provided for in ~~Sections 9.10.4, 9.10.5, and 15.1.7,~~ elsewhere herein shall be subject to ~~mediation~~ non-binding Alternative Dispute Resolution as a condition precedent to binding dispute resolution. On those occasions when a dispute arises between the parties to this Agreement, the parties shall be compelled to seek an alternative means of resolving the dispute as a condition precedent to litigation. Therefore, the parties agree to the following terms and conditions of Sections 15.3.1.1 through 15.3.1.7 below.

~~**§ 15.3.2** The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.~~

~~**§ 15.3.3** Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.~~

~~**§ 15.3.4** The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.~~

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§ 15.3.1.1 The party bringing a claim shall give notice to the other party and, in writing, propose a meeting within seven (7) days after the claim arises in which to discuss and attempt to resolve the claim..

§ 15.3.1.2 In the event the meeting between the parties to resolve the claim does not resolve the dispute or does not take place within said seven (7) day period, the parties shall designate, by mutual agreement, an independent mediator who shall convene a meeting of the parties within a period of fourteen (14) days of the later of the initial meeting between the parties or the date notice was given pursuant to the Section above. The mediator shall render his/her decision within seven (7) days of said meeting..

§ 15.3.1.3 The purpose of the mediation is to attempt to resolve the dispute between the parties. The mediator shall not be empowered with the authority to render a binding opinion or award..

§ 15.3.1.4 In the event the independent mediator's attempt to resolve the dispute between the parties fails, then each party will be free to pursue recovery of claims at law.

§ 15.3.1.5 During the pendency of this alternative dispute resolution process, the parties agree that the statute(s) of limitations applicable to all claims that are the subject of this process shall be tolled.

§ 15.3.1.6 Should a party's claim also concern claims against or by Architect and/or Construction Manager, then Owner may include Architect and/or Construction Manager in the alternative dispute resolution process, including mediation.

§ 15.3.1.7 Contractor shall continue providing all Work during any dispute, including during the alternative dispute resolution process.

§ 15.4 ~~Arbitration~~Reserved

[End of AIA A232-2019 General Conditions of the Contract for Construction] ~~§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.~~

~~§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.~~

~~§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.~~

~~§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.~~

~~§ 15.4.4 Consolidation or Joinder~~
~~§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party~~

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~~provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).~~

~~**§ 15.4.4.2** Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.~~

~~**§ 15.4.4.3** The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.~~

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SECTION 008700
PREVAILING WAGE & LABOR RELATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Prevailing Wage Rates and Related Forms.

1.02 RELATED DOCUMENTS

A. Attention is directed to Bidding and Contract Requirements, and to Division 1, General Requirements, which are hereby made a part of this section.

1.03 SUBORDINATE PARTIES

A. Not withstanding anything to the contrary in the Contract Documents, Contractor shall be responsible for hiring such Subordinate Parties that are fully qualified to complete the work or their contracted portion of the work in a timely manner. Time is of the essence in the completion of the contract work including any portion of the work that may be hired out to a subordinate party and delays caused by Contractor's failure to comply with this paragraph will not be compensated for nor will Contractor be entitled to an extension of time to complete its Work.

1.04 FEDERAL PREVAILING WAGES

A. In any Agreement entered into pursuant to this advertisement, the Contractor shall comply with the provisions of the the Davis-Bacon and related Acts (DBRA) generally apply to contractors and subcontractors performing on federal and federally assisted contracts in excess of $2,000 for construction, alteration, or repair (including painting and decorating). Laborers and mechanics performing on the site of the work of DBRA-covered contracts are entitled to receive prevailing wage rates for such work.

B. Additionally, Contractor is required to comply with all other provisions of the Davis-Bacon and Related Acts (DBRA) and shall ensure its Subordinate Parties' compliance therewith.

C. Because Work on this Project is covered by the Davis-Bacon and Related Acts (DBRA) the Contractor and its subcontractors and other Subordinate Parties that are governed by the prevailing wage law shall pay all hours at the prevailing wage rates at the applicable hourly rate. No Work performed by or on behalf of the Contractor on this Project will be paid on a lump sum basis or a piece rate basis in violation of the Act. Contractors and subcontractors on DBRA projects are required to pay laborers and mechanics weekly and to submit weekly certified payroll records to the contracting agency. DBRA contractors and subcontractors are also subject to rules concerning allowable payroll deductions.

D. The Contractor will pay its workers at wage and fringe benefit rates consistent with the Act regardless of where the workers are classified as employees or independent contractors.

E. The Contractor shall not misclassify any work assignments, but shall in each and every case follow the proper jurisdictional assignments in compliance with the Act.

F. Allegations that individuals working on this Project are not receiving compensation required by law are considered seriously by the Owner and CM. Any person or entity (the "Complainant") who reasonably believes that a particular contractor, subcontractor, sub-subcontractor, supplier or other person or entity providing labor, materials, goods or services on this Project (each, an "Employer") is not paying prevailing wages as required by applicable law may complet and submit to the U.S. Department of Labor Wage and Hourly Division at https://www.dol.gov/agencies/whd/contact/complaintsor.

G. The Owner and/or CM reserves the right to hold all payments, pending the conclusion of the audit. If the U.S. Department of Labor Wage and Hour Division determines that the Employer has violated any applicable prevailing wage law, then the Owner and/or Construction Manager shall automatically be entitled to and will (a) withhold from such Employer any and all payments

due and owing until the Employer remedies any and all violations cited by the Wage and Hour Division.

H. The Contractor shall be financially responsible for the payment of prevailing wages by all Subordinate Parties that are subject to the Davis-Bacon and Related Acts (DBRA) for Work on the Project.

I. If there is a dispute between any Contractor and the Unions, the Contractor will be required to meet with Barton Malow Builders and the Union involved to try and resolve the issue.

J. Employee Rights
   1. The Davis-Bacon and Related Acts provide laborers and mechanics on covered contracts the right to receive at least the locally prevailing wages (including fringe benefits), as determined by the Department of Labor, for the type of work performed. The Wage and Hour Division and respective federal contracting agencies accept complaints of alleged Davis-Bacon violations.

K. Notices and Posters
   1. Every employer performing work covered by the labor standards of the DBRA must post the WH-1321 “Employee Rights Under the Davis-Bacon Act” poster found at https://www.dol.gov/whd/programs/dbra/wh1321.htm on the site of the work in a prominent and accessible place where it may be easily seen by workers. The applicable wage determination must be similarly posted.

L. Recordkeeping
   1. Under the Davis-Bacon and related Acts, covered contractors must maintain payroll and basic records for all covered laborers and mechanics during the course of the work and for a period of three years thereafter. Records to be maintained include:
      a. Name, address, and social security number of each worker
      b. Each worker’s work classifications
      c. Hourly rates of pay, including rates of contributions or costs anticipated for fringe benefits or their cash equivalents
      d. Daily and weekly numbers of hours worked
      e. Deductions made
      f. Actual wages paid
      g. Detailed information regarding bona fide fringe benefit plans and programs, including records that show that the plan or program has been communicated in writing to the laborers and mechanics affected
      h. If applicable, detailed information regarding approved apprenticeship or trainee programs

M. Reporting
   1. Each covered contractor and subcontractor must, on a weekly basis, provide the contracting agency a copy of all payrolls providing the information listed above under “Recordkeeping” for the preceding weekly payroll period, except that that full social security numbers and home addresses shall not be included on weekly transmittals, and instead the payrolls only need to include an individually identifying number for each worker (e.g., the last four digits of the worker’s social security number). Each payroll submitted must be accompanied by a “Statement of Compliance” using page 2 of Form WH-347 Payroll (For Contractors Optional Use) found at https://www.dol.gov/agencies/whd/forms/wh347, or any form with identical wording, certifying compliance with applicable requirements. The statement is to be signed by the contractor or subcontractor, or by an authorized officer or employee of the contractor or subcontractor who supervises the payment of wages, and delivered to a representative of the federal or state agency in charge. This must be submitted within seven days after the regular pay date for the pay period

N. Penalties/Sanctions

1. Contractors or subcontractors found to have disregarded their obligations to employees under the Davis-Bacon Act, or found to be “in aggravated or willful violation” of any of the related Acts, may be subject to debarment from future contracts for up to three years. In addition, contract payments may be withheld in sufficient amounts to satisfy liabilities for unpaid wages and for liquidated damages that result from overtime violations of the Contract Work Hours and Safety Standards Act (CWHSSA). Breach of the required contract clauses under the Davis-Bacon and related Acts and CWHSSA may also be grounds for termination of the contract.
2. Contractors and subcontractors may challenge the Wage and Hour Division’s determinations of violations and debarment before an Administrative Law Judge. Contractors and subcontractors may appeal decisions by Administrative Law Judges to the Department's Administrative Review Board (ARB). ARB determinations on violations may be appealed to and are enforceable through the federal courts.
3. Falsification of the required certified payroll records or any kickback of wages may subject a contractor or subcontractor to civil or criminal prosecution, the penalty for which may be fines and/or imprisonment.

O. The Copeland "Anti-Kickback" Act found at https://www.dol.gov/agencies/whd/government-contracts/copeland-anti-kickback prohibits contractors from inducing any person employed in DBRA-covered construction to give up any part of the compensation to which he or she is entitled, and requires contractors to submit a weekly statement of the wages paid to each employee performing DBRA-covered work. Implementing regulations govern allowable payroll deductions.

P. Contractors on projects subject to Davis-Bacon labor standards may also be subject to overtime pay requirements under the Contract Work Hours and Safety Standards Act (CWHSSA) and the Fair Labor Standards Act.

Q. In addition to these federal labor standards, State and local prevailing wage and overtime pay requirements may apply.

R. For more information visit the U.S. Department of Labor Davis-Bacon and RElated Acts at https://www.dol.gov/agencies/whd/government-contracts/construction/guidance.

1.05 STATE OF MICHIGAN PREVAILING WAGES

A. In any Agreement entered into pursuant to this advertisement, the Contractor shall comply with the provisions of the PREVAILING WAGE LAW.

B. Additionally, Contractor is required to comply with all other provisions of the governing prevailing wage law and shall ensure its Subordinate Parties’ compliance therewith.

C. Allegations that individuals working on this Project are not receiving compensation required by law are considered seriously by the Owner and CM. In order to expedite the resolution of prevailing wage complaints related to this Project, the Owner and CM have determined that the Michigan Fair Contracting Center (“MFCC”) is the organization best equipped to expedite the investigation of these matters. Any person or entity (the “Complainant”) who reasonably believes that a particular contractor, subcontractor, sub-subcontractor, supplier or other person or entity providing labor, materials, goods or services on this Project (each, an “Employer”) is not paying prevailing wages as required by applicable law may ask the MFCC to determine whether proper rates are being paid either by completing and submitting to MFCC's website at https://www.mifcc.org or by contacting MFCC by telephone at (248) 836-2770 or email info@mifcc.org or by mail to P.O. Box 1081, Birmingham, MI 48012-1081.

D. Each and every Employer who is subject to an audit by MFCC pursuant to any inquiry shall cooperate and comply fully with all requests, requirements and inquiries of MFCC. If, after investigation, MFCC determines that a Complainant’s allegations are meritorious and the Complainant, MFCC and the Employer are unable to resolve the dispute following MFCC’s determination, then, under the direction and with the assistance of MFCC, the Complainant

shall file a complaint with the State of Michigan Department of Labor and Economic Growth Wage and Hour Division (the "Wage and Hour Division").

E. Upon commencement of the audit from MFCC, the Owner and/or CM reserves the right to hold all payments, pending the conclusion of the audit. If the Wage and Hour Division determines that the Employer has violated any applicable prevailing wage law, then the Owner and/or Construction Manager shall automatically be entitled to and will (a) withhold from such Employer any and all payments due and owing until the Employer remedies any and all violations cited by the Wage and Hour Division, and (b) backcharge the Employer for all costs actually incurred in MFCC's audit of the Employer.

F. The Owner and/or CM shall keep a hard copy of these requirements posted at the Project site at all times.

G. The Contractor shall be financially responsible for the payment of prevailing wages by all Subordinate Parties that are subject to the prevailing wage law for Work on the Project.

H. If there is a dispute between any Contractor and the unions, the Contractor will be required to meet with Barton Malow Company and the Union involved to try and resolve the issue.

I. Because Work on this Project is covered by the Michigan Prevailing Wage Act ("Act") the Contractor and its subcontractors and other Subordinate Parties that are governed by the prevailing wage law shall pay all hours at the prevailing wage rates at the applicable hourly rate; no Work performed by or on behalf of the Contractor on this Project will be paid on a lump sum basis or a piece rate basis in violation of the Act.

J. The Contractor will pay its workers at wage and fringe benefit rates consistent with the Act regardless of where the workers are classified as employees or independent contractors.

K. The Contractor shall not misclassify any work assignments, but shall in each and every case follow the proper jurisdictional assignments in compliance with the Act.

L. The Contractor shall assure that any persons paid at apprentice rates under the Act are properly classified as apprentices by actual participation in a BAT certified program or as may otherwise be permitted by the Act.

1.06 ATTACHMENTS:

A. _____

B. _____

C. _____

D. _____

END OF SECTION 008700

SECTION 011000
USE OF PREMISES

PART 1 GENERAL

2.01 PROJECT

A. Project Name: TSD BP#5 - Administration Building Renovation

B. Owner's Name: Troy School District.

C. Architect's Name: TMP Architecture, Inc. .

D. Additional Project contact information is specified in Section 000103 - Project Directory.

2.02 CONTRACT DESCRIPTION

A. Contract Type: Multiple prime contracts, each based on a Stipulated Price as described in Document 005000 - Contracting Forms and Supplements.

2.03 WORK BY OWNER

2.04 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

2.05 CONTRACTOR USE OF PREMISES AND DELIVERIES

A. All visitors are to check in at Barton Malow Builders's office.

B. All visitors, Contractors and it's Subordinate Parties must complete QR code self assessment survey prior to entering the project or office.

C. Contractor and its Subordinate Parties shall be subject to such rules and regulations for conduct of the Work as the Owner or Barton Malow Builders may establish. All employees shall be properly and completely clothed while working. Bare torsos, legs and feet will not be allowed. Possession or consumption of alcoholic beverages or drugs, or other noxious behavior on the site is strictly prohibited. Violators shall be promptly removed from the site.

D. Before starting the Work, Contractor shall ascertain from Barton Malow Builders what entrances, routes or roadways shall be used for access to the work, and use only those designated for movement of personnel, materials, and vehicles to and from the Project site. Close coordination will be required of Contractor with the Owner, Barton Malow Builders, other trades, the city and others having an interest in the Project to assure that Work on the site, access to and from the site and the general conduct of operations are maintained in a safe and efficient manner and that disruption and inconvenience to existing streets and property are minimized. Contractor is responsible to review the site and be familiar with all existing conditions within and around the Owner's property including local conditions and requirements.

E. Contractors shall maintain free access to all buildings and areas of the site for designated vehicles, service vehicles, and fire fighting equipment and at no time shall block off or close roadways or fire lanes without providing auxiliary roadways and means of entrance acceptable to the Owner. Fire hydrants must remain accessible at all times. Subcontractors shall give the Owner and the local fire department at least seventy-two (72) hours notice of any such changes of routes.

F. No staging of trucks on adjacent roads is allowed, unless it is explicitly approved by Barton Malow Builders.

G. Contractors and their Subordinate Parties will not be allowed to use any Owner tools or equipment during the course of the Project.

H. Each Contractor shall confine its Work to normal working house; 7:00 am to 3:30 pm Monday through Friday, or as otherwise notified by Barton Malow Builders. Contractor may execute the Work during the entire twenty-four (24) hours of any day of the week with the approval of Barton Malow Builders and the Owner, providing that they so conduct their operations as to not create a public nuisance or disturb the peace, and provided such operations are conducted so as to comply with all applicable laws, ordinances, and regulations. Compensation to Barton Malow Builders for supervisory staff due to abnormal working hours will be at the requesting Contractor's expense.

I. Whenever Contractor intends to depart from normal work hours, it shall notify Barton Malow Builders in writing at least twenty-four (24) hours in advance. Failure of Contractor to give such timely notice may result in Barton Malow Builders directing the removal or uncovering of the Work performed during such abnormal hours and Contractor's expense. Special arrangements can be made for emergency work or shutdowns as may be required.

J. Use of explosives is not permitted unless approved in advance by the Owner.

K. Each Contractor on behalf of itself and its Subordinate Parties shall be responsible for all damage to the Project including the existing building and grounds arising or resulting from its operations under the Agreement. Repair or replacement of damaged items shall be to the satisfaction of the Owner and Barton Malow Builders.

L. Each Contractor shall at all times maintain a clean and safe passageway for the Owner's operations and personnel in existing areas and maintain clearances adjacent to and in connection with the Work performed.

M. Each Contractor shall effectively confine dust, dirt and noise to the actual construction area and in compliance with all applicable laws, rules and regulations.

N. All Contractors and tier Subordinate Parties shall restrict all Work activities associated with an area undergoing renovation to within the boundaries indicated by the Contract Documents. Any means of access or egress from the stipulated boundaries shall be coordinated with Barton Malow Builders and the Owner.

O. Work shall, if required, be constructed in phases to accommodate the Owner's use of the premises during construction and to accommodate installation of equipment. Refer to Section 013216 - Schedule and Phasing of the Project Manual.

P. All Contractors shall limit their use of the premises for Work and for storage, to allow for:
   1. Work by other contractors
   2. Owner Occupancy
   3. Public use and safety
   4. Free use of corridors at all times

Q. The Owner and Barton Malow Builders expect Contractors and their Subordinate Parties to exercise common sense and good judgment, and to conduct themselves in a manner which would be a credit to the Owner. Without limiting other applicable provisions of the Contract Documents, Contractor shall not engage in the following:
   1. Conduct that interferes with Work or work of others.
   2. Conduct that interferes with, or is detrimental to good safety and well-being.
   3. Unauthorized use of confidential information.
   4. Discourtesy toward Owner's staff, visitors, and the general public (including abusive, vulgar or other language).
   5. Soliciting
   6. Disregard of safety, sanitation, or security laws, rules, and regulations.
   7. Conduct detrimental to the Owner's operations and good reputation.
   8. Stealing.
   9. Gambling.
   10. Possession and/or use of narcotics or intoxicants.

11. Threats or abuse of others.
12. Disorderly conduct or fighting.
13. Playing of loud music.
14. Falsification of information.
15. Unauthorized travel of Contractor’s employees outside the designated project Work areas.
16. Discriminating Behavior.
17. Sexual or Ethnic harassment.

R. Willful disregard of the above will be grounds for requiring the offending person(s) to be removed from the Project, and may subject the Contractor to termination under the Agreement.

S. Each Contractor on behalf of itself and its Subordinate Parties shall not load or permit any part of a structure to be loaded with a weight that will endanger its safety.

T. Where new temporary partitions are established and located by any Contractor, all existing mechanical, fire protection, plumbing and electrical devices used for life safety purposes shall be relocated by the Contractor installing or relocating same to the new temporary partitions so as to be usable and visible to Owner personnel and activities. Items such as, but not limited to, exit lights, fire protection systems, fire alarm systems, and similar items shall be relocated. In the event that a passageway is blocked or barricaded, visible rerouting directions for traffic flow shall be posted.
1. The Project is under the jurisdiction of the State of Michigan Fire Marshall.
2. Partition construction shall provide a fire-resistant classification approved by the State Fire Marshal. Openings in such partitions shall be protected by fire doors consistent with the rating of the partition.

U. The Owner shall have the option to curtail or delay any activity that affects its operations. Should a Contractor be asked to stop its Work, the Contractor shall do so immediately and proceed with other activities with no additional cost to the Owner or Barton Malow Builders. The Owner may occupy the premises during the entire period of construction for the conduct of its normal operations. All Contractors are to cooperate with the Owner and Barton Malow Builders in all construction operations to minimize conflict, and to facilitate Owner usage.

V. Contractors and their Subordinate Parties are prohibited from canvassing, soliciting, posting, or distributing literature or materials for any purpose while on the job site.

W. Contractors and their Subordinate Parties shall be responsible for adhering to the smoking policies and regulations of the Owner and the Owner’s facilities.

X. The preservation of existing trees and other vegetation on the site to the maximum extent possible is extremely important. In many cases, trees in close proximity to the site work are to be preserved. Each Contractor must plan its Work and instruct its Subordinate Parties to conduct their operations to avoid damage to trees and vegetation (provide barriers as required). Indiscriminate driving about the site, disposing of waste, storage of materials upon or against trees, or any other activity which is harmful to trees or vegetation that are to be preserved will not be tolerated. Parking areas, storage areas, and access to the buildings will be confined to areas designated and approved by Owner and Barton Malow Builders. Any case of damage to any tree shall be reported to Barton Malow Builders immediately so that professional repairs can be made. The cost of such required repairs or treatment shall be charged to the responsible Contractor. Willful disregard of the above will be grounds for requiring the offending person(s) to be removed from the Project, and may subject the Contractor to termination under the Agreement.
1. Prohibited practices include breaking of branches, scraping of bark, or unauthorized cutting; nailing or bolting into tress or plants; use of trees or plants as temporary support (i.e. for cables); unauthorized filling, excavating, trenching or auguring within the root

zone; compaction/driving over the root zone; storage of any material or vehicles within the root zone; dumping of construction waste or materials (including liquids); unauthorized removal or relocation of plants; removal of tree protection barricades or construction fencing prior to completion of project.

2. Compaction within the root zone is the increasing of the soil density caused by heavy equipment or concentrated foot traffic which significantly alters the soil conditions from that which was present prior to construction.
3. The root zone of a tree is one and a half the distance of plant crown drip line outward from the stem, along undisturbed grade. Should placement of concrete be specified or authorized by the Owner within the root zone, a sulfur application will be applied by the Owner. The Contractor shall notify the Owner and Barton Malow Builders at least 48 hours prior to pouring concrete. Trees to receive sulfur shall be identified by the Owner.

Y. Contractor is responsible to maintain and keep all site utilities/systems in working order that are within the work limits. Site utilities should be identified and marked by this Contractor to proactively prevent interruptions in service. It is the Contractors' responsibility to know the location of any and all utilities prior to commencement of work and to continually monitor the status of the utilities. Any utility disturbed by the Contractor shall be repaired and placed in service immediately by this Contractor, at the expense of the Contractor who disturbed it.

2.06 USE OF EXISTING FACILITIES

A. Contractors shall limit their and their Subordinate Parties' usage of the occupied areas of the facility to that which is absolutely necessary for the installation of their Work. Parts of the facility not in the construction area are "off limits" unless a specific work task is being performed as designated by Barton Malow Builders.

B. Contractors and their Subordinate Parties will not be allowed the use of the Owner's cafeteria, parking, telephones, toilet facilities, tools, equipment, or any other item or facility belonging to the Owner, unless specifically authorized by Owner and Barton Malow Builders. Contractor's Subordinate Parties shall not use the Owner's facilities for personal use such as lunchrooms and similar areas for coffee breaks, clothing changes, or similar uses. The Owner's complex shall be off-limits to all construction personnel without prior approval of Owner and Barton Malow Builders.

2.07 EXISTING ENTRANCES AND DRIVES

A. Contractor and construction delivery access to the worksite shall be as designated by Barton Malow Builders. Selected entrances to the Project site will remain open during normal working hours for the use of all Contractors. Contractor shall utilize specific entrances for material deliveries, equipment deliveries, and worker access to the Project site as directed by Barton Malow Builders.

B. At no time are ANY vehicles to be parked, whether attended or not, in the Owner's entrances or drives. Any material delivery which will tie up the Owner's entrances or drives in excess of one (1) hour shall be pre-scheduled with the Owner through Barton Malow Builders. In scheduling construction deliveries the Contractor agrees that the Owner's deliveries and operations will take precedence.

C. All gates will be locked with multiple locks (daisy chain) for Owner access.

2.08 PROTECTION OF UNDERGROUND FACILITIES

A. Each Contractor shall provide and maintain proper shoring and bracing for existing underground utilities, sewers, and building foundations, encountered during its Work, to protect the project, or any part thereof, and surrounding areas from collapse or movement, or any other type of damage until such time as they are to be removed, incorporated into the new Work or can be properly back filled upon completion of new Work. All such disruptions of services shall be limited to a maximum of four (4) hours unless otherwise coordinated and approved by Owner and Barton Malow Builders. Prior to beginning any Work that may affect underground facilities, Contractor shall contact Miss Dig, contract a Private Locator and utility companies for

the location of all existing underground services and provide, if requested, documentation of such contact to Barton Malow Builders. Contractor shall pay for appropriate layout and locating of existing utilities per the work scopes.

B. Provide plates to cover all trenches/holes as necessary to allow for Owner access.

C. Utilities and/or other services which are shown, or not shown but encountered, shall be protected by the Contractor from any damage arising or resulting from Work, unless or until they are abandoned. If the utilities or services are damaged from Contractor's Work, Contractor shall immediately repair any damage and restore the utilities and services to an equal or better condition than that which existed prior to the damage. Contractor will be responsible for all liabilities, expenses, lawsuits, or claims arising or resulting from such damage and will defend, hold harmless and indemnify Owner and Barton Malow Builders from any claims or lawsuits or other expenses.

D. Each Contractor on behalf of itself and its Subordinate Parties shall be responsible for all damage to the Project and surrounding areas including the existing building and grounds arising out of or resulting from their performance of the Work. Repair or replacement of damaged items shall be to the satisfaction of the Owner and Barton Malow Builders.

2.09 NO INTERRUPTION OF OCCUPANCY/SEQUENCING

A. Each Contractor is responsible to plan, coordinate, and execute its Work in such a manner that there will be no disruption of the Owner's operations. If an interruption of operations is unavoidable, then this Work will be scheduled with the Owner through Barton Malow Builders prior to beginning such Work.

B. Due to the nature of the Owner's existing areas, the sequence of Work must be scheduled and coordinated with the Owner's ongoing operations to minimize disruptions and/or disturbances to the Owner's Work and at all times remain as secondary to the Owner's operations. Each segment of the Work shall be coordinated with Barton Malow Builders and the Owner prior to proceeding.

C. Work that interrupts the Owner's services will be accomplished during the time periods when it is least inconvenient to the Owner and completed in the shortest possible time frame. Contractors may be requested to work split shifts, weekends, off-peak Owner loading periods, etc., to accommodate Owner's utility and service requirements, such as, but not limited to, medical gas systems, electrical power, HVAC systems, storm, and sanitary/storm lines. The cost for premium time labor, which may be required, is the Contractor's responsibility and is to be included in the base bid.

D. Contractors are responsible to provide any temporary alternate supply and/or return conditions to maintain services to the facility while Work is being performed for each Bid Category. Place safety stages or markers to indicate location of disconnected services.

E. No interruptions to Owner's power, lighting, signal, or alarm circuits will be permitted without the express written permission of the Owner. Arrangements for interruptions shall be made with the Owner and Barton Malow Builders at least seventy-two (72) hours prior to the interruption and shall be made at such time and duration as authorized by them. Temporary feeders, transformer jumpers, connections, circuits, etc., shall be used as required to accomplish the above at no additional cost to the Owner and Barton Malow Builders .

F. Contractors shall construct the Work in stages to provide for public convenience. Contractors shall not close off public use of facilities until completion of one stage of construction will provide alternative usage, or until other means have been provided.

G. These provisions shall apply to all Contractors and are applicable whether a Contractor is either directly or indirectly affected.

2.10 MATERIAL STORAGE

A. If allowed, each Contractor shall provide suitable storage trailers on-site as required. These are to be relocated and removed when directed by Barton Malow Builders.

B. All Contractors may be required to provide on-site storage facilities. Temporary storage of materials on the site will be limited to the same areas immediately under construction for materials intended for that particular portion of the Work. Material, equipment, and tools shall not be stored on-site in excess of five (5) working days prior to installation or use without Barton Malow Builders's approval. Contractors shall stock the job with sufficient materials to maintain progress and schedule and without interfering with the Work or storage of others. Each Contractor assumes full responsibility for the protection and safekeeping of products under its control which are stored on the site. All stored materials shall be on pallets or movable pipe/carts. Contractors must move any stored products, under their control, which interfere with operations of the Owner or separate contractors as directed by Barton Malow Builders. All Contractors are to cooperate with Barton Malow Builders and other contractors in this regard.

C. Each Contractor shall provide sufficient protection for its materials and equipment from damages by weather or construction work or other hazards.

D. During progress of Work and upon completion of the Work, Contractors shall remove all debris and leave the area in a clean and orderly condition.

E. Each Contractor shall submit a receipt of shipment for all equipment stored on-site or off-site to Barton Malow Builders per 012000 - Price and Payment Procedures. No materials or equipment shall be removed from the site without the permission of Barton Malow Builders.

F. Storage of combustible materials within or adjacent to the building is prohibited.

2.11 SPECIFICATION SECTIONS APPLICABLE TO EVERY CONTRACT

A. Unless otherwise noted, provisions of the sections listed below apply to every contract. Specific items of work listed under individual contract descriptions constitute exceptions.

B. Section 000103 - Project Directory.

C. Section 012000 - Price and Payment Procedures.

D. Section 012100 - Allowances.

E. Section 012200 - Unit Prices.

F. Section 012300 - Alternates.

G. Section 013000 - Administrative Requirements.

H. Section 013114 - Coordination Drawings (Not 3D).

I. Section 013216 - Schedule and Phasing.

J. Section 013553 - Security Procedures.

K. Section 014000 - DO NOT USE Quality Requirements.

L. Section 014216 - Definitions.

M. Section 014219 - Reference Standards.

N. Section 015000 - Temporary Facilities and Controls.

O. Section 015100 - Temporary Utilities.

P. Section 015213 - Field Offices and Sheds.

Q. Section 015500 - Vehicular Access and Parking.

R. Section 016000 - Product Requirements.

S. Section 017000 - Execution and Closeout Requirements.

T. Section 017800 - Closeout Submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 011000

SECTION 012000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Schedule of Values
B. Application for Payment Process
C. Retention
D. Stored Materials
E. Waivers of Lien and Sworn Statements
F. Change procedures
G. Documentation of changes in Contract Sum and Contract Time.
H. Procedures for preparation and submittal of application for final payment.
I. This section does not include RFI's, ASI's, or other documentation that clarify the work but have no substantive cost or schedule impacts to the Work.

1.02 RELATED REQUIREMENTS

A. Section 005200 - Agreement Form: Contract Sum, retainages, payment period, monetary values of unit prices.
B. Section 007200 - General Conditions: Additional requirements for progress payments, final payment, changes in the Work.
C. Section 012100 - Allowances: Payment procedures relating to allowances.
D. Section 012200 - Unit Prices: Monetary values of unit prices; Payment and modification procedures relating to unit prices.
E. Section 017800 - Closeout Submittals: Project record documents.

1.03 SCHEDULE OF VALUES

A. Use Textura for submission of Schedule of Values.
B. Once the Agreement is awarded, each Contractor must submit a Schedule of Values and completed sworn statement listing all Subcontractors, Suppliers, & other Subordinate Parties for its entire Work to Barton Malow Builders in Textura for approval. This Schedule of Values and sworn statement must be submitted either within fifteen (15) days of award or fifteen (15) days prior to the first payment application deadline (per the Application for Payment Schedule), whichever comes first. The Schedule of Values must include labor and material line items for each portion of the Work and broken out as described below.
C. The Schedule of Values will be submitted via Textura.
    1. Unless otherwise directed or authorized, in writing, by Contractor, all Applications for Payment and all supporting documents (including but not limited to lien waivers, sworn statements, and alike) for Contractor and its subcontractors and suppliers, shall be in electronic format and shall be submitted to Contractor using the Oracle Textura Payment Management (TPM) Textura system. Contractor shall be responsible for the fees and costs owed associated with Contractor's use of TPM. Contractor shall include a similar provision in its subcontracts and purchase orders. Fees to Contractors are calculated as 0.22% (22 basis points) of contract value (plus applicable taxes), with a maximum fee of $5,000. Fees to Contractors' sub-subcontractors and suppliers are a fixed fee of $100 per sub-subcontractor or supplier contract.
    2. The sum of the parts of the Schedule of Values shall equal the contract price.
    3. The minimum level of breakdown and order on the application for payment shall be:
        a. Bond costs, if applicable

b. Submittals
c. Closeout
d. General conditions line item(s) (ex. mobilization, safety, testing, ect.)
e. Cost of labor broken out by area and/or floor level
f. Cost of materials broken out by area and/or floor level
g. Major portions of the Work shall be broken down into labor and material line items for specific areas of the facility. Larger portion of work such as concrete, curtain wall, drywall, mechanical, and electrical shall be broken down by elevation, floor, and areas appropriate.
h. Allowances
i. Cleanup
j. A listing of approved and executed Change Orders to the Contract, if any, in sequential order.

4. Schedule of Values items shall have a direct and understandable relation to the master Project Schedule. Indicate Activity ID where requested or appropriate.
5. Overhead and Profit shall be distributed into each item of work on a pro-rated basis.

D. Textura Schedule of Values, unless objected to by Barton Malow Builders, Owner or Architect, shall be the basis for the Contractor's application for payments.

E. Barton Malow Builders shall have the right to require the Contractor to alter the value or add/delete categories listed on the Schedule of Values at any time for the following reasons:
1. The Schedule of Values appears to be incorrect or unbalanced.
2. A revision of the Schedule of Values is required due to the Contractor revising the sequence of construction or assembly of building components that in turn invalidates the Schedule of Values.
3. Change Orders are issued to the Contractor and shall be incorporated into the Schedule of Values as a separate line item at the bottom of the Schedule of Values.

F. The Contractor is required to assemble and submit the documentation for payment of stored materials requested in the application for payment against the agreed upon breakdown of the Schedule of Values as described in Payment for Stored Materials. Barton Malow Builders reserves the right to not process the application for payment if this documentation has not been submitted in conjunction with the application.

G. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Barton Malow Builders for approval.

H. Forms filled out by hand will not be accepted.

I. Submit Schedule of Values in Textura within 15 days after date established in Notice to Proceed listing all Subcontractors and Suppliers including the Bonding Company.

J. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Pay applications must be submitted in Textura.

C. Step 1: Jobsite Inspection - DRAFT Payment Request:
1. Contractor shall have a representative walk the Project site with Barton Malow Builders's representative and submit the preliminary pay application in Textura on or before the 15th of the month for Barton Malow Builders approval.
2. Enter pay application in Textura for Work from the 20th of the previous month to the20th of the present month.
3. Contractor’s pay application shall only reflect Work completed through the date of submission. Forecasting of payments will not be authorized for work to end of the month. If the walk-through occurs before the last day of the payment cycle, Barton Malow Builders

shall determine, in its sole discretion, the amount Contractor may invoice, if any, for Work scheduled to be in place by the last day of the payment cycle.

D. Step 2: Payment Request Preparation and SUBMISSION
   1. With the information agreed upon in Step 1, the Contractor shall prepare a formal application for payment in Textura.
   2. Sworn statement is to be fully completed and updated from the previous month in Textura.
   3. All partial waivers for Subcontractors and Suppliers shown as previously paid on the sworn statement must be uploaded into Textura upon request in the "manage lien waiver" section in Textura.
      a. Full unconditional waivers from all subcontractors and subordinate parties must be uploaded into Textura "manage lien waiver" section with the filan pay application.

E. Step 3: Check DISTRIBUTION
   1. Barton Malow Builders will issue individual checks to each Contractor. The Contractor will fill out the waiver of lien in Textura . Contractor Lien waivers must be completed in Textura and expired insurance certificates updated in TradeTapp to avoid payment delays.
   2. The Contractor shall provide all supporting documentation substantiating the Contractor's right to payment as the Owner, Barton Malow Builders and the Architect may require.
   3. All Contractors must maintain their prequalification status through the Project in order for Barton Malow Builders to process and distribute monthly and final payments. Submit all required updated financials, insurance, etc. as stipulated to maintain positive standing.

F. **Late or incomplete pay application submissions will not be accepted.**

G. The Contractor must include with each request for progress payment a Contractor waiver of lien for all previous payments, Contractor's fully completed sworn statement with list of all subcontractors and suppliers, updated subcontractor and supplier partial and or unconditional final waivers and any necessary backup data as described. Individual waivers from Contractor and subordinate parties must be uploaded intoTextura under the "manage lien waiver" monthly with submission of pay application upon request.

H. In requests for payment which follow the execution of a Change Order in excess of twenty-five percent (25%) of the Agreement price, Contractor must present a bond rider evidencing that the penal sum of any required payment and performance bonds have been increased to one hundred percent (100%) of the adjusted Agreement price. Submission of the required back-up data is a condition precedent to payment.

I. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Barton Malow Builders for approval.

J. Include the following with the application:
   1. Requested partial conditional waivers of liens from Subcontractors and Suppliers.
      a. All partial conditional waivers from all subcontractors and subordinate parties must be uploaded into Textura "manage lien waiver" section upon request.
      b. All full unconditional waivers from all subcontractors and subordinate parties must be uploaded into Textura "manage lien waiver" section with the filan pay application.
   2. Affidavits attesting to off-site stored products along with location and insurance on stored materials.

1.05 RETENTION

A. The Owner shall be entitled to withhold ten (10%) percent of each payment due to a Contractor. Contractors may not drop retainage to 5% until all warranties, o/m manuals, testing, commissioning, training, extra materials, and punch list items have been completed, turned over, accepted, and documented. Contractors must also have current partial and final waivers from subcontractors and suppliers. To bill out the remainder of retainage (from 5% to

0%), the contractor must set up a meeting with Barton Malow Builders to review and/or collect the remaining closeout items for final payment including all final unconditional waivers from subcontractors and suppliers.

B. Contractor shall request in writing to Barton Malow Builders prior to filling out the pay application.

C. When requesting a reduction of retention, the Contractor shall submit an AIA G707A, Consent of Surety to Reduction In or Partial Release of Retention form to Barton Malow Builders .

D. When requesting a final payment, the Contractor shall submit an AIA G707, Consent of Surety to Final Payment form to Barton Malow Builders .

E. Notwithstanding the foregoing, payment of retention shall be subject to all other conditions precedent that applies to payment as set forth in the Contract Documents.

1.06 STORED MATERIALS

A. The Contractor, if intending to use an off-site storage area or facility for stored materials, shall submit a written request to the Owner and Barton Malow and obtain approval prior to submitting the first application for payment as described in Part 1.04.

B. Payments will be made for materials properly stored off site.
   1. “Properly stored” shall mean in an insured warehouse with the Troy School District and Barton Malow Builders being named as insureds, and all material identified as property of the Owner using markings or signage.
   2. The Contractor is responsible for all associated off site storage costs, transportation, insurance, including insurance coverage for stored material, while in transit, unless Contractor obtains written documentation that the material is covered during transit under a Builder’s Risk Policy applicable to the Project.
   3. Contractor shall provide Troy School District and Barton Malow Builders verification in writing for all material so stored. Such materials shall be protected from diversion, destruction, theft, and damage to the satisfaction of Barton Malow Builders, Owner and the Lender (if any), specifically marked for use on the Project, and segregated from other materials at the storage facility.
   4. The Contractor bears all risk of loss to materials and equipment stored off site.

C. Contractor is to provide supporting documentation in the form of invoices, photographs, insurance policies, and any other pertinent documentation as requested by Barton Malow Builders or Owner for items stored off-site. Documentation shall include the following:
   1. Detailed description of the material, including quantities. This serves as a material description for the billing and as information to file a claim with an insurance company.
      a. Stored Materials: Each item must be identified as to manufacturer, model number, and serial number, if applicable, or other identifiers should be listed for each item. Each listing must be accompanied by invoices, shipping tickets, consent of surety, and any other applicable supporting documentation.
      b. Stored Manufactured Building Materials: Each item must be identified as to type, manufacturer’s number or designation, and should also list the number of cartons and the contents therein storage. Each listing must also be accompanied by supporting documents including all invoices, shipping tickets and consent of surety.
      c. Stored Fabricated Materials - A listing specifying the number of pieces, items, and marks as may be applicable to the particular type of items. Photographs should accompany the request.
   2. Individual itemized costs of materials and the total cost value, which shall not exceed the Contractor's material supplier cost. The total cost value shall be supported by the Contractor’s material supplier invoices for the stored material.
   3. Estimated cost value for those materials that are fabricated by the Contractor’s material supplier.

4. The location where the material is physically stored, including the warehouse address and storage location within the warehouse, such as bin number, aisle number or other designation. All material shall be segregated and marked.
5. Copies of the insurance policies that cover the stored materials and that name Barton Malow Builders and Troy School District the as insureds. The limit of the insurance policy shall be equal to or greater than the replacement value of the stored materials.

D. When Applications for Payment include products stored off the Project Site or stored on the Project Site but not incorporated in the Project, for which no previous payment has been requested, a complete description of such product shall be attached to the application.

E. Contractor shall submit a certificate of title listing Troy School District's ownership in the off-site stored materials equal to the amount paid effective at the time funds are delivered.

F. All payment requests for off-site stored materials must be accompanied using the "Payment Request for Stored Materials." form obtained from your Barton Malow Builders representative. Payment requests for stored materials not complying with the foregoing requirements will not be approved. Contractors are to notify Barton Malow Builders in ample time to conduct verification procedures.

G. Contractors may not apply the cost of materials stored off-site towards a reduction in the retention amount.

H. Representatives of Barton Malow Builders and Troy School District , and the Lender (if applicable) shall have the right to make inspections of the storage areas at any time.

1.07 LIEN WAIVERS AND SWORN STATEMENTS

A. Waivers of Lien
1. The Contractor’s first Application for Payment will be based upon 100 percent of the value of Work installed. The first payment, amounting up to 90 percent of application, will be made to the Contractor without supporting documentation. Subsequent Applications for Payment must be accompanied by lien waivers from the Contractor, its Subordinate Parties or receipted invoices covering payment to the Contractor for previous calendar month period. Lien waivers must be unconditional and must show the amount paid.
2. An "Acknowledgment of Payment and Partial Unconditional Release” is to be completed in Textura for the previous month's application. Under no circumstances will payment be released until the completed "Acknowledgment of Payment and Partial Unconditional Release" has been submitted in Textura from the previous month.
   a. All partial conditional waivers from all subcontractors and subordinate parties must be uploaded into Textura "manage lien waiver" section upon request.
3. Final payment will not be made until an Conditional Final Release and Waiver Contractor/Material has been submitted. This form may be obtained and submitted in Textura. The Final Release must be signed by an authorized representative of the Contractor and must be notarized.
4. Final unconditional waivers will be required for all of Contractor’s Subordinate Parties listed on Contractor’s sworn statement. These final waivers must be submitted along with the final release, before payment can be made.
   a. All full unconditional waivers from all subcontractors and subordinate parties must be uploaded into Textura "manage lien waiver" section.

B. Sworn Statements
1. The Sworn Statements must be fully completed listing all subcontractors & suppliers updated and submitted in Textura to the satisfaction of Barton Malow Builders with each Contractor’s Application for Payment.

1.08 MODIFICATION PROCEDURES

A. All Contractors are required to notify Barton Malow Builders per the terms of the Agreement and in alignment with the Prime Contract. When changes to site conditions or scope are encountered, submit written notification in accordance with those requirements.

B. Unless explicitly notified in writing within ten (10) calendar days of issuance, all RFIs, ASIs, or other forms of field communication issued to clarify the work, Barton Malow Builders and Owner will assume recipients agree the clarification is within the already established contract scope.

C. Types of Change Documentation

Changes to the work which may involve a change in the contract price or schedule will be accompanied by the Barton Malow Builders form entitled “PCO - Quotation Only”. In the event that the timing does not allow the for Quote Only process, then Barton Malow Builders will issue its form entitled “PCO - Notice to Proceed.“

1. PCO - Quotation Only
   a. The PCO - Quotation Only is a document used for processing Contractor's quotations and is **not** a Change Order. Therefore, completion of the PCO - Quotation Only does **not** release the Work to begin.
   b. Contractor shall prepare a detailed cost quotation for the PCO. This quotation shall include an itemized takeoff of labor, equipment and material with a unit cost for each item together with backup, material invoices and other breakdown documentations satisfactory to Barton Malow Builders. The PCO must be signed and returned as directed.
   c. If pricing is not received within ten (10) calendar days of issuance, Barton Malow Builders reserves the right to include the PCO in a zero-dollar change order, or quote the work on behalf of the Contractor. Circumstances may arise that require an expedited quote of less than ten (10) by Contractors. Contractors shall provide quotes within the requested timelines as directed by Barton Malow Builders.
2. PCO - Notice to Proceed
   a. A PCO - Notice to Proceed is used when Work must be performed with swiftness and authorization to proceed by Change Order is inappropriate due to time restrictions. In order for a PCO - Notice to Proceed to be valid, it must be signed by Barton Malow Builders. The terms for establishing the additional cost and processing of the PCO - Notice to Proceed into a Change Order shall be identified prior to its release by Barton Malow Builders.
   b. Contractor shall prepare a detailed cost quotation for the PCO. This quotation shall include an itemized takeoff of labor, equipment and material with a unit cost for each item together with material invoices, backup and detailed breakdown from suppliers and subcontractors. The PCO must be signed and returned as directed.
   c. Contractor shall sign and date the PCO and submit it with proper backup. The PCO will then be reviewed, evaluated, negotiated and then, when acceptable, processed.
   d. A PCO – Notice to Proceed may be issued with direction to track the Work on a Time and Material basis (T&M). In this case, Contractors are to supply daily time tickets to Barton Malow Builders for verification. In the event that proceeding on T&M is given a “Not to Exceed” amount, the Contractor is responsible to track daily costs and notify Barton Malow Builders promptly if costs are projected to be greater than the Not to Exceed amount. No additional compensation will be provided for T&M changes that are greater than the Not to Exceed amount if no notification is given to Barton Malow Builders prior to commencing the work causing the additional cost.
   e. If a change results in a change in cost, Barton Malow Builders will issue a PCO with the supporting change documents.
   f. PCO’s may precede a Change Order. Contractors shall receive an approved PCO - Notice to Proceed or an executed Change Order before starting Work. Any changed Work performed by Contractor without a properly executed PCO - Notice to Proceed

or a properly executed Change Order is at Contractor's sole risk and expense. BILLINGS AGAINST CHANGES WILL NOT BE ACCEPTED AFTER A PCO - NOTICE TO PROCEED OR FOR QUOTE ONLY IS ISSUED, BUT ONLY AFTER A CHANGE ORDER HAS BEEN PROCESSED AND FULLY EXECUTED BY ALL PARTIES.

D. Change Order
   1. Change Orders will be issued by Barton Malow Builders . Barton Malow Builders will first issue the Change Order to the Contractor for signature. The Change Order will then be returned to Barton Malow Builders and sent to the Architect and Owner for signature. Once all appropriate signatures are secured, an executed copy will be sent to the Contractor.
   2. Once the Change Order has been processed and signed by all parties, the Contractor may invoice for payment on the completed portion of Work.
   3. Agreement on a Change Order shall constitute a final settlement of all matters relating to the changed Work that is the subject of the Change Order.

E. Contractor Overhead and Profit for Changes in the Work
   1. For changes resulting in **increase** of cost:
      a. Overhead and profit for the Contractor shall not exceed the following when change Work is performed by:
         1) Contractor itself: 10%
         2) Contractor subordinate party: 5%
      b. Overhead and profit for the subordinate party shall not exceed the following when change Work is performed by
         1) Subordinate party itself: 10%
         2) Subcontractor to the subordinate party: 5%
      c. For changes resulting in reduction of cost
         1) Deductive costs shall include commensurate deductive credits for overhead and profit based on the percentages stated above.
      d. Contractor's and Subordinate Party's overhead and profit shall include cost (at the Project Site, home office and otherwise) of supervision, telephone, technology, travel, copying, administrative services, office, power, light, tools, cartage, jobsite vehicles, allowances, and all other general expenses. **In no event shall these items be charged as cost of the Changed Work.**
         1) For K-12 and Higher Ed projects in Michigan, Bond Premiums shall also be included within the Contractors overhead and profit.
         2) For K-12 and Higher Ed projects in Michigan, Autodesk Build and Textura Premiums shall also be included within the Contractors overhead and profit.
      e. Any allowances included in Contracts are to have Overhead and Profit accounted for in the bid **outside** of the allowance/work scope item value. No additional mark-up will be given for this work.

F. Itemization of Cost of Changed Work
   1. Correlation with Contractors Submittals
      Contractors shall:
      a. Revise the Schedule of Values and Request for Payment forms to record each Change Order as a separate item of Work, and to record the adjusted contract price.
      b. Revise the Construction Schedule to reflect each change in Contract Time approved by a Change Order.
      c. Revise schedules to show changes for other items of Work affected by the changes.
      d. Enter and revise Record Documents to reflect changes

G. COST OF THE CHANGED WORK

1. Submit costs on Contractor letterhead with the associated breakdown, or contact a Barton Malow Builders representative for the Contractor Change Order Template.
2. The "Cost of the Changed Work" shall be approved by and shall mean the costs necessarily incurred by the Contractor in the proper performance of the Changed Work. The Cost of the Changed Work shall only include those items set forth below or those items for which Barton Malow Builders is entitled reimbursement under its agreement with Owner, the most restrictive provisions controlling.

WAGES OF LABOR	Wages of construction workers directly employed by Contractor to perform the construction of the changed Work at the site.
PAYROLL MARKUP	The amount approved by Barton Malow Builders and Owner which covers the costs paid by the Contractor for taxes, insurance, contributions, assessments, and benefits required by law or collective bargaining agreements and for personnel not covered by such agreements, customary benefits such as sick leave, medical and health benefits, holidays, vacations and pensions, provided that such costs are based on the wages and salaries of labor performing the changed Work.
COST OF EQUIPMENT, MATERIALS, AND SUPPLIES	Costs of materials, equipment and supplies to be incorporated into the changed Work less all savings, discounts, rebates and credits accruing to the Contractor.
RENTAL CHARGES FOR EQUIPMENT NOT OWNED BY CONTRACTOR	Rental charges for equipment not owned by Contractor that is necessary for completion of the Changed Work. Rates and quantities rented must be approved in advance by Barton Malow Builders.
TAXES	Sales or use taxes imposed by a governmental authority which are directly attributable to the changed Work and for which the Contractor is liable.
SUBORDINATE PARTY COSTS	Payments made to the Contractors for proper execution of Changed Work, subject to the limits set forth above for overhead and profit.

H. In no event shall the Cost of Changed Work include:
1. Salaries or wages of persons other than those directly performing the changed Work, including Contractor's personnel stationed at the principal office.
2. Expenses of the Contractor’s principal office and offices other than the site office, except as provided above.
3. Overhead and general expenses of any nature, except as set forth above.
4. Capital expenses of Contractor, including interest on the Contractor’s capital employed for the Changed Work.
5. Rental costs for machinery or equipment, except as allowed above, or tools of any kind, unless specifically identified and approved in advance in writing by Barton Malow Builders.
6. Costs due to the negligence or failure to perform of the Contractor or its Subordinate Parties.
7. Costs designated above as being included in Overhead and Profit.
8. Any cost not specifically described above, or otherwise approved in advance and in writing by Barton Malow Builders and Owner.

I. All Contractors shall meet with Barton Malow Builders to review and approve the quotation format immediately after contract award. The approved format shall be used consistently throughout the project.
   1. Ensure the quotation has the PCO number at or near the top of each page.

J. Labor Rates: Upon submission of bids prior to contract award, Contractor (and for their subordinate parties) shall submit their labor rates for all applicable trade categories for approval.
   1. Provide breakdown of the rate, including the base wage, fringes, benefits, insurance, without any other markup included. This rate is subject to Barton Malow Builders and Owner approval as it is reflected in a PCO quotation.
   2. Rates shall not include cost associated with technology, travel, PPE, bonus, gas, consumables, vehicle, uniform, or allowances. These are part of the allowable overhead and profit.
   3. This rate is subject to Barton Malow Builders and Owner approval for additional work.

K. For changes for which advance pricing is desired, TMP Architecture, Inc. will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid shall prepare and submit a fixed price quotation within ten (10) days.

L. Substantiation of Costs: Provide full information required for evaluation.
   1. Provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds (if allowed above).
      c. Overhead and profit.
      d. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
   3. For Time and Material work, submit itemized T&M tickets signed daily by Barton Malow Builders and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

M. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

1.09 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All warranty, start-up, as-builts, O/M manuals, training Contractor guarantee, and documentation specified in the project documents are completed and submitted to Barton Malow Builders.
      a. A/E Field Report(s) items corrected and signed off.
      b. Architects/Engineers punchlist items signed off and completed.
      c. Test & Balance deficiencies corrected.
      d. Comissioning items signed off and completed.
      e. Barton Malow Builders punchlist items signed off and completed.
      f. Owners punchlist items signed off and completed.

g. Conrtactor Permits Finialed and Permits Closed out.

END OF SECTION 012000

SECTION 012100
ALLOWANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Contingency allowance.

B. Payment and modification procedures relating to allowances.

1.02 RELATED REQUIREMENTS

A. Section 012000 - Price and Payment Procedures: Additional payment and modification procedures.

1.03 CONTINGENCY ALLOWANCE

A. Contractor's costs for products, installation, labor, insurance, payroll, taxes, equipment rental will be included in authorizing expenditure of funds from this Contingency Allowance.

B. Any allowances included in Contracts are to have Overhead and Profit accounted for in the bid **outside** of the allowance/work scope item value. No additional mark-up will be given for this work.

C. At closeout of Contract, funds remaining in Contingency Allowance will be credited to Owner by Change Order.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 012100

SECTION 012200
UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. General Requirements

B. Unit Prices

C. Measurement and payment criteria applicable to Work performed under a unit price payment method.

1.02 RELATED REQUIREMENTS

A. Document 002113 - Instructions to Bidders: Instructions for preparation of pricing for Unit Prices.

B. Section 012000 - Price and Payment Procedures: Additional payment and modification procedures.

1.03 GENERAL

A. This Section specifies administrative and procedural requirements for unit prices.

B. Refer to the Bid Proposal form and to individual work scopes, drawings and specification sections for the establishment of unit prices.

C. Schedule: A "Unit Price Schedule" is included on each bid form and must be filled out completely by Contractor at time of bid. Specification Sections referenced in the Schedule contain requirements for materials and methods described under each unit price.

D. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured by an independent surveyor at the Owner's expense.

1.04 UNIT PRICES

A. A unit price is an amount proposed by bidders and stated on the Bid Proposal form as a price per unit of measurement for items of work or services that will be added to or deducted from the Contract Sum by change order in the event the estimated quantities of work required by the Contract Documents are increased or decreased.
   1. There shall be no more than 10% difference between the add and deduct amounts of the same unit price. Failure to provide a deduct price will result in the add price being used.

B. Unit Prices Should Include Costs for:
   1. Labor, materials, tools, equipment, and overhead & profit.
   2. Contractor, their subcontractors, and/or manufacturer expediting, fabrication, warehousing, transportation and delivery, unloading, hoisting, scaffolding, installation, grouting, shimming, fasteners, and hangers.

C. The calculations for determining the number of units of work, unless otherwise noted, shall be of actual surface, volume, length, hours or numbers of individual items listed for the class of work, complete in place and accepted or omitted. No allowance for waste, loss or damage will be made.

1.05 MEASUREMENT OF QUANTITIES

A. Take all measurements and compute quantities. Measurements and quantities will be verified by Barton Malow Builders and Architect/Engineer.

B. Testing Agency or Surveyor will take all sitework measurements and compute quantities accordingly.

C. Assist by providing necessary equipment, workers, and survey personnel as required.

D. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.

E. Measurement by Area: Measured by square dimension using mean length and width or radius.

F. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.

G. Stipulated Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

1.06 PAYMENT

A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by TMP Architecture, Inc. and Barton Malow Builders, multiplied by the unit price.

B. Payment will not be made for any of the following:
   1. Products wasted or disposed of in a manner that is not acceptable.
   2. Products determined as unacceptable before or after placement.
   3. Products not completely unloaded from the transporting vehicle.
   4. Products placed beyond the lines and levels of the required Work.
   5. Products remaining on hand after completion of the Work.
   6. Loading, hauling, and disposing of rejected Products.

1.07 DEFECT ASSESSMENT

A. Replace Work, or portions of the Work, not complying with specified requirements.

B. If, in the opinion of either TMP Architecture, Inc. and Barton Malow Builders, it is not practical to remove and replace the Work, TMP Architecture, Inc. will direct one of the following remedies:
   1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of TMP Architecture, Inc. and Barton Malow Builders.
   2. The defective Work will be partially repaired to the instructions of the TMP Architecture, Inc. and the unit price will be adjusted to a new unit price at the discretion of TMP Architecture, Inc. and Barton Malow Builders .

C. If, in the opinion of Owner, it is not practical to remove and replace the Work, Owner will direct one of the following remedies:
   1. The defective Work may remain, but the unit price will be adjusted to a new unit price at the discretion of Owner.
   2. The defective Work will be partially repaired to the instructions of the Owner, and the unit price will be adjusted to a new unit price at the discretion of Owner.

D. The authority of TMP Architecture, Inc. and Barton Malow Builders to assess the defect and identify payment adjustment is final.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 012200

SECTION 012300
ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for pricing Alternates

B. Voluntary Alternates

C. Description of Alternates.

D. Procedures for pricing Alternates.

E. Documentation of changes to Contract Sum and Contract Time.

1.02 RELATED REQUIREMENTS

A. Document 002113 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

B. Document 005200 - Agreement Form: Incorporating monetary value of accepted Alternates.

1.03 ACCEPTANCE OF ALTERNATES

A. Each Bidder must bid on all Alternates listed in the Bid Proposal that are applicable to its Bid Category. Alternates will be fully considered in awarding the Agreement.

B. Each Alternate under consideration will be indicated below or be reflected within the Bid Form. When BuildingConnected is utilized for bid receipt, each Bidder shall fill in the requested Alternate prices as a separate price from the Bid Amount. If special considerations must be provided, Bidders shall provide a separate Clarifications page within their Bid Proposal.

C. The Owner shall be allowed a period of ninety (90) days after date of receipt of the Bid Proposals to exercise the right to accept or reject any or all Alternates submitted on the Bid Proposal.

D. Successful Bidders shall perform all Work required for complete execution of accepted Alternates, and the Bid Proposal shall include all overhead and profit for the Work required.

E. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.04 VOLUNTARY ALTERNATES

A. All Bid Proposals must be based upon the Bidding Documents. In addition to a Base Bid Proposal, the submission of Voluntary Alternates is acceptable and encouraged. If a Voluntary Alternate is submitted for consideration, it shall be expressed on the Bid Form as an add or deduct amount from the Base Bid. The Owner or Owner and Barton Malow Builders reserve the right to unilaterally accept or reject Voluntary Alternates and to determine if the Voluntary Alternates will be considered in the awarding of the Agreement.

B. Bidders shall indicate any associated trades or work categories, if any, that may be affected by the proposed voluntary alternate.

C. Voluntary Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

D. Coordinate related work and modify surrounding work to integrate the Work of each Voluntary Alternates.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 012300

SECTION 012500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 002113 - Instructions to Bidders: Restrictions on timing of substitution requests.

B. Section 012200 - Unit Prices, for additional unit price requirements.

C. Section 012300 - Alternates, for product alternatives affecting this section.

D. Section 013000 - Administrative Requirements: Submittal procedures, coordination.

E. Section 016000 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

F. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions: Restrictions on emissions of indoor substitute products.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
      a. Unavailability.
      b. Regulatory changes.
      c. _____.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.

B. Substitution requests offering advantages solely to the Contractor will not be considered.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Furnish and install Products specified, under options and conditions for substitutions stated in this Section.

B. Any and all Substitution Requests must be accompanied with the appropriate form in the Project Specifications or Project Manual filled out to completion. This form must be submitted with all supporting documentation via Building Connected prior to bid and Autodesk Build post award following all other submittal requirements/processes.

C. Any product for which a substitution request is submitted must meet all specification requirements.

D. Architect will determine acceptability of proposed substitution.
   1. Under no circumstances will the Architect be required to prove that a product proposed for substitution is or is not equal to the quality of the product specified.

E. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranties or bonds for the substitution as for the specified product.

3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
5. Waives claims for additional costs or time extension that may subsequently become apparent.
6. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
7. Has confirmed cost data is complete and includes related costs under its Agreement, but does not include:
   a. Costs under separate contracts.
   b. Architect’s costs for redesign or revision of Contract Documents.
8. Cost data need not be submitted, if request is for inclusion in an addendum. Requests after the Agreement is awarded shall contain a complete cost comparison.

F. A Substitution Request for specified installer constitutes a representation that the submitter:
   1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.

G. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   1. Note explicitly any non-compliant characteristics.

H. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. Forms indicated in the Project Specifications or Project Manual are adequate for this purpose, and must be used.

I. Each Substitution request should be accompanied by the following supporting documentation:
   1. Product identification, including the manufacturer's name and address
   2. Manufacturer's literature; identifying:
      a. Product description and technical information.
      b. Reference standards.
      c. Performance and test data
      d. Installation instruction, operating procedures, and other like information.Indication of whether the substitution is for cause or convenience.
      e. Samples, as applicable.
      f. Names and addresses of similar projects on which product has been used, and date of each installation.
      g. Itemized comparison of the proposed substitution with the product specified, listing all significant variations.
      h. Data relating to changes in delivery or construction schedule.
      i. A list of all effects of the proposed substitution on separate contracts.
      j. Accurate cost data comparing the proposed substitution with the product specified.
         1) Amount of any net change to Contract Sum.
      k. Designation of availability of maintenance services and sources of replacement materials.
      l. Environmental Product Declaration (EPD) to compare the upfront embodied carbon emissions to those of the specified materials or products.

J. Substitutions will not be considered for acceptance when:
   1. They are indicated or implied on shop drawings or product data submittals without a formal request from Contractor.
   2. Acceptance will require substantial revision of Contract Documents.
   3. In judgment of Architect, do not include adequate information necessary for a complete evaluation.

4. If requested after Contract Award directly by a subcontractor or supplier, except for special or unusual circumstances reviewed by the Contractor with Architect/Engineer, Barton Malow, and Owner.

K. Warranties.
1. Other salient features and requirements.
a. Include, as appropriate or requested, the following types of documentation:
2. Product Data:

L. Certificates, test, reports or similar qualification data.

M. Drawings, when required to show impact on adjacent construction elements.

N. Impact of Substitution:
1. Savings to Owner for accepting substitution.
2. Change to Contract Time due to accepting substitution.

O. Limit each request to a single proposed substitution item.
1. Submit an electronic document via Building Connected prior to bid and Autodesk Build after award, combining the request form with supporting data into single document.
1) Indication of whether the substitution is for cause or convenience.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Base Bid shall be in accordance with the Contract Documents.

B. Bidder's Options
1. For products that are specified only by reference standard, select product meeting that standard by any manufacturer.
2. For products specified by naming several products or manufacturers, select any one of products and manufacturers named which complies with Specifications.
3. For products specified by naming several products or manufacturers and stating "or equivalent", or "or equal", or "or Architect approved equivalent", or similar wording, submit a request as for substitutions, for any product or manufacturer which is not specifically named for review and approval by the Architect/Engineer.
4. For Products specified by naming only one product and manufacturer, there is no option and no substitution will be allowed.

C. Architect will consider requests from the Bidder for substitution of products in place of those specified as set forth in this section.

D. Those submitted the specified calendar days prior to Bid Date will be included in an addendum if acceptable.

E. After the end of the bidding period, requests will be considered only in case of product unavailability or other conditions beyond the control of Contractor.

F. Bid Proposals shall not be based on assumed acceptance of any item which has not been approved by Architect/Engineer or Addendum.

G. Bidders are required to submit a separate Substitution Request Form for each proposed substitution. Each submissions must meet all requirements as outlined in section above.

H. Submittal Form (before award of contract):
1. Submit substitution requests by completing the substitution request form located in Project Specifications or Project Manual. See this form for additional information and instructions. Use only this form; other forms of submission are unacceptable.

I. Owner will consider requests for substitutions only if submitted at least 10 days prior to the date for receipt of bids.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Submittal Form (after award of contract):

1. Submit substitution requests by completing the substitution request form in the Project Specifications or Project Manual. See this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.

B. Substitution requests must be submitted with enough time to allow for complete review by the Architect/Owner and not delay Project Schedule.

C. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, lower upfront embodied carbon emissions, or in other specific ways.
   1. Any modifications necessary as a result of the use of an approved substitute shall be paid by the Subcontractor proposing the substitution.
   2. Bear the costs engendered by proposed substitution of:
      a. Any additional engineering costs required to be performed by the Architect to approve, implement, or coordinate the substitution above reasonable review services, shall be paid by the Contractor proposing the substitution.
      b. Other construction by Owner and Contractors.
      c. Any modifications necessary as a result of the use of an approved substitute shall be paid by the Contractor proposing the substitution.

D. Substitutions will not be considered under one or more of the following circumstances:
   1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
   2. Without a separate written request.
   3. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

A. Architect/Owner may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect/Owner will determine acceptability of proposed substitution.
   1. Under no circumstances will the Architect be required to prove that a product proposed for substitution is or is not equal to the quality of the product specified.

C. Architect/Owner will notify Barton Malow Builders in writing of decision to accept or reject request via approval of the substitution request form.

D. Substitution requests that are not approved will be returned to the party submitting the request with an explanation for the rejection.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

A. See Section 017800 - Closeout Submittals, for closeout submittals.

B. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected Requests.

END OF SECTION 012500

SECTION 013000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Electronic document service.
B. Meetings.
C. Construction Progress Schedule.
D. Daily Construction Reports.
E. Progress Photographs.
F. Coordination Drawings.
G. Requests for Information (RFIs).
H. Submittals.
I. Substitution Requests.
J. Submittals for Project Closeout.
K. Number of Copies of Submittals.
L. Submittal Procedures.
M. Submittal Review.

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions: Dates for applications for payment.
B. Section 013216 - Schedule and Phasing: Form, content, and administration of schedules.
C. Section 016000 - Product Requirements: General product requirements.
D. Section 017000 - Execution and Closeout Requirements: Additional coordination requirements.
E. Section 017800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.
F. Section 019113 - General Commissioning Requirements: Additional procedures for submittals relating to commissioning.
    1. Where submittals are indicated for review by both Architect and Owner and the Commissioning Authority, submit one extra and route to Owner first, for forwarding to the Commissioning Authority.
    2. Where submittals are not indicated to be reviewed by Architect and Owner, submit directly to the Commissioning Authority; otherwise, the procedures specified in this section apply to commissioning submittals.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

A. All field and/or construction correspondence and/or communications must be directed through Barton Malow Builders , 1140 Rankin Dr.. All correspondence should list the following as appropriate:
    1. TSD BP#5 - Administration Building Renovation
    2. Barton Malow Builders Project Number 66560
    3. Architect/Engineer Project Number 22106
    4. Contractor contact information
    5. Subject: clearly indicate subject matter of correspondence
B. Comply with requirements of Section 017000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
C. Make the following types of submittals to Barton Malow Builders.

1. Requests for Information (RFI).
2. Requests for substitution.
3. Shop drawings, product data, and samples.
4. Test and inspection reports.
5. Design data.
6. Manufacturer's instructions and field reports.
7. Applications for payment and change order requests.
8. Progress schedules.
9. Coordination drawings.
10. Correction Punch List and Final Correction Punch List for Substantial Completion.
11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SERVICE

A. Unless otherwise directed or authorized, in writing, by Barton Malow Builders, all RFI's, submittals, forms, and project documents, for the Contractor and its subordinate parties, shall be submitted to Barton Malow Builders using the Autodesk Build application.

B. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via Autodesk Build, or via email to the appropriate Barton Malow Builders representative until the Autodesk Build accounts have been set up.
   1. All PDF submissions must meet the below requirements:
      a. Bookmarked – All PDFs shall have established bookmarks for ease of navigation
      b. Hyperlinked – All PDFs which are large scale drawings shall utilize hyperlinks reference pages within the document or other PDFs within the file folder which are made reference through one of the following mechanisms: sections, elevations, details, etc.
      c. Original PDF format – All PDF documents shall be natively printed to PDF from the original document i.e. scanned documents will not be accepted
      d. Digital Signature – all contractors shall have the ability to digitally sign and certify PDF documents and shall do so where required by the specifications, where specifically instructed to by Barton Malow Builders , and when required by the AHJ.
   2. Excel (.XLS) – Native excel files will be required with all data for any form that is completed for the project (in addition to any executed copies). This is for verification and reporting purposes. This will include but not be limited to AIA703/AIA704 payment applications, MBE forms, sworn statements, LEED tracking, change proposals, etc.
   3. Besides submittals and closeout, this procedure applies to Requests for Information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), field reports and meeting minutes, TMP Architecture, Inc. and Barton Malow Builders' correction punch list, and any other document of the project record.
   4. Users of the service need an iPad, internet access, email address and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
   5. It is the Contractor's responsibility to submit documents in allowable format.

C. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.

D. The "Plans" folder within Autodesk Build will automatically be updated to be the "latest and greatest" version of each sheet. Contractor is responsible to be working off the most up to date project drawings at all times – this is the location that those can always be found (including all

RFIs posted in their respective locations). No compensation will be provided to Contractors needing to fix deficient work caused by building off an outdated set of project drawings.

E. The Field Documents "Current Specs " folder within Autodesk Build will automatically be updated to be the “latest and greatest” version of each project specification section. Contractor is responsible to be working off the most up to date specifications at all times – this is the location that those can always be found. No compensation will be provided to Contractors needing to fix deficient work caused by building off an outdated set of project specifications.

F. Cost: Contractor shall be responsible for the fees and costs owed associated with Contractor's and it's subordinate parties use of Autodesk Build. Fees to Contractors are calculated as 0.1% of contract value. Contractor shall include this cost in the base bid. Contractor will be invoiced directly by Barton Malow Builders at project start-up and payment must be submitted by the Contractor prior to the start of work.

G. Contractor's site Supervision must have an iPad onsite with wireless internet access to view project documents, complete required daily forms, and review/submit RFI's in Autodesk Build.

H. Submittal Service: The selected service is:
   1. Autodesk Build

I. Autodesk Build will be required for all Contractors to use for all document management on the project. This will include all RFI correspondence, submittal tracking, meeting minutes, contract information, and all other information deemed pertinent to this project.

J. Training: Barton Malow Builders will host training sessions as needed that will be required for all Contractors and their appropriate staff and suppliers to attend via training link.
   1. Representatives of Architect, and Owner are scheduled and included in this training.
   2. All users are required to go through training via Skilljar. Users should take the courses curated for their role at academy.bartonmalow.com immediately after Contract Award.

K. Project Closeout: Barton Malow Builders will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 MEETINGS

A. Barton Malow Builders shall schedule, chair, and administer all periodic meetings throughout the progress of the work for the purpose of coordinating and expediting the Work. Such meetings shall be held at the Jobsite or Microsoft Teams, bringing together responsible representatives of active Contractors for the purpose of planning, assessing progress, and discussing problems of mutual concern. Each Contractor and its Subordinate Parties’ representative attending the meetings shall be authorized to act on behalf of and make decisions/commitments for the entity each represents, the decisions made at the meetings and each Contractor who should be in attendance will be held responsible for information and directions given at the meeting.

B. Barton Malow Builders will prepare and distribute the minutes of all meetings if Barton Malow Builders determines minutes are required. If the attendees do not object in writing to any part of the meetings within 2 days of distribution of the minutes, the minutes shall be accepted as written.

C. Meeting Attendance - Contractors are expected to attend any and all meetings as noted in this section unless an absence is excused in advance. Failure to attend meetings will result in a reduction of supervision costs via deduct change order.

D. The scope of meetings include but are not limited to:
   1. PRE-CONSTRUCTION MEETING (KICK-OFF)
      a. A Pre-construction (kick-off) meeting will be conducted with representatives of all the Contractors within fifteen 15 days prior to the project start date at the jobsite or as designated by Barton Malow Builders .
      b. The agenda may include:

1) Discussion on major Contracts, suppliers, and schedule of values.
2) Major and/or critical work sequencing regarding the project schedule.
3) Project coordination and designation of personnel representing the parties to Contract and responsible personnel.
4) Procedures and processing of field instructions/decisions, submittals, substitutions, applications for payments, proposal requests, change orders and contract closeout procedures.
5) Quality assurance/control issues
6) Adequacy of distribution of contract documents.
7) Procedure for maintaining record documents.
8) Use of premises, office, work and storage areas, and other Barton Malow Builders requirements.
9) Execution of Contract between Owner & Contractor
10) Submission of executed bonds and insurance certificates.
11) Construction facilities/temporary utilities
12) Safety and Security procedures
13) Submission of initial Submittal schedule.
14) Other Administrative procedures
15) Review of Owner expectations.
16) On-site meeting requirements

2. PRE-INSTALLATION CONFERENCES
   a. Conduct a pre-installation conference at the project site before each construction activity/scope of work that requires coordination with other construction or required by the specifications.
   b. Require attendance of entities directly affecting, or affected by, work of the section, including Barton Malow, Contractor, installers, manufacturers. Architect and Owner will be invited.
   c. Review conditions of the installation, preparation and installation procedures, and coordination with related work. Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
      1) The Contract Documents
      2) Related requests for information (RFIs).
      3) Related Change Orders
      4) Purchases
      5) Deliveries
      6) Submittals.
      7) Review of mockups.
      8) Possible conflicts.
      9) Compatibility problems.
      10) Time Schedules.
      11) Weather limitations
      12) Manufacturers' written recommendations.
      13) Warranty requirements
      14) Acceptability of substrates
      15) Temporary facilities and controls.
      16) Space and access limitations.
      17) Regulations of authorities having jurisdiction.
      18) Testing and inspection requirements.
      19) Installation procedures.
      20) Coordination with other work.
      21) Required performance results.

22) Protection of adjacent work.
23) Protection of construction and personnel.

d. Require attendance of entities directly affecting, or affected by, work of the section, including Barton Malow, Contractor, installers, manufacturers. Architect and Owner will be invited.
e. Review conditions of the installation, preparation and installation procedures, and coordination with related work. Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
1) The Contract Documents
2) Related requests for information (RFIs).
3) Related Change Orders
4) Purchases
5) Deliveries
6) Submittals.
7) Review of mockups.
8) Possible conflicts.
9) Compatibility problems.
10) Time Schedules.
11) Weather limitations
12) Manufacturers' written recommendations.
13) Warranty requirements
14) Acceptability of substrates
15) Temporary facilities and controls.
16) Space and access limitations.
17) Regulations of authorities having jurisdiction.
18) Testing and inspection requirements.
19) Installation procedures.
20) Coordination with other work.
21) Required performance results.
22) Protection of adjacent work.
23) Protection of construction and personnel.

3. SITE MOBILIZATION MEETING
a. Barton Malow Builders Project Superintendent will schedule meeting at the Project site prior to Barton Malow Builders Construction start date.
b. Attendance Required:
1) Barton Malow Builders
2) Contractor
3) Owner
4) Architect/Engineer
5) Barton Malow Builders's Superintendent
6) Major subcontractors
c. Agenda:
1) Use of premises by Contractor, Owner and Barton Malow Builders.
2) Project cleanup requirements.
3) Owner's requirements.
4) Construction facilities and controls provided by Owner.
5) Temporary utilities provided by Contractor and Owner.
6) Survey and building layout.
7) Security and housekeeping procedures.
8) Schedules.
9) Application for payment procedures.

10) Procedures for testing.
11) Procedures for maintaining record documents.
12) Requirements for start-up of equipment.
13) Inspection and acceptance of equipment put into service during construction period.

d. Record minutes and distribute copies within 3 days after meeting to participants, with one electronic copy(s) to Architect/Engineer, Owner, participants, and those affected by decisions made.

4. PROGRESS MEETINGS
   a. Onsite project coordination/progress meetings will be held on a weekly basis or as appropriate throughout the life of the Project. Barton Malow Builders will set the agenda for the Project progress meeting.
   b. Barton Malow Builders will set the agenda and preside at the meetings with copies for participants, preside at meetings.
   c. At a minimum, each Contractor shall be prepared to discuss the following:
      1) Review minutes of previous meetings.
      2) Actual vs. scheduled progress for the prior two-week period.
      3) Planned construction activities for the next four weeks.
      4) Problems with, revisions to, and corrective measures and procedures to regain the construction schedule, if required.
      5) Review of off-site fabrication and delivery schedules.
      6) Document clarification requests.
      7) Coordination items with other Contractors.
      8) Changes in the work affecting cost and/or time.
      9) Review of submittals schedule and status of submittals.
      10) Field observations, problems, conflicts, and decisions.
      11) LEED requirements and status.
      12) Quality control issues and non-conformance resolutions.
      13) Safety issues.
      14) Review of RFIs log and status of responses.
      15) Maintenance of progress schedule.
      16) MOT and road closure planning.
5. FOREMAN MEETINGS
   a. Mandatory Foreman’s meetings will be held on a daily basis at the start of the work day, time 7 am by Barton Malow Builders. At a minimum, each Contractors’ foreman shall be in attendance and be prepared to discuss the following:
      1) Daily coordination of work
      2) Identification of field issues
      3) Safety issues
6. OTHER MEETINGS
   a. Quality Assurance Meetings
   b. Barton Malow Builders may conduct quality assurance/quality control meetings as necessary during the progress of the Work. Barton Malow Builders will set the agenda for the quality meeting. At a minimum, Contractor shall be prepared to discuss the following:
      1) Testing and inspection procedures
      2) Tolerance requirements
      3) Quality samples
      4) Reporting of non-conformance items
      5) Corrective actions assigned
      6) Disposal of non-conforming items
      7) Job procedures

c. Safety Meetings
   1) Refer to Section 017120 On-Site Project Safety for more information.
d. Inspection Tours
   1) Formal inspections/tours may be made of the Project progress by the Owner, Architect, local, state or federal officials, insurance representatives, or others as the occasion warrants and as scheduled by Barton Malow Builders. If requested by Barton Malow Builders, each Contractor shall be prepared to show and explain Work throughout the building to the inspecting parties, in addition to providing Work in compliance with these inspections.
e. Change Request Meetings
   1) Upon issuance of a major Proposal Request (a.k.a. bulletin), Barton Malow Builders may conduct a meeting as necessary with all significant Contractors to review its contents and determine cost, delivery, and schedule impacts. At a minimum, Contractor shall be prepared to discuss the following:
      (a) Impact of out-of-sequence work
      (b) Identification of pertinent long-lead material and system impact
      (c) Alternative recommendations
      (d) Evaluation of approximate cost magnitude
      (e) Evaluation of impact on completion
      (f) Alternate sequencing
      (g) Due date for Contractor pricing and scheduling impact

3.03 CONSTRUCTION PROGRESS SCHEDULE - SEE SECTION 013216

A. Within 10 days after Notice to Proceed (NTP) and review of preliminary schedule, submit draft of proposed complete schedule for review.
   1. Include written certification that major contractors have reviewed and accepted proposed schedule.

3.04 DAILY CONSTRUCTION REPORTS

A. Each Contractor will prepare and distribute a daily report to Barton Malow Builders using the specified system below. Contractors shall provide a comprehensive report on a daily basis to include pre-task planning and maintain it during the entire duration of the project and for any day not worked between mobilization and demobilization. Training can be provided as necessary. Each Contractor is responsible for specifically alerting to items which could result in claims or delays.

B. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.

C. Daily reports are to be transmitted electronically to Barton Malow Builders by the end of the day for that day's work. The daily report shall include the following as a minimum:
   1. Submit using Flypaper to Autodesk Build.
   2. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
      a. Date.
      b. High and low temperatures, and general weather conditions.
      c. List of Contractors at Project site.
      d. List of separate subcontractors at Project site.
      e. List of visitors at Project site.
      f. Approximate count of personnel at Project site.
         1) Include a breakdown for supervisors, laborers, journeymen, equipment operators, and helpers.
      g. Detailed description of work being performed with specific location, floor, and all other pertinent information.
      h. Major equipment at Project site.

i. Material deliveries.
j. Safety, environmental, or industrial relations incidents. Including any accidents and injuries.
k. Meetings and significant decisions.
l. Unusual events (submit a separate special report).
m. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Barton Malow Builders's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
n. Situations or circumstances which could delay work or give causes for delays or claims for extension or added costs.
o. Directives and requests of Authority(s) Having Jurisdiction (AHJ).
p. Testing and/or inspections performed.
q. Signature of Contractor's authorized representative.

D. Daily reports shall be completed at the end of each day or by 6 am the next morning. Contractors failure to complete daily reports as required will result in payments not being processed or released.

3.05 COORDINATION DRAWINGS

A. Provide information required by project manual, work scopes and specifications for preparation of coordination drawings.

B. Review drawings prior to submission to Architect/Engineer and Barton Malow Builders.

3.06 REQUESTS FOR INFORMATION (RFIS)

A. Definition: A request seeking one of the following:
1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
2. A resolution to an issue which has arisen due to field conditions and affects design intent.

B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI via Autodesk Build in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
1. Prepare a separate RFI for each specific item.
a. Review, coordinate, and comment on requests originating with Contractors, subcontractors and/or materials suppliers.
b. Do not forward requests which solely require internal coordination between Contractors.
2. Prepare in a format and with content acceptable to Barton Malow Builders .
a. Use Autodesk Build for all RFI submissions.
3. Attach any and all additional information required for clarification in the RFI via PDF attachment in Autodesk Build .
4. Ensure RFI is linked to the appropriate sheet(s).

C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included. If an RFI is directly impacting work in the field or will do so before the RFI due date, mark as top priority in Autodesk Build and email Barton Malow Builders team to inform them of the urgency of the item.
1. Unacceptable Uses for RFIs: Do not use RFIs to request the following::
a. Approval of submittals (use procedures specified elsewhere in this section).
b. Approval of substitutions (see Section - 016000 - Product Requirements)

c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).

2. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned rejected without a response.
3. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned rejected without a response.
   a. Barton Malow Builders or the Owner reserves the right to back charge the Contractor for the costs due to processing excessive frivolous RFIs.

D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
   1. Fully complete the RFI form in Autodesk Build including uploading any supporting documentation and photos.
   2. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
   3. Annotations: Field dimensions and/or description of conditions which have engendered the request.
   4. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. Review Time: Architect/Engineer and/or Troy School District will respond and return RFIs to Barton Malow Builders within 14 calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
   1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

G. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Barton Malow Builders .
   1. Response may include a request for additional information, in which case the Contractor is responsible to promptly respond to the request. If an additional RFI is written after the original RFI is closed, it will be identified with a.1 suffix to the original number.
   2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
   3. Upon receipt of a response, promptly review and distribute it to all affected parties.
   4. Notify Barton Malow Builders within three calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

H. Any RFI that is directly impacting work in the field or will do so before the RFI due date, must be marked as high priority in Autodesk Build and an email must be sent to the Barton Malow Builders team to inform and alert us to escalate the item to the design team. In addition, when the response to an RFI results in a price change (deduct or credit), the Contractor is required to notify the Barton Malow Builders team within 3 days of the return of the RFI.

3.07 SUBMITTALS

A. SUBMITTAL SCOPE

1. Where requirements of this section vary from the requirements of the General Conditions, the most stringent requirement shall take precedence.
2. Following the issuance of the contract or Notice to Proceed (NTP), Barton Malow will prepare and provide a submittal register/schedule including close-out documentation for the Contractor's use in preparing submittals required for the Project.
3. The Contractor shall complete the submittal schedule/register (provided by Barton Malow) showing the dates for submission, lead times required, and their expected delivery dates to maintain and follow the construction schedule, within 14 days of receipt.
4. When the Contractor completes the above-mentioned submittal schedule, the Contractor must clearly identify any items related to the scope of work that have a lead time of greater than 4 weeks. These items will be tracked on a material schedule for scheduling and quality control purposes.
5. Dates for submission noted by the Contractor must assume re-submittals will be required.
6. Account for time required for preparation, review, manufacturing, fabrication, and delivery when establishing submittal delivery and review deadline dates. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.
7. Deliver each submittal by date noted in submittal schedule, unless another date has been agreed to by all affected parties, and is of the benefit to the project.
    a. Upload submittals in electronic form via Autodesk Build and submit to Barton Malow Builders.
    b. Deliver submittals such as samples and draw downs to Barton Malow Builders at 1140 Rankin Dr. .
8. Barton Malow Builders will not be held responsible for delays to the overall Project or other Contractors due to receiving submittals after the date indicated in the Barton Malow Builders bid category work scopes, submittal log, and per sections below.
9. Submittals shall be packaged based on each technical specification section. Include all submittals for review and submittals for information, when submitting a package. Submittals containing information about more than one specification section will be returned for re-submittal.
10. Contractor is responsible to submit all submittals as required per the Contract Documents and Specifications, as well as any additional items that are standard to the Contractor's respective scope(s) of work, whether or not listed in the submittal log/register.
11. Any submittal deviation from the contract documents must be clouded out and noted on the submittal by the Contractor for Barton Malow Builders and Architect/Engineer review.
12. Contractor is responsible for completing all submittals (less final warranties, training, and attic stock) within 14 days of contract award, this includes sample warranties if required by the specifications.
13. After review, Contractor shall furnish approved copies of shop drawings, diagrams, templates, catalog cuts, technical data, etc. to other Contractors for the purposes of coordination of this work.
14. Coordination: Each Contractor shall coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
    a. By providing the submittal, Contractor assures the product or system submitted is available and deliverable in accordance with the schedule requirements.
    b. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.

c. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
d. Barton Malow Builders and Architect/Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
e. Coordinate each submittal as required with all trades and with all public agencies involved.
f. Secure all necessary approvals from public agencies and others; signify by stamp or other means that all required approvals have been obtained.

B. SUBMITTAL REQUIREMENTS
1. Each submittal shall show Contractor's review stamp signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information are in accordance with the requirements of the work and Contract Documents.
2. Identify: Project, Barton Malow Builders, Contractor or supplier, pertinent drawing and detail number, and specification section number and article/paragraph, as appropriate, on each copy.
3. If a submittal register item is missing, notify Barton Malow Builders so it can be added to the system for your team to attach appropriate PDFs for submission.
4. In general, all submittals, except color, physical samples, or mockups, are to be created in a PDF document form and uploaded to their respective register number in Autodesk Build so it can be electronically reviewed by all parties necessary. Scanned copies of submittals will not be accepted.
5. All submittals will be reviewed electronically, and the Contractor will be notified in Autodesk Build when the review is complete. The status will be noted both on the PDF and in the Autodesk Build system assigned to the item.
6. Samples will be reviewed for aesthetic, color, or finish selection. Contractor to submit 1 sample more than the specification requirement.
7. Any and all Substitution Requests must be accompanied with a filled out Substitution Request form as found in the Architects specifications. This form must be submitted with all accompanying information via Autodesk Build following all other submittal requirements/processes.

C. TYPES OF SUBMITTALS
1. Shop Drawings
a. Provide Shop Drawings as complete submittals (no partial sets) on original drawings or information prepared solely by the fabricator or supplier. In no instance shall the Contract Drawings be reproduced for Shop Drawing Submittals.
2. Product Data
a. Modify product data sheets to delete information that is not applicable to the project and/or highlight specific items applicable to this project. Provide additional information if necessary to supplement standard information
b. Product data sheets that are submitted with extraneous information not deleted and/or modified will be returned without review to the Contractor for resubmittal.
3. Samples/Mock-ups
a. Provide physical samples to illustrate materials, equipment or workmanship, and to establish standards by which completed work may be judged as required by the technical section.
b. Provide office samples in sufficient size or as defined in the technical specifications and quantity to clearly illustrate full range of colors, textures, etc. available and the functional characteristics of the product material.

c. Contractor to submit 1 additional sample above what is required in the Contract Documents and Specifications.
d. Erect Field Samples or mock-ups as required by the technical sections and/or Barton Malow Builders, at the Project site in a location designated by Barton Malow Builders. Construct field samples to be complete, including Work of all trades required in finishing the Work. Provide Field Samples at the request of the Owner, Architect and/or Barton Malow Builders where construction materials and/or methods deviate from the requirements of the intent of the Contract Documents or conventional construction practice.
e. Reference Section 014000 - DO NOT USE Quality Requirements for additional mock-up requirements.

4. Certifications
   a. Certifications shall clearly identify the materials in reference and shall state that the material and the intended installation methods, where applicable, are in compliance with the Contract Documents for this project. Attach manufacturer's affidavits where applicable.
5. Closeout Submittals
   a. Refer to Section 017800 - Closeout Submittals for close-out information and requirements including the standard Contractor's Guarantee Form that must be signed, without modification, in order to receive final payment. A copy of this form is either found in _____ or is available upon request.

D. SUBMITTAL PROCESS AND RESPONSIBILITIES
1. Contractor's Responsibilities
   a. After Barton Malow Builders', Architect's, and Owner's review, Contractor is responsible to distribute copies of the reviewed submittal to any supplier/fabricators, second or lower tier Subcontractors, or other Contractors that must coordinate with this work. Contractor must ensure that all of their respective field staff/foreman have the reviewed information.
   b. Do not begin Work which requires submittals until return of submittals with Barton Malow Builders', Architect's, and Owner's stamp and initials indicating status of review being either Approved, or Approved as Noted.
   c. Contractor's responsibility for errors and omissions in submittals is not relieved by Barton Malow Builders', Architect's, and Owner's review of submittals.
   d. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Barton Malow Builders', Architect's, and Owner's review of submittals unless Barton Malow Builders', Architect's, and Owner's give written acceptance of specific deviations. Contractor must note and cloud any deviations from the contract documents on their submittals prior to submission.
2. Barton Malow Builders' Responsibilities
   a. Barton Malow Builders' review is for general administrative purposes only and neither this review, nor any subsequent approval by Barton Malow Builders of a submittal, shall relieve Contractor from its obligations to comply fully with the Contract Documents.
   b. Barton Malow Builders will make changes or notations directly on the submittals, identify such review with its review stamp, sign, and forward acceptable submittals to the Architect and/or Owner.
   c. After the Architect and/or Owner's review, Barton Malow Builders will forward submittals to the Contractor.
3. Architect's Responsibilities
   a. Architect will review submittals within 14 days after receipt, checking only for conformance with the design compliance of the Project, and compliance with information given in the Contract Documents. If the submission is large and/or requires detailed or lengthy review by the Architect, additional time may be required.

b. Architect will return to Barton Malow Builders without review any submittals not bearing the Contractor's or Barton Malow Builders' review stamp or not showing that it has been reviewed by the Contractor and Barton Malow Builders.
c. Architect will make changes or notations directly on the submittal, identify such review with its review stamp, obtain and record Architect file copy and return the submittal to Barton Malow Builders.

4. Re-Submission Requirements
   a. For Shop Drawings: Review returned Barton Malow Builders and/or Architect drawings and resubmit as specified. All changes made must be identified through bubbling or other approved methods.
   b. For Product Data and Samples Resubmit new data and samples as required.

3.08 SUBSTITUTION REQUESTS

A. Any and all Substitution Requests must be accompanied with a filled out Substitution Request form as found in the Architects specifications. This form must be submitted with all supporting documentation via Autodesk Build following all other submittal requirements/processes.

B. Any product for which a substitution request is submitted must meet all specification requirements.

C. Substitution requests must be submitted with enough time to allow for complete review by the Architect/Owner and not delay Project Schedule.

D. Each Substitution request should be accompanied by the following supporting documentation:
   1. Product identification, including the manufacturer's name and address
   2. Manufacturer's literature; identifying:
      a. Product description and technical information.
      b. Reference standards.
      c. Performance and test data
      d. Installation instruction, operating procedures, and other like information.
   3. Samples, as applicable.
   4. Names and addresses of similar projects on which product has been used, and date of each installation.
   5. Itemized comparison of the proposed substitution with the product specified, listing all significant variations.
   6. Data relating to changes in delivery or construction schedule.
   7. A list of all effects of the proposed substitution on separate contracts.
   8. Accurate cost data comparing the proposed substitution with the product specified.
      a. Amount of any net change to Contract Sum.
   9. Designation of availability of maintenance services and sources of replacement materials.
   10. Substitute products shall not be ordered or installed without written acceptance via approval of the Substitution Request Form.

E. In making formal request for substitution the Contractor represents that:
   1. It has investigated the proposed product and has determined it is equivalent to or superior in all respects to the product specified.
   2. It will provide same warranties or bonds for the proposed substitution as required for the product specified.
   3. It will coordinate installation of the accepted substitution into the Work, and will make such changes as may be required for the Work to be complete in all respects.
   4. It waives all claims for additional costs caused by or arising from the substitution which may subsequently become apparent.
   5. Cost data is complete and includes related costs under its Agreement.
   6. Any modifications necessary as a result of the use of an approved substitute shall be paid by the Contractor proposing the substitution.

7. Any additional engineering costs required to be performed by the Architect to approve, implement, or coordinate the substitution above reasonable review services, shall be paid by the Contractor proposing the substitution.
8. Under no circumstances will the Architect be required to prove that a product proposed for substitution is or is not equal to the quality of the product specified.

F. Substitution requests that are not approved will be returned to the party submitting the request with an explanation for the rejection.

G. Substitutions will be considered only when the required form is completed and included with the submittal containing all required backup data. This form can be found in the Architects specifications.

3.09 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit all closeout submittals as required via the Contract Documents and Specifications as well as any additional items that are standard to the Contractor's respective scope(s) of work.

B. Contractor is responsible for recording and transmitting any trainings and/or demonstrations required in the Contract Documents and Specifications.

C. Submit Final Contractor signed off Correction Punch List for Substantial Completion.

D. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 017800 - Closeout Submittals:
1. Project record documents.
2. Operation and maintenance data.
3. Warranties.
4. Demonstration and Training.
5. Attic Stock.
6. Other types as indicated.

E. All additional information can be found in Section 017800 - Closeout Submittals

3.10 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Extra Copies at Project Closeout: See Section 017800.

C. Samples: Submit four samples as specified in individual specification sections and for materials shown on the finish schedule; two of which will be retained by Architect/Engineer and Owner.
1. After review, produce duplicates.
2. Retained samples will not be returned to Contractor unless specifically so stated.

3.11 SUBMITTAL REVIEW

A. Submittals: Architect/Engineer will review each submittal, and approve, or take other appropriate action.

B. Substitution Requests: Architect/Engineer will acknowledge receipt and review. See below for actions to be taken.

C. Architect/Engineer's actions will be reflected by marking each returned submittal using a virtual stamp on electronic submittals.
1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.

D. Architect/Engineer's and consultants' actions on items submitted for review:
1. "Approved", or language with same legal meaning.
2. "Approved as Noted, Resubmission not required", or language with same legal meaning.

a. At Barton Malow Builders' option, submit corrected item, with review notations acknowledged and incorporated.

3. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
   a. Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
4. "Revise and Resubmit".
   a. Resubmit revised item, with review notations acknowledged and incorporated.
5. "Rejected".
   a. Submit item complying with requirements of Contract Documents.

E. Architect/Engineer's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "Received" - to notify the Contractor that the submittal has been received for record only.
   2. Items for which action was taken:
      a. "Reviewed" - no further action is required from Contractor.

END OF SECTION 013000

SECTION 013114
COORDINATION DRAWINGS (NOT 3D)

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Services of a coordinator for facility services construction.

B. Coordination documents.

1.02 RELATED REQUIREMENTS

A. Section 013000 - Administrative Requirements: Additional requirements for coordination.

1.03 MECHANICAL AND ELECTRICAL COORDINATOR

A. Employ and pay for services of a person, technically qualified and administratively experienced in field coordination of the type of work required to be coordinated, for the duration of the Work.

1.04 SUBMITTALS

A. All Contractors with coordination work listed below shall submit coordination drawings to the Mechanical Contractor in Revit file format.

B. Mechanical Contractor shall incorporate coordination required sections below from Revit files provided and coordinated with other Trades into one Revit file coordination drawing and submit to the Barton Malow Builders for approval.

C. Submit coordination drawings and schedules prior to submitting shop drawings, product data, and samples.

D. Submit shop drawings after approved coordination drawings are sent back from the Architect and Engineer of record.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 COORDINATION REQUIRED

A. Coordinate the work listed below:
   1. Architectural: Division 3-13.

B. Fire Suppression: Division 21.
   1. Plumbing: Division 22.
   2. Heating, Ventilating, and Air Conditioning: Division 23.
   3. Electrical: Division 26.

C. The following work is to be coordinated:

Above Ceiling Equipment
Above Ceiling Structural Supports
Hydronic Piping & Valves
Domestic Water Piping & Valves
Storm, Sanitary, & Vent Piping
Compressed Air Piping & Valves
Med Gas Piping & Valves
Fire Sprinkler Piping & Valves
Sprinkler Heads
Ductwork & Dampers
Air Terminal Devices
Diffusers
Light Fixtures
Conduit & Junction Boxes
Access Panels

_____
_____

D. Conduct meetings among separate Contractors and others concerned, to establish and maintain coordination and schedules, and to resolve coordination matters in dispute.

3.02 COORDINATION DOCUMENTS

A. Prepare coordination drawings to organize installation of products for efficient use of available space, proper code access spacing for proper sequence of installation, and to identify potential conflicts.

B. Maintain documents for the duration of the work, recording changes due to site instructions, modifications or adjustments.

C. After Architect and Engineer of record review of original and revised documents, reproduce and distribute copies to concerned parties.

3.03 COORDINATION OF SUBMITTALS

A. Check field dimensions and required clearances and relationship to available space and anchors.

B. When changes in the work are made, review their effect on other work and note on the coordination drawing.

C. Conflicts that cannot be resolved are to be clouded out for Architect/Engineer review.

3.04 COORDINATION OF SUBSTITUTIONS AND MODIFICATIONS

A. Verify compliance with Contract Documents and for compatibility with work of other sections.

B. Submit with recommendation for action.

3.05 OBSERVATION OF WORK

A. Observe work for compliance with Contract Documents.

END OF SECTION 013114

SECTION 013216
SCHEDULE AND PHASING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, bar chart type.

1.02 RELATED SECTIONS

A. Contract Document

B. Section 011000 - Use of Premises: Work sequence.

1.03 GENERAL REQUIREMENTS

A. Refer to the Contract Documents for requirements related to Contract Time, Commencement of Work, Milestones, Substantial Completion and Final Completion of the Project Schedule.

B. The Work shall proceed at such rate as will ensure meeting the specified Milestone Dates & Durations and dates for Substantial Completion and Final Completion. By execution of the Contract, the Contractor represents he/she has analyzed the Work, the materials and methods involved, the systems of the building, availability of qualified mechanics and unskilled labor, restrictions of the site, constraints imposed, his own workload and capacity to perform the work and agrees that the specified durations and milestone dates are reasonable considering the existing conditions prevailing in the locality of the work, including weather conditions, and other factors, with reasonable allowance for variations from average or ideal conditions.

C. The Preliminary Schedule Date for completion of all contract start-up activities shall be established by Barton Malow Builders.

D. A Preliminary Project Schedule is provided at the end of this section and is part of the Contract Documents. A Schedule will be prepared by Barton Malow Builders based on the Contractor's input including all product and equipment lead times after Contract Award. Barton Malow Builders will compile all Contractors' input and develop a schedule (Note: durations identified in the preliminary schedule will not change unless approved by Barton Malow Builders). Once the individual Contractors' input on sequencing are agreed upon by Barton Malow Builders, this schedule will become the project plan for construction.

E. Barton Malow Builders reserves the right to revise the schedule as deemed necessary.

F. Reasonable changes in sequencing, durations, and phasing are to be expected with each schedule update. These changes will be made by Contractor at no additional cost.

G. Contractors shall bring to the attention of Barton Malow Builders any special requirements needed within 7 days.

H. While rearrangement of activity sequences may occur after contract award, all Preliminary Schedule Bid Durations shall remain in effect and all bidders shall accept the milestone dates established in the Schedule.

I. Each Contractor agrees to commence work in the field within 3 calendar days after being notified to do so by Barton Malow Builders . The Contractor shall timely and diligently perform and fully complete all of the work to the satisfaction of Barton Malow Builders, Architect/Engineer and Owner. The work shall begin at such points as Barton Malow Builders may designate and shall be carried to completion with the utmost speed.

J. If a Contractor delays progress for any reason other than those allowed by the General Conditions, said Contractor will take all necessary steps to expedite their contract work to maintain activity durations and milestone dates as depicted in the Schedule at no expense or additional cost to Barton Malow Builders and Owner.

K. If, in the opinion of Barton Malow Builders, a Contractor is behind schedule and is so notified by Barton Malow Builders in writing, said Contractor will be required to furnish to Barton Malow Builders a short interval schedule of their work showing location, number of men and crew required to get back on the agreed-upon schedule. If the Contractor fails to maintain and meet the short interval schedule submitted to Barton Malow Builders, Barton Malow Builders reserves the right to take whatever steps necessary to put the work back on schedule at the Contractor's expense. The Contractor shall employ such means as overtime work, multiple work shifts, and additional equipment, without additional compensation and shall continue to do so until the progress of the work is, in the opinion of Barton Malow Builders, in conformance with the Schedule.

L. Each Contractor agrees that it shall have no claim against the Owner, Architect, or Barton Malow Builders for an increase neither in the contract price nor for a payment or allowance of any kind for damage, loss, or expense resulting from delays regardless of whether the delay is the basis for an extension of time. Each Contractor shall have no claim for damage, loss, or expense resulting from reasonable interruptions to, or necessary suspension of, their work to enable other Contractors to perform their work.

M. Adverse/Severe Weather
   1. Activity and sequence adjustments may be made when there is adverse weather. The weather experienced at the project site during the contract period must be found to be unusually severe, and for a period greater than typically anticipated for the project location during any given month before a schedule adjustment is made.
   2. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.
   3. Upon issue Letter of Intent (LOI) or Notice to Proceed (NTP) and continuing throughout the Contract, the Contractor will record on their daily report, the occurrence of the adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for fifty percent (50%) or more of the Contractor's scheduled workday.
   4. Weather days lost during the week must be made up the following weekend with required notice to Barton Malow Builders.

N. Bidders are aware that by signing the Contract they are certifying that they have reviewed and accepted the initial durations in the preliminary project schedule at the end of this section. Contractor shall note that they shall allow for a possible start or end date within 90 days of those dates shown in the schedule.

O. Contractors are required to abide by all iterations of the Schedule, Phasing and Logistics plans, and as directed by Barton Malow Builders.

1.04 SUBMITTALS

A. The technical submittal requirements are identified in the various Specification Sections assigned to each bid category, and they shall be submitted in accordance with the Submittal Register specified in Section 013000 - Administrative Requirements.

B. Within 14 days after date Letter of Intent (LOI) or Notice to Proceed (NTP), submit proposed schedule for respective scope of work in form and substance satisfactory to Barton Malow Builders of all activities contained in the Contractor's scope of Work, including activity descriptions and durations in working days, for shop drawings, fabrication, delivery, and installation of products, materials, and equipment. This schedule shall identify precedent relationships between Contractor's activities and those of other Contractors, necessary manpower loadings, and precedent activities for other Contractors. The activities on the schedule must be at a level of detail approved by Barton Malow Builders and should agree with the terminology and building sequencing established by Barton Malow Builders.

C. If the proposed schedule requires revision after review, submit a revised schedule within 10 days after review.

D. Submit in PDF format or in requested format by Barton Malow Builders.

E. Administrative submittals shall be submitted in accordance with the following durations unless otherwise noted in other sections of this Project Manual:
   1. Signed contract agreement: 7 days after receipt
   2. Performance and payment bonds: 7 days after Reciept of Contract.
   3. Partially executed Waiver of Liens: 1 days after Reciept of Contractor payment .
   4. Material handling plan: 7 days after Reciept of Contract.
   5. Permits/licenses: Prior to start of construction.
   6. Certificates of insurance: 7 days after Reciept of Contract.
   7. Contractor safety program: Prior to start of construction.
   8. Contractor's initial construction schedule input and completed work item listing: 10 days after Letter of Intent (LOI) or Notice to Proceed (NTP).
   9. List of Subcontractors, suppliers and fabricators: 3 days after Post-bid review.
   10. List of Contractor's staff assignments and phone number: 3 days after Post-bid review.
   11. Schedule of values: 7 days after Post-bid review.
   12. Initial product list schedule: 7 days after Post-bid review.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 BID PACKAGE PRE-BID CONSTRUCTION SCHEDULE

A. A Preliminary project schedule indicating activity durations is included at the end of this section to communicate how activities are sequenced, to established durations for activities, and to provide the general time frame for the work to commence for each bid category.

B. Each Contractor is responsible for construction sequencing and means and methods for their bid category. Therefore, Contractor may propose sequencing which differs from the Preliminary Schedule providing that achieves the Milestone Dates listed.

C. Note that the Schedule is preliminary and that the project start and/or substantial completion date may be moved at the direction of Barton Malow Builders and/or the Owner.

D. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, products identified under Allowances, and dates reviewed submittals will be required from Architect/Engineer. Indicate decision dates for selection of finishes.

3.02 CRITICAL PATH METHOD SCHEDULE

A. This Project's schedule shall be monitored using the Critical Path Method (CPM). The purpose is to assist the Contractor in completing the Work on time and as a means for Barton Malow Builders to monitor progress of the Contractors.

B. The Contractor shall meet with Barton Malow Builders after award to review the schedules attached to this Specification Section. Following the review, the Contractor shall meet with each subcontractor and supplier to prepare detailed plans for performing the Work.

C. Following these meetings and within 14 days after Letter of Intent (LOI) or Notice to Proceed (NTP), the Contractor shall prepare and submit the following material for Barton Malow Builders's approval:
   1. A bar chart of all activities included in the Contractor's Scope of Work. This bar chart is to indicate durations for all activities in working days (as opposed to calendar days). Activities must have a single source of responsibility and must depict a single geographical area (e.g floor or areas within a floor). Third-party dependent activities, such as inspections or owner furnished equipment, shall be identified by Contractor. The activities on the bar chart must be at a level of detail approved by Barton Malow Builders

and agree with the terminology and building zoning established by Barton Malow Builders.

2. If specifically requested by Barton Malow Builders,the bar chart shall be cost and manpower loaded.
3. Precedent relationships between the Contractor's activities and those of other Contractors based on a thorough review of the Contract Drawings details showing interface between contracts shall be identified.
4. Graphic diagrams indicating the proposed direction of work whenever applicable or if requested by Barton Malow Builders.
5. Planned crew sizes, equipment, production rates and similar data used to arrive at adequate durations and sequences.
6. The Contractor's bar chart shall include activity descriptions and durations for shop drawings preparation and review, fabrication, delivery and installation of products, materials and equipment. Activities shall depict the Contractor’s planned work, and not as-built.
7. If the Contractor cannot provide a complete bar chart of all of its activities within 14 days after issuance of Letter of Intent (LOI) or Notice to Proceed (NTP), the Contractor may, with Barton Malow Builders' written approval, provide a work plan for the first 60 days after Letter of Intent (LOI) or Notice to Proceed (NTP). The Contractor's final bar chart shall be complete and submitted to Barton Malow Builders prior to the 10th day after Reciept of Contract.
8. The Contractor is to provide a list with corresponding lead times of all materials with longer than a 4 week lead time within 10 days after issuance of Letter of Intent (LOI) or Notice to Proceed (NTP).

D. The Contractor's agreed upon bar chart and schedule information will be incorporated into a Schedule prepared by Barton Malow Builders. The Contractor shall be required to send both field and office representatives knowledgeable of the items, to the Schedule Coordination Meetings conducted by Barton Malow Builders with the various Contractors. The purpose of these meetings is to coordinate the various Contractors schedules.

E. After the Coordination Meeting, Barton Malow Builders will prepare and issue a Schedule for review and comment by the Contractors. Contractors shall submit comments within 7 days after receipt of Barton Malow Builders' Schedule. Review of Barton Malow Builders' schedule to identify missing activities or relationships with other Contractors relevant to the scope of the Contractor's work is the responsibility of the Contractor. As such, the Contractor will not be granted time extensions to complete activities not initially included in the Contractor's bar chart and the subsequent Barton Malow Builders' Schedule.

F. Upon receipt of Contractor's review comments, or after the 14 day review period has expired, whichever occurs first, Barton Malow Builders will prepare and issue the Schedule. The schedule may be issued as a network or bar chart and will include a print-out of scheduled activities and their associated start and finish dates. Barton Malow Builders will incorporate the Contractor's comments provided they do not affect milestone dates or dates of Substantial and Final Completion and provided they are consistent with the coordination requirements of other Contractors.

G. Barton Malow Builders shall issue the Schedule for acceptance by each Contractor. This acceptance shall be provided in writing within 7 days of receipt of the Schedule. Failure to respond within the 7 day period shall be deemed as acceptance by the Contractor of the Schedule.

H. Barton Malow Builders will utilize the Schedule to plan and coordinate all construction activities of the Contractors. All Contractors are to complete all work in accordance with the detailed Schedule issued by Barton Malow Builders.

I. The float in the project schedule is intended to be utilized and consumed by the project as needed, and is not solely available for the exclusive use of any party.

3.03 UPDATES AND MODIFICATIONS TO THE CONSTRUCTION SCHEDULE

A. Before the start of construction, all parties performing work will be required to attend and participate in a schedule meeting. Contractors are expected to come prepared to the meeting with a knowledge of the bid schedule and work activities required to complete the project. The meeting(s) will be several hours and all contractors performing work are expected to attend.

B. Each Contractor will be required to submit a 6 week look-ahead schedule every Friday to Barton Malow Builders or at an alternate time determined by the CM. The look-ahead schedule should address all work activities occurring within the six week schedule window, including deliveries and releases of materials. The look-ahead schedule shall be manpower loaded (i.e. the number of craft personnel working on each specific activity each day). The look-ahead schedules will be reviewed and discussed at the weekly Contractor meeting.

C. If during the progress of the work, the Contractor determines he will not be able to complete his work in the time allotted, he must notify Barton Malow Builders within 3 days after publication of Barton Malow Builders' updated Project Schedule. Adjustments may be made to accommodate the Contractor if written notification is given to Barton Malow Builders, the adjustment is within the stated milestone dates, and Barton Malow Builders approved the adjustment after reviewing its impact on other Contractor. Otherwise, Barton Malow Builders' Schedule shall be deemed accepted by all parties and becomes a contractual requirement for the Contractor.

D. Weekly progress meetings will be held at the job site. Field Supervisors from all Contractors are to attend all progress meetings. The Contractor shall prepare a short interval schedule, generally covering 6 week periods, to coordinate the detailed activities of Subcontractors, Suppliers, and delivery of equipment/materials. The short interval schedules shall be prepared in bar chart form and submitted 24 hours prior to the job progress meetings, or as required by Barton Malow Builders.

3.04 ADJUSTMENT OF CONTRACTOR'S EFFORT

A. Whenever it becomes apparent that any activity duration, activity completion date, and/or milestone date may not be met, the responsible Contractor shall take the actions specified in the, Terms & Conditions, Standard General Conditions and Supplementary General Conditions.

B. If the Contractor fails to take action, Barton Malow Builders may proceed in accordance with the Terms & Conditions, Standard General Conditions and Supplementary General Conditions.

C. If Contractor is requesting a time extension to its original contract duration as a result of Owner or Architect/Engineer requested change or an impact caused by the actions of another Contractor or Barton Malow Builders, the Contractor must submit a time impact analysis of their schedule with each change, which demonstrates how the critical path of the Contractor’s schedule was impacted and the justification of the additional time requested.

3.05 DISTRIBUTION OF SCHEDULE

A. Contractor is responsible to distribute copies of updated Barton Malow Builders schedules to subcontractors, suppliers, and other concerned parties.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION 013216

SECTION 013553
SECURITY PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Security measures including entry control, personnel identification, and miscellaneous restrictions.

1.02 RELATED REQUIREMENTS

A. Section 011000 - Use of Premises: use of premises and occupancy.

B. Section 015000 - Temporary Facilities and Controls: Temporary power/ lighting and Temporary heat.

1.03 SECURITY PROGRAM

A. The services of security guards will not be provided by Barton Malow Builders or Owner.

B. Each Contractor, at its own cost and expense, may provide security guard, protective service or other means of site security as it deems necessary. Contractors are expected to protect Work , existing premises and Owner's operations from theft, vandalism, and unauthorized entry.

C. Contractors shall advise Barton Malow Builders of any theft or damage which might delay the execution of the Work and furnish the Owner and Barton Malow Builders with a copy of any theft report filed with local, county or state agencies.

D. Neither Barton Malow Builders nor the Owner assumes any responsibility for loss, theft or damage to the Contractor's materials or for damage to Work in place before the completion of the construction. In the instance of any such loss, theft or damage, the Contractor shall be responsible to renew, restore or remedy the Work, tools, equipment and construction in accordance with requirements of the Contract Documents without additional cost to Barton Malow Builders or Owner.

E. Barton Malow Builders or Owner is not responsible for damage, liability, theft, casualty or other hazard to the automobiles or other vehicles, nor to injury, including death, to occupants of automobiles or other vehicles on the Owner's property.

F. Barton Malow Builders or Owner may establish additional security policies and procedures. All Contractors will be required to cooperate with implementing these procedures.

G. Site parked equipment, operable machinery and hazardous parts of the new construction subject to mischief and accidental operation shall be inaccessible, locked or otherwise made inoperable when left unattended.

H. Initiate program at project mobilization.

I. Maintain program throughout construction period, or as directed by Barton Malow Builders.

1.04 ENTRY CONTROL

A. Restrict entrance of persons and vehicles into Project site and existing facilities.

B. Allow entrance only to authorized persons with proper identification.

C. Maintain log of workers and visitors via Barton Malow QR code and Contractor daily reports, make available to Owner on request.

D. Barton Malow Builders shall control entrance of persons and vehicles related to Owner's operations.

1.05 PERSONNEL IDENTIFICATION

A. Contractor will be required to sign out a Contractor Badge from Owner when working in an unoccupied and occupied building or any building off hours with Barton Malow Builders and

Owner approval. Badges will be required for every onsite employee, worker, supplier, and visitor. The badges are to be worn at all times while on the project.

B. Badge to Include: Personal photograph, name, assigned number , expiration date and employer.

C. Require return of badges at the end of each day to Barton Malow Builders and Owner.

1.06 RESTRICTIONS

A. Owner does not allow cameras on site or photographs taken except by written approval of Owner.

B. Contractor shall have a written Substance Abuse Policy. The use or possession of illegal drugs or the use of alcohol while performing Work on the Project are strictly prohibited and may lead to immediate removal from the Project.

C. The construction site will be tobacco free, which includes but is not limited to smoking, chewing tobacco and e-cigarettes.

D. Personal cell phones are not to be used on construction sites except to report an emergency or on approved break time. Use of business cell phones must not interfere with jobsite safety. The use of camera features on cell phones is strictly prohibited.

E. Personal radios or music players with earphones are not permitted.

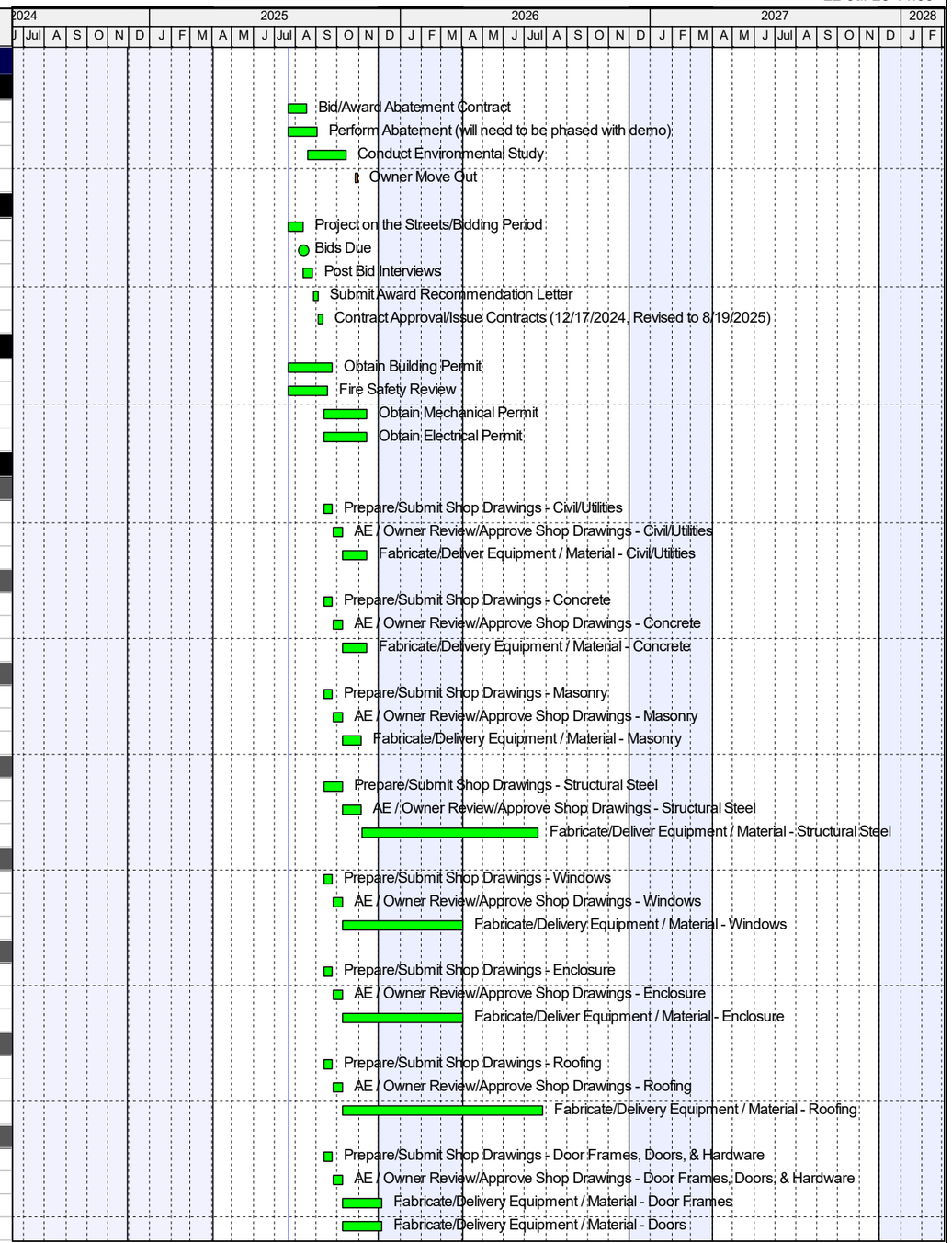
F. Do no work on Sundays.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 013553

Activity ID	Activity Name	Original Duration	Start	Finish
Troy - BP #5 - Administration Building Renovations				
OWNER PRE-CONSTRUCTION				
A3460	Bid/Award Abatement Contract	20d	22-Jul-25	18-Aug-25
A3630	Perform Abatement (will need to be phased with demo)	30d	22-Jul-25	02-Sep-25
A3530	Conduct Environmental Study	40d	19-Aug-25	14-Oct-25
A3620	Owner Move Out	5d	27-Oct-25*	31-Oct-25
BID & AWARD				
A3480	Project on the Streets/Bidding Period	16d	22-Jul-25*	12-Aug-25
A3490	Bids Due	0d		12-Aug-25
A3500	Post Bid Interviews	10d	13-Aug-25	26-Aug-25
A3510	Submit Award Recommendation Letter	5d	27-Aug-25	03-Sep-25
A3520	Contract Approval/Issue Contracts (12/17/2024, Revised to 8/19/2025)	5d	04-Sep-25	10-Sep-25
PERMITS				
A3540	Obtain Building Permit	45d	22-Jul-25	23-Sep-25
A4310	Fire Safety Review	40d	22-Jul-25	16-Sep-25
A3550	Obtain Mechanical Permit	45d	11-Sep-25	12-Nov-25
A3560	Obtain Electrical Permit	45d	11-Sep-25	12-Nov-25
SUBMITTALS & MATERIAL PROCUREMENT				
Civil				
A1770	Prepare/Submit Shop Drawings - Civil/Utilities	10d	11-Sep-25	24-Sep-25
A1780	AE / Owner Review/Approve Shop Drawings - Civil/Utilities	10d	25-Sep-25	08-Oct-25
A1790	Fabricate/Deliver Equipment / Material - Civil/Utilities	25d	09-Oct-25	12-Nov-25
Concrete				
A2300	Prepare/Submit Shop Drawings - Concrete	10d	11-Sep-25	24-Sep-25
A2310	AE / Owner Review/Approve Shop Drawings - Concrete	10d	25-Sep-25	08-Oct-25
A2320	Fabricate/Delivery Equipment / Material - Concrete	25d	09-Oct-25	12-Nov-25
Masonry				
A2340	Prepare/Submit Shop Drawings - Masonry	10d	11-Sep-25	24-Sep-25
A2350	AE / Owner Review/Approve Shop Drawings - Masonry	10d	25-Sep-25	08-Oct-25
A2360	Fabricate/Delivery Equipment / Material - Masonry	20d	09-Oct-25	05-Nov-25
Structural Steel				
A1930	Prepare/Submit Shop Drawings - Structural Steel	20d	11-Sep-25	08-Oct-25
A1940	AE / Owner Review/Approve Shop Drawings - Structural Steel	20d	09-Oct-25	05-Nov-25
A1950	Fabricate/Deliver Equipment / Material - Structural Steel	175d	06-Nov-25	20-Jul-26
Windows				
A2380	Prepare/Submit Shop Drawings - Windows	10d	11-Sep-25	24-Sep-25
A2390	AE / Owner Review/Approve Shop Drawings - Windows	10d	25-Sep-25	08-Oct-25
A2400	Fabricate/Delivery Equipment / Material - Windows	120d	09-Oct-25	02-Apr-26
Siding / Enclosure				
A1890	Prepare/Submit Shop Drawings - Enclosure	10d	11-Sep-25	24-Sep-25
A1900	AE / Owner Review/Approve Shop Drawings - Enclosure	10d	25-Sep-25	08-Oct-25
A1910	Fabricate/Deliver Equipment / Material - Enclosure	120d	09-Oct-25	02-Apr-26
Roofing				
A2420	Prepare/Submit Shop Drawings - Roofing	10d	11-Sep-25	24-Sep-25
A2430	AE / Owner Review/Approve Shop Drawings - Roofing	10d	25-Sep-25	08-Oct-25
A2440	Fabricate/Delivery Equipment / Material - Roofing	200d	09-Oct-25	27-Jul-26
Door Frames, Doors, & Hardware				
A2460	Prepare/Submit Shop Drawings - Door Frames, Doors, & Hardware	10d	11-Sep-25	24-Sep-25
A2470	AE / Owner Review/Approve Shop Drawings - Door Frames, Doors, & Hardware	10d	25-Sep-25	08-Oct-25
A2490	Fabricate/Delivery Equipment / Material - Door Frames	40d	09-Oct-25	05-Dec-25
A2480	Fabricate/Delivery Equipment / Material - Doors	40d	09-Oct-25	05-Dec-25



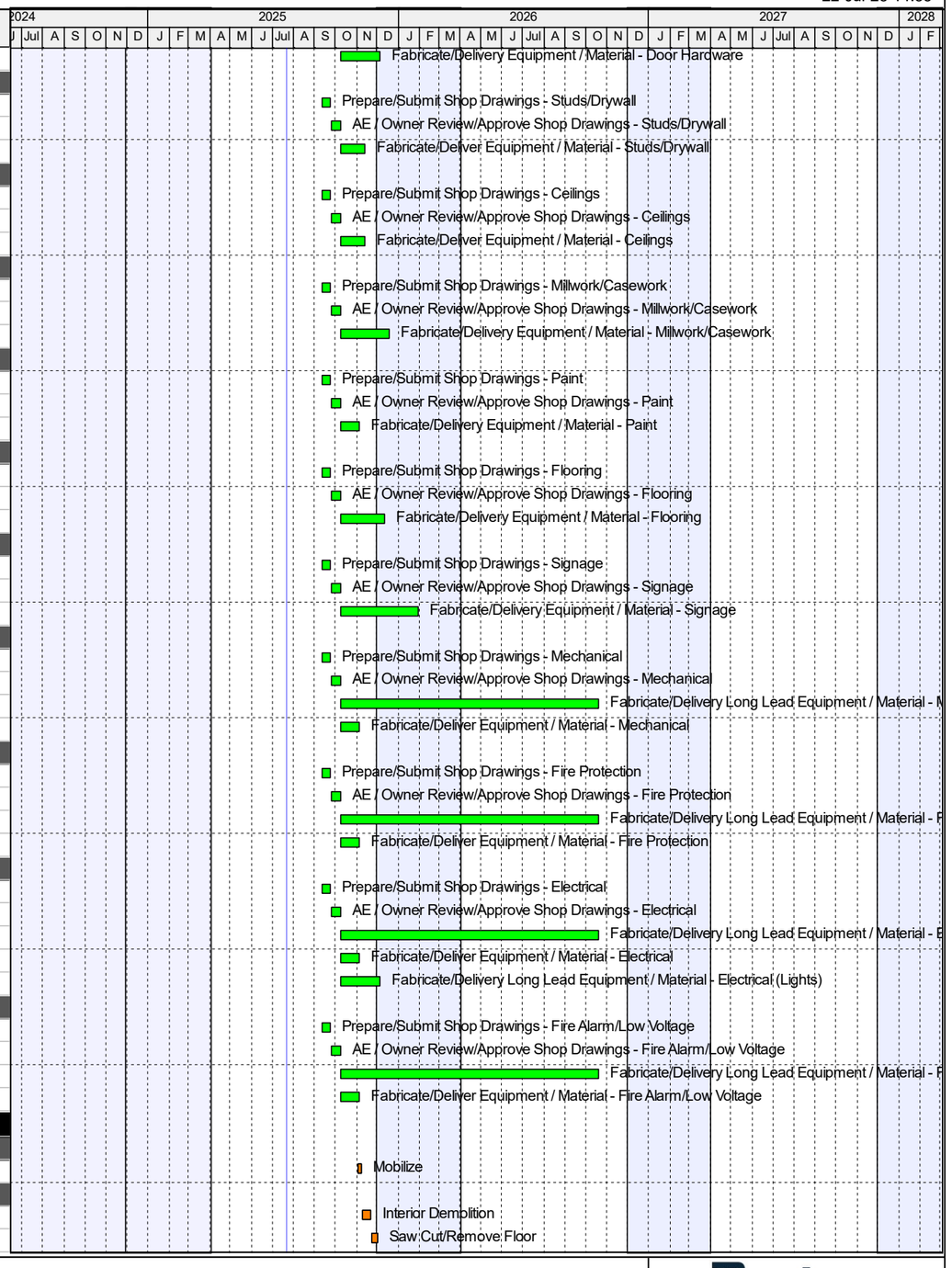
Remaining Level of Effort
Actual Level of Effort
Actual Work
Start Milestone
SM Critical
SM/FM Actual
Finish Milestone
FM Critical
Remaining Work
Critical Remaining Work

Start Date: 01-Aug-24
Finish Date: 20-Oct-26
Data Date: 22-Jul-25
Run Date: 22-Jul-25

Troy - BP #5 - Administration Building Renovations
Draft Schedule
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Barton Malow

Activity ID	Activity Name	Original Duration	Start	Finish
A3450	Fabricate/Delivery Equipment / Material - Door Hardware	40d	09-Oct-25	05-Dec-25
Studs/Drywall				
A2090	Prepare/Submit Shop Drawings - Studs/Drywall	10d	11-Sep-25	24-Sep-25
A2100	AE / Owner Review/Approve Shop Drawings - Studs/Drywall	10d	25-Sep-25	08-Oct-25
A2120	Fabricate/Deliver Equipment / Material - Studs/Drywall	25d	09-Oct-25	12-Nov-25
Ceilings				
A3580	Prepare/Submit Shop Drawings - Ceilings	10d	11-Sep-25	24-Sep-25
A3590	AE / Owner Review/Approve Shop Drawings - Ceilings	10d	25-Sep-25	08-Oct-25
A3600	Fabricate/Deliver Equipment / Material - Ceilings	25d	09-Oct-25	12-Nov-25
Millwork/Casework				
A2500	Prepare/Submit Shop Drawings - Millwork/Casework	10d	11-Sep-25	24-Sep-25
A2510	AE / Owner Review/Approve Shop Drawings - Millwork/Casework	10d	25-Sep-25	08-Oct-25
A2520	Fabricate/Delivery Equipment / Material - Millwork/Casework	50d	09-Oct-25	19-Dec-25
Paint				
A2540	Prepare/Submit Shop Drawings - Paint	10d	11-Sep-25	24-Sep-25
A2550	AE / Owner Review/Approve Shop Drawings - Paint	10d	25-Sep-25	08-Oct-25
A2560	Fabricate/Delivery Equipment / Material - Paint	20d	09-Oct-25	05-Nov-25
Flooring				
A2580	Prepare/Submit Shop Drawings - Flooring	10d	11-Sep-25	24-Sep-25
A2590	AE / Owner Review/Approve Shop Drawings - Flooring	10d	25-Sep-25	08-Oct-25
A2600	Fabricate/Delivery Equipment / Material - Flooring	45d	09-Oct-25	12-Dec-25
Signage				
A2740	Prepare/Submit Shop Drawings - Signage	10d	11-Sep-25	24-Sep-25
A2750	AE / Owner Review/Approve Shop Drawings - Signage	10d	25-Sep-25	08-Oct-25
A2760	Fabricate/Delivery Equipment / Material - Signage	75d	09-Oct-25	29-Jan-26
Mechanical				
A1970	Prepare/Submit Shop Drawings - Mechanical	10d	11-Sep-25	24-Sep-25
A1980	AE / Owner Review/Approve Shop Drawings - Mechanical	10d	25-Sep-25	08-Oct-25
A2000	Fabricate/Delivery Long Lead Equipment / Material - Mechanical	260d	09-Oct-25	20-Oct-26
A1990	Fabricate/Deliver Equipment / Material - Mechanical	20d	09-Oct-25	05-Nov-25
Fire Proctection				
A2050	Prepare/Submit Shop Drawings - Fire Protection	10d	11-Sep-25	24-Sep-25
A2060	AE / Owner Review/Approve Shop Drawings - Fire Protection	10d	25-Sep-25	08-Oct-25
A2080	Fabricate/Delivery Long Lead Equipment / Material - Fire Protection	260d	09-Oct-25	20-Oct-26
A2070	Fabricate/Deliver Equipment / Material - Fire Protection	20d	09-Oct-25	05-Nov-25
Electrical				
A2010	Prepare/Submit Shop Drawings - Electrical	10d	11-Sep-25	24-Sep-25
A2020	AE / Owner Review/Approve Shop Drawings - Electrical	10d	25-Sep-25	08-Oct-25
A2040	Fabricate/Delivery Long Lead Equipment / Material - Electrical (Switchgear/Panels)	260d	09-Oct-25	20-Oct-26
A2030	Fabricate/Deliver Equipment / Material - Electrical	20d	09-Oct-25	05-Nov-25
A3900	Fabricate/Delivery Long Lead Equipment / Material - Electrical (Lights)	40d	09-Oct-25	05-Dec-25
Fire Alarm/Low Voltage				
A3250	Prepare/Submit Shop Drawings - Fire Alarm/Low Voltage	10d	11-Sep-25	24-Sep-25
A3260	AE / Owner Review/Approve Shop Drawings - Fire Alarm/Low Voltage	10d	25-Sep-25	08-Oct-25
A3270	Fabricate/Delivery Long Lead Equipment / Material - Fire Alarm/Low Voltage	260d	09-Oct-25	20-Oct-26
A3280	Fabricate/Deliver Equipment / Material - Fire Alarm/Low Voltage	20d	09-Oct-25	05-Nov-25
CONSTRUCTION				
Mobilize				
A1690	Mobilize	5d	03-Nov-25	07-Nov-25
Early Site & Demolition				
A3640	Interior Demolition	10d	10-Nov-25	21-Nov-25
A4040	Saw Cut/Remove Floor	5d	24-Nov-25	02-Dec-25



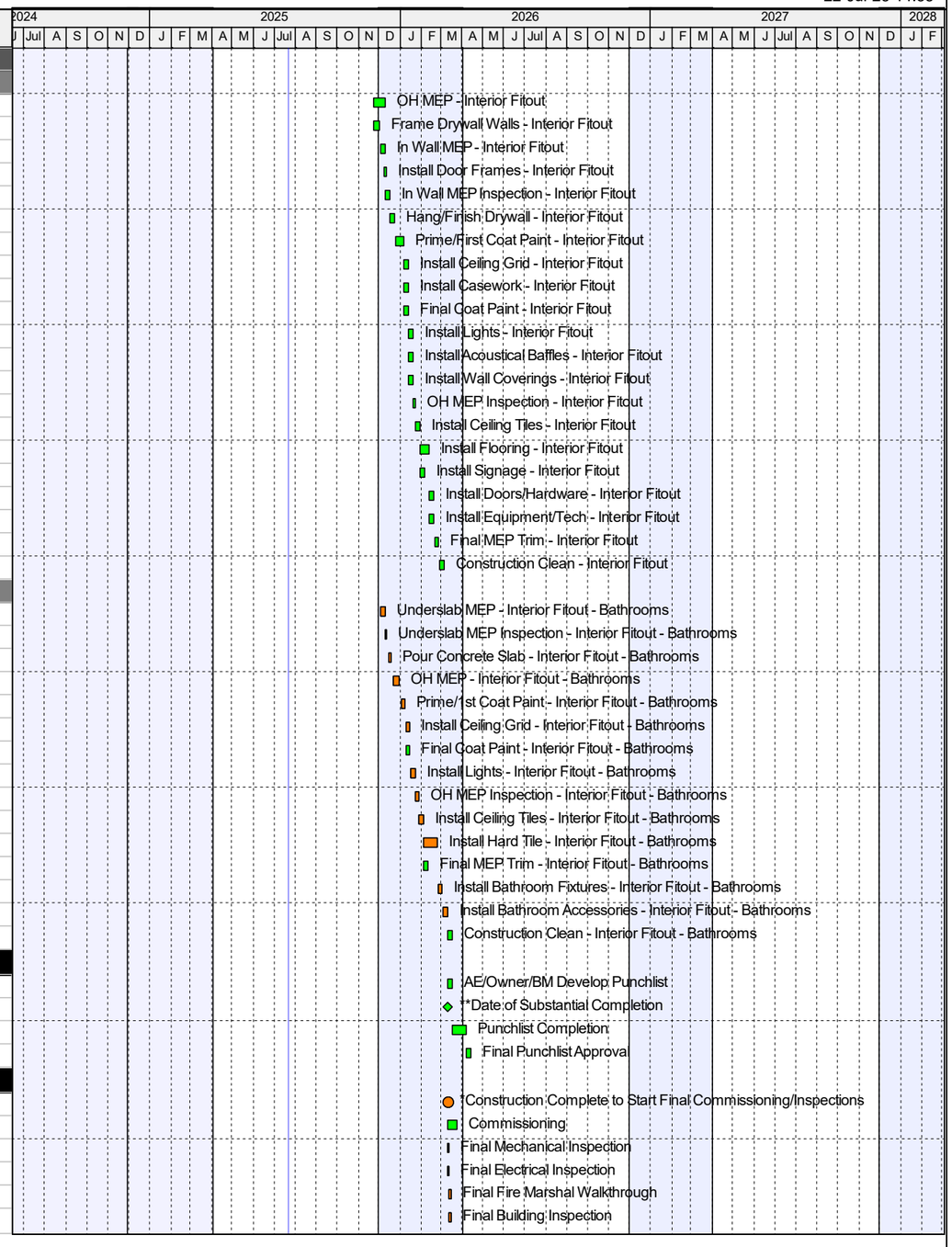
Remaining Level of Effort
Actual Level of Effort
Actual Work
Start Milestone
SM Critical
SM/FM Actual
Finish Milestone
FM Critical
Remaining Work
Critical Remaining Work

Start Date: 01-Aug-24
Finish Date: 20-Oct-26
Data Date: 22-Jul-25
Run Date: 22-Jul-25

Troy - BP #5 - Administration Building Renovations
Draft Schedule
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Barton Malow

Activity ID	Activity Name	Original Duration	Start	Finish
Interior Fitout				
Interior Fitout - Office Space				
A3650	OH MEP - Interior Fitout	10d	24-Nov-25	09-Dec-25
A3660	Frame Drywall Walls - Interior Fitout	5d	24-Nov-25	02-Dec-25
A3670	In Wall MEP - Interior Fitout	5d	03-Dec-25	09-Dec-25
A3730	Install Door Frames - Interior Fitout	5d	08-Dec-25	12-Dec-25
A3690	In Wall MEP Inspection - Interior Fitout	5d	10-Dec-25	16-Dec-25
A3700	Hang/Finish Drywall - Interior Fitout	5d	17-Dec-25	23-Dec-25
A3720	Prime/First Coat Paint - Interior Fitout	5d	26-Dec-25	05-Jan-26
A3710	Install Ceiling Grid - Interior Fitout	5d	06-Jan-26	12-Jan-26
A3740	Install Casework - Interior Fitout	5d	06-Jan-26	12-Jan-26
A3760	Final Coat Paint - Interior Fitout	5d	06-Jan-26	12-Jan-26
A3810	Install Lights - Interior Fitout	5d	13-Jan-26	19-Jan-26
A4390	Install Acoustical Baffles - Interior Fitout	5d	13-Jan-26	19-Jan-26
A4400	Install Wall Coverings - Interior Fitout	5d	13-Jan-26	19-Jan-26
A3680	OH MEP Inspection - Interior Fitout	3d	20-Jan-26	22-Jan-26
A3820	Install Ceiling Tiles - Interior Fitout	5d	23-Jan-26	29-Jan-26
A3750	Install Flooring - Interior Fitout	10d	30-Jan-26	12-Feb-26
A3780	Install Signage - Interior Fitout	5d	30-Jan-26	05-Feb-26
A3770	Install Doors/Hardware - Interior Fitout	5d	13-Feb-26	19-Feb-26
A4050	Install Equipment/Tech - Interior Fitout	5d	13-Feb-26	19-Feb-26
A3790	Final MEP Trim - Interior Fitout	5d	20-Feb-26	26-Feb-26
A3800	Construction Clean - Interior Fitout	5d	27-Feb-26	05-Mar-26
Interior Fitout - Bathrooms				
A4340	Underslab MEP - Interior Fitout - Bathrooms	5d	03-Dec-25	09-Dec-25
A4350	Underslab MEP Inspection - Interior Fitout - Bathrooms	3d	10-Dec-25	12-Dec-25
A4500	Pour Concrete Slab - Interior Fitout - Bathrooms	5d	15-Dec-25	19-Dec-25
A4410	OH MEP - Interior Fitout - Bathrooms	5d	22-Dec-25	30-Dec-25
A4460	Prime/1st Coat Paint - Interior Fitout - Bathrooms	5d	02-Jan-26	08-Jan-26
A4430	Install Ceiling Grid - Interior Fitout - Bathrooms	5d	09-Jan-26	15-Jan-26
A4470	Final Coat Paint - Interior Fitout - Bathrooms	5d	09-Jan-26	15-Jan-26
A4440	Install Lights - Interior Fitout - Bathrooms	5d	16-Jan-26	22-Jan-26
A4420	OH MEP Inspection - Interior Fitout - Bathrooms	3d	23-Jan-26	27-Jan-26
A4450	Install Ceiling Tiles - Interior Fitout - Bathrooms	5d	28-Jan-26	03-Feb-26
A4360	Install Hard Tile - Interior Fitout - Bathrooms	15d	04-Feb-26	24-Feb-26
A4480	Final MEP Trim - Interior Fitout - Bathrooms	5d	04-Feb-26	10-Feb-26
A4370	Install Bathroom Fixtures - Interior Fitout - Bathrooms	5d	25-Feb-26	03-Mar-26
A4380	Install Bathroom Accessories - Interior Fitout - Bathrooms	5d	04-Mar-26	10-Mar-26
A4490	Construction Clean - Interior Fitout - Bathrooms	5d	11-Mar-26	17-Mar-26
PUNCHLIST				
A3830	AE/Owner/BM Develop Punchlist	5d	11-Mar-26	17-Mar-26
A3860	**Date of Substantial Completion	0d	11-Mar-26	
A3840	Punchlist Completion	15d	18-Mar-26	07-Apr-26
A3850	Final Punchlist Approval	5d	08-Apr-26	14-Apr-26
COMMISSIONING & FINAL INSPECTIONS				
A1340	*Construction Complete to Start Final Commissioning/Inspections	0d		10-Mar-26
A1350	Commissioning	10d	11-Mar-26	24-Mar-26
A1400	Final Mechanical Inspection	2d	11-Mar-26	12-Mar-26
A1390	Final Electrical Inspection	2d	11-Mar-26	12-Mar-26
A1410	Final Fire Marshal Walkthrough	2d	13-Mar-26	16-Mar-26
A1420	Final Building Inspection	2d	13-Mar-26	16-Mar-26



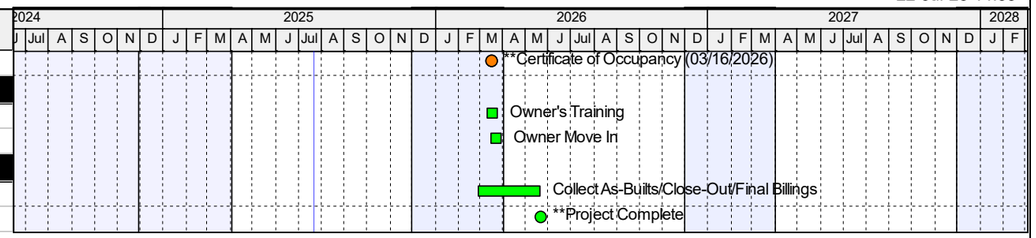
Remaining Level of Effort
Actual Level of Effort
Actual Work
Start Milestone
SM Critical
SM/FM Actual
Finish Milestone
FM Critical
Remaining Work
Critical Remaining Work

Start Date: 01-Aug-24
Finish Date: 20-Oct-26
Data Date: 22-Jul-25
Run Date: 22-Jul-25

Troy - BP #5 - Administration Building Renovations
Draft Schedule

Barton Malow

Activity ID	Activity Name	Original Duration	Start	Finish
A1430	**Certificate of Occupancy (03/16/2026)	0d		16-Mar-26*
OWNER MOVE IN & TURNOVER				
A3880	Owner's Training	10d	11-Mar-26	24-Mar-26
A3870	Owner Move In	10d	17-Mar-26	30-Mar-26
CLOSE-OUT				
A1370	Collect As-Builts/Close-Out/Final Billings	60d	27-Feb-26	21-May-26
A1360	**Project Complete	0d		21-May-26



Remaining Level of Effort
Actual Level of Effort
Actual Work
Start Milestone
SM Critical
SM/FM Actual
Finish Milestone
FM Critical
Remaining Work
Critical Remaining Work

Start Date: 01-Aug-24
Finish Date: 20-Oct-26
Data Date: 22-Jul-25
Run Date: 22-Jul-25

Troy - BP #5 - Administration Building Renovations
Draft Schedule

Barton Malow

SECTION 013700
3D COORDINATION

PART 3 - EXECUTION

3.01 3D COORDINATION PROCESS – GENERAL REQUIREMENTS.

A. The Barton Malow Builders 3D Coordination process utilizes 3D models from the Design team and trades to spatially coordinate the installation of components in a virtual environment prior to field installation. All trades assigned to this specification section shall provide models to be used in the 3D coordination process. Models shall be updated throughout construction to incorporate change, including after model sign-off.

B. 3D Coordination Schedule
   1. All trades shall conduct 3D coordination following the schedule referenced below. This schedule shall be maintained throughout construction and utilized in conjunction with the master P6 project schedule. In the event of discrepancy, the master P6 project schedule shall supersede.
   2. All schedules are subject to change and shall be updated as needed throughout the project lifecycle.

Coordination Area	Duration	Start Date	Sign-Off Date
Ex: Undergound	Ex: 3 weeks		
Ex: Shafts & Risers	Ex: 3 weeks		
Ex: Level 1	Ex: 3 weeks		
____	____		
Total Estimated Duration:	Ex: 12 weeks		

C. Barton Malow Builders will lead the coordination process. All trades shall be responsible for resolving clashes related to their scope of work. All 3D coordinated work shall take precedence over field routed systems.

D. Design Models
   1. Contractor shall utilize models and exports (2D/3D) obtained from TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors) to facilitate coordination. Model origin point shall be coordinated with TMP Architecture, Inc..
   2. In the event that 3D models are not available from TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors), 3D coordination shall still be performed. Trades are responsible for modeling systems following the workflows, guidelines, and procedures specified by Barton Malow Builders.
   3. Models shall be provided in Revit 2020format and updated as needed throughout construction.
   4. Barton Malow Builders shall distribute design models for use by all trades. Trades, in conjunction with Barton Malow Builders, shall utilize design models to perform 3D coordination.
   5. In the event that contract documents are updated, TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors) shall provide updated design models reflecting this change. Updated models shall be distributed to all trades by Barton Malow Builders. Trades are responsible to incorporate these changes within the timeframe dictated by Barton Malow Builders.
   6. Barton Malow Builders is not responsible for the validity of design team models/content. Design models shall be utilized at risk and are the responsibility of each trade to review, validate, and utilize in the production of a constructible trade model.

E. 3D Coordination Team
1. The following Bid Categories are required to participate in the 3D coordination process:

Bid Category #	Bid Category Title
Ex: 1.01	Ex: Structural/Supplemental Steel
Ex: 2.01	Ex: Foundations/Concrete
Ex: 2.02	Ex: Sheet Metal
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. The 3D coordination team will utilize design and trade models, including but not limited to architectural, structural, MEP/FP, etc., to generate a federated 3D model. This federated model shall be used to identify and resolve issues applicable to all systems. All clashes/issues within each coordination area shall be resolved prior to sign-off.
3. Each 3D coordination team member shall generate a constructible model inclusive of all systems and provide sufficient detailing labor to meet the coordination schedule.
4. A master contact list shall be generated by Barton Malow Builders to faciliate coordination. Each trade shall provide contact information for personnel performing 3D coordination (name, email, phone number, etc.).

F. 3D Coordination Meetings
1. A mandatory 3D coordination kick-off meeting will be held. Topics to be reviewed include but are not limited to contact information, team collaboration, execution, meeting cadence, coordination schedule, above-ceiling system zones, use of coordinated elements during construction, project specific requirements, modeling and documentation standards, etc.
2. Meetings will occur on a weekly basis, at minimum. Supplemental meetings will be scheduled as needed to maintain schedule.
3. Barton Malow Builders will facilitate the meeting and hold authority on all final decisions, emphasizing what is best for the overall project. It is the responsibility of each trade to provide model content clash free with itself, other trades, and design model elements. Barton Malow Builders is not responsible for listing out every clash that occurs, nor for any clashes left unresolved at the time of sign-off.
4. The intent of the weekly meeting shall be to review and resolve all issues identified within the federated Navisworks model within the timeframe dictated by the 3D coordination schedule. Specifically, meetings shall focus on:
   a. Resolution of issues that cannot be resolved offline between trades
   b. Identification of any additional information needed within model objects to support scheduling, sequencing, logistics, or estimating goals
   c. Review and incorporation of change generated by Bulletins/RFI/CCDs/etc.
5. Meetings will not be used to resolve individual trades' work. If a trade does not post a fully coordinated and constructible system of its own scope of work, they will be considered unprepared for the meeting and responsible for any delay to the project schedule, as well as any associated cost tied to the delay.
6. Each trade shall:
   a. Provide updated models relevant to the coordination area prior to the meeting.
   b. Review clash results from the federated model relevant to their scope of work and all relevant models from other trades.
   c. Collaborate outside of the coordination meeting with any/all 3D coordination team members to resolve all clashes that can be resolved without overall team input.

d. Be ready to discuss all clashes/issues requiring overall team input. This includes but is not limited to MEP routing collaboration, RFI submission, bulletin incorporation, submittal discrepancy, etc.
e. Attend every coordination meeting with a representative(s) authorized to make decisions. Attendees must be able to work within the model and implement changes.
f. Be prepared to work within and navigate models on their own workstations.
g. Come to the meeting prepared.

7. Meeting minutes shall be used to facilitate the meeting and list all key issues impacting 3D coordination, including but not limited to open issues, RFIs, submittals, design/owner change, etc.

G. Submittals
1. All trades are required to submit shop drawings after sign-off of each area. Submittals shall be approved prior to work being installed in the field. Required submittals generated from 3D coordination include but are not limited to floor sleeve/opening drawings, wall penetration drawings, hanger layout/point load drawings, equipment pad layout drawings, overhead MEP routing drawings, and access panel drawings.
2. Submittals shall be fully annotated and include the proper level of detail needed for adequate review. This includes but is not limited to dimensions from column line/s to CL of system, lengths of runs and offsets, top/bottom/center elevations above finish floor, labeling and callouts, equipment identification, etc.
3. Barton Malow Builders and TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors) reserve the right to request additional detail be provided as needed. In the event of discrepancy, TMP Architecture, Inc.e (and it's Engineers, Consultants and Subcontractors) specifications shall govern.
4. Barton Malow Builders reserves the right to accelerate or delay submittal due dates as needed to support the overall project and schedule.
5. Dependent on project need, drawings may be requested in composite format. Trades are required to work collaboratively to generate and provide composite drawings.
6. Submittals shall be provided in various formats as required by the project and specified by the Lead Coordinator. This includes but is not limited to PDF, RVT, NWC, DWG, etc.

H. 3D Coordination Sign-Off
1. Trades shall comply with the following language within the 3D coordination sign-off form:
a. Signer, as a representative of their organization, acknowledges this model is complete and fully coordinated per the requirements established by Barton Malow. These requirements, and all others referenced in the 013700 3D Coordination specification section, shall continue to be adhered to throughout construction. Signer confirms the signed-off model shows all systems fully coordinated, constructible, code compliant, and without any further coordination required, less the exceptions noted below. Signer agrees all work shown within this model accurately represents the upcoming installation of each system.
b. This coordination area is ready for final sign off per the published NWD model posted to BIM360/Build. The signed-off model shall act as the conditions by which all systems shall be installed. If any parties deviate from this model after sign-off, it is at that parties' own risk. That party shall be responsible for any impact the deviation(s) may have on others (cost, schedule, etc.). The same party is required to make others aware of those changes. Further, parties who make model updates/additions after sign-off are responsible for ensuring those changes are clash free. This includes updates due to future bulletins/RFIs. Change generated from future bulletins/RFI's/etc. shall be evaluated on a case-by-case basis and quantified through the change management process as applicable. This sign-off model will be saved and used for record purposes as needed. Any remaining clashes in this coordination model, at the time of this sign-off, shall be considered false or minor. These instances shall be corrected in future no-cost model updates, and/or no-cost field correction/s,

as well as reflected in as-built documentation. Any remaining items not meeting these criteria shall be documented below for record.

2. A signed off Navisworks NWD model shall be published, saved and referenced throughout construction.
3. A current progress model reflecting all change post sign-off will continue to be updated throughout construction.
4. The federated model is not considered signed off until all parties, including the Lead Coordinator, Project Manager, TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors), and Troy School District, have approved all constructible systems and routings.
5. The Lead Coordinator shall determine if re-opening a previously signed off area is necessary due to design changes or any other circumstance.

I. Progress Models
1. Progress models shall be continually updated by all trades throughout construction. This includes any required updates post sign-off to account for circumstances including but not limited to RFIs, bulletins, CCDs, design and owner changes, field-routing of systems, as-built conditions, etc.
2. Upon project completion, updated models shall be turned over and considered the Final 3D Coordination Model. This model shall be submitted electronically in various formats as required by Troy School District, including but not limited to NWC, NWD, Revit, AutoCAD, and PDF.

J. Federated Model Standards
1. General
   a. The Clash Detection Lead (CDL) shall maintain all federated models throughout construction. Navisworks Manage shall be used for generation, management, and clash detection of all federated models. Models shall be posted in .NWF/.NWD format.
   b. Clash detection shall utilize a 1/16” tolerance. Barton Malow Builders reserves the right to modify tolerance or clearance thresholds as needed.
   c. Model coordinates shall be established using project internal coordinates, shared coordinates, column grids, or any combination thereof. Trades are responsible to align their models to the federated model and coordinate with Barton Malow Builders) as needed.
2. Design File Utilization
3. Trades shall be responsible for generating Revit views, file exports, saved viewpoints, and any other miscellaneous file formats needed to create the complete turnover model. This includes compiling major equipment data parameters on an excel spreadsheet, or alignment of project specific equipment tagging with Owner facility tagging. All shall be provided on an as needed basis and as specified by Owner's Actual Name.
   a. The Clash Detection Lead (CDL) shall utilize the design models to generate exports used for 3D coordination. Exports shall be void of excessive notations, leaders, bubbles, marks, grid lines, etc.
4. Gap Modeling
   a. Gap modeling will be completed on all model elements not shown yet needed to perform 3D coordination. Trades are responsible to gap model as needed to fulfill the requirements of 3D coordination. Barton Malow Builders will evaluate the element in question on a case-by-case basis and hold final authority on all decisions.
   b. Barton Malow Builders may perform gap modeling to support the project and maintain schedule. Barton Malow Builders shall be indemnified of any gap modeled elements. Gap modeled elements shall be utilized at risk and are the responsibility of each trade to review, validate, and utilize in the production of a constructible trade model.
5. File Naming
   a. Federated models shall comply with the following naming convention:

b. 0X_Project Abbreviation_Coordination Area
c. Example: Project CGL, Level 2
1) 02_CGL_LVL2.nwd

6. Documentation and Reporting
a. The Clash Detection Lead (CDL) shall review the federated models, generate clash viewpoints, and distribute models to all trades per the coordination schedule.
b. Clash trending/tracking tools shall be used at the discretion of Barton Malow Builders ation) to ensure clash resolution is occurring within the timeframe needed to meet scheduled sign off dates.

K. 6D Facility As Built / Turnover Models
1. 6D turnover models shall be provided upon request and based off specific client/project need. Equipment/systems will be tagged within the model and include all required identification information as specified by Troy School District. This identification information will correspond with project specific close-out documentation and include but not be limited to COBie data, equipment schedules, material schedules, O&M manuals, etc. This includes requests for PDF deliverables containing embedded model content.
2. Barton Malow Builders will provide a location for trades to submit required documentation. Barton Malow Builders will generate the completed 3D coordination model based on these documents for turn-over to the owner.
3. Navisworks will be utilized to embed links within the turnover model. Links include but are not limited to closeout documents, submittals, O&M manuals, RFI's/Images, etc.
4. Trades shall embed smart data within their own models and provide closeout documents in the format and timeframe dictated by Barton Malow Builders.

L. Commissioning
1. Trades shall be aware of job-specific commissioning requirements and coordinate with the commissioner as required.

M. BIMxP Implementation
1. Trades shall comply with the BIMxP and miscellaneous design documents. The BIMxP may be provided by Troy School District, TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors), Barton Malow Builders, or any combination thereof. In the event of discrepancy, Barton Malow Builders shall hold final authority on all decisions.

3.02 REQUIREMENTS OF ALL TRADES

A. Trade Model File Naming and Uploading
1. File naming convention shall comply with the following:
a. Project Abbreviation_Coordination Area_Trade_System_
b. Example: Project CGL, Level 2, Barton Malow Builders, Mechanical Pipe System.
1) CGL_L2_BMB_MP_.nwc
c. Typical system abbreviations include but are not limited to:
1) _SM_ Sheet Metal
2) _MP_ Mechanical Pipe
d. _PL_ Plumbing
1) _EL_ Electrical
e. _FP_ Fire Protection
2. Each model posted by the trade shall contain sub-layers for the purpose of system identification and isolation.
a. Example: CGL_L2_BMB_SM_ shall contain but not be limited to sub-layers for Supply, Return, Exhaust, Fire Smoke-Dampers, VAV clearance, AC Door Access, Fan Coil Units, FCU Access, Equipment, Equipment Pads, Equipment Clearances, and Hangers.
3. Trades shall upload model files to BIM360/Build on a weekly basis. Additional uploads shall be provided as needed to maintain schedule.

4. Trades shall maintain a current control copy of their own model files outside of the project's web-based posting site, including copies of all previously posted files.
5. Upon request, or as needed, trades shall upload native files used to generate clash detection files to a location determined by Barton Malow Builders. Base native model file types include but are not limited to Revit, AutoCAD, Tekla, etc.

B. File Types
1. Trades shall generate and post exports of their native model files. Exports shall be specific to each coordination area. Export file types include but are not limited to .NWC, .DWG, .DWFx, .RVT, .IFC, etc. Barton Malow Builders reserves the right to request trades provide alternate file types as needed to support the overall 3D coordination process.

C. File Storage
1. All files shall be stored utilizing BIM360/Build. Model files shall never be tampered with by non-owners of the file. If a model is inadvertently modified, the responsible trade is required to alert Barton Malow Builders immediately.

D. Model File Standards
1. All trade models shall be provided in LOD 400. Refer to EXHIBIT 1 – Article 2 for further definition.
2. Trades shall post model files void of clashes within their own scope of work (i.e., systems shall not be clashing with itself).
3. These files shall be void of all text and annotations.

E. Model Elements
1. Model files shall include all elements necessary for accurate spatial coordination. This includes but is not limited to:
    a. Architecture
        1) Masonry - CMU and masonry veneer walls, foundations, grouting, reinforcing, bond beams, and any 3D geometry necessary for evaluating connection details with other systems.
        2) Millwork - 3D geometry of casework and information pertaining to product data, finishes, and hardware.
        3) Metal Wall Panels - Panels, soffits, returns, and connection details.
        4) Roofing and Cornice - 3D geometry information necessary for evaluating connection detailing with other systems.
        5) Doors, Frames, and Hardware - Associated data assigned to Model Elements, 3D geometry for king studs and headers.
        6) Overhead doors - tracks, controls, equipment with information assigned to the model objects, 3D geometry for code clearances.
        7) Glazing - Aluminum Framing, Storefronts, Curtainwalls and their connections, curtain wall embeds.
        8) Cold Form Metal Framing - Engineered Stud framing, GWB Partitions, Acoustics including walls, blocking, soffits, ceilings.
        9) Toilet Partitions - 3D geometry including supports to structure, embedded information assigned to model objects.
    b. Structure
        1) Cast In Place and Precast Concrete - Geometry, footings and foundations, pile caps, walls, columns, slabs (with turn-downs), construction joints, grade beams, openings and block-outs, embeds and reinforcing, connections to steel, and masonry.
        2) Miscellaneous Metals / Supplemental Steel - Kickers, stairs, railings, and any required support steel separate from superstructure.
    c. Piping

1) Piping of all sizes, fittings, connections, slope, valves, clearances, sleeves, sprinkler heads, insulation, maintenance and access points, cleanouts, and all piping that is grouped, racked, or banked.

d. Sheet Metal/Ductwork
   1) Ductwork to outside dimensions, layout and routing of all rigid and flex ductwork, insulation, reheat coils, VAVs, VFDs, terminal units, dampers, filters, sleeves, registers, grilles, diffusers, diffuser boot connections.

e. Power/Lighting/Low Voltage/AV
   1) Light fixtures, clearance above fixtures for maintenance, detectors, speakers, sensors, sleeves, pull boxes, maintenance and access points, cable tray, 12” clearance above tray, 12” clearance on one side of tray, raceways, conduits 1" or more in diameter and all conduits that are grouped, racked, or banked.
   2) A/V equipment, screens, and speakers

f. Hangers and supports (including sway bracing and equipment bracing), wall/floor penetration sleeves, clearances, maintenance and access points, access doors.

g. All maintenance and access points modeled and compliant with code, with semi-transparent clearance from maintenance point to finish floor.

h. Miscellaneous
   1) Food Service Equipment - 3D geometry including clearances and connections.
   2) Elevators - Cabs, controls, hoists, framing, equipment, and clearances.

F. MEP Equipment
   1. All trades are required to accurately model project specific equipment and incorporate it within models. This includes but is not limited to accurate manufacturer dimensions, clearances, AHUs, substations, panels, VFDs, fixtures, pumps, heat exchangers, etc.
   2. Equipment shall be based on approved submittals and include final termination/tie-in/connection point coordination. All trades shall ensure equipment is approved prior to sign-off of each respective coordination area.

G. Architectural Standards
   1. As dictated by the project, and where able, systems shall be routed:
      a. 6” from adjacent walls to promote acoustics and mitigate overheating.
      b. 18” from adjacent full height walls to provide adequate space for wall top-out.
      c. 6” above top of ceiling to allow for proper access to ACT.
      d. Perpendicular through all walls to provide clean penetrations.

H. Temporary Systems
   1. Temporary systems that remain throughout construction or are abandoned in place shall be modeled by the responsible trade.

I. Existing Conditions
   1. Existing components to remain shall be modeled as required by all applicable trades. This will ensure existing and new scope is coordinated and aligns to the surrounding facility. Each trade is responsible for documenting infield conditions by any means necessary to accurately reflect their scope area within the 3D model. This includes laser scanning to capture existing conditions.
   2. Barton Malow Builders may provide reality capture content, including laser scans, to support the project and maintain schedule. Barton Malow Builders shall be indemnified of any reality capture content provided. This content shall be utilized at risk and is the responsibility of each trade to review, validate, and utilize in the production of a constructible trade model.

J. Phased Construction
   1. Barton Malow Builders reserves the right to request trade model files include phasing parameters to support construction. Methods of achieving phasing include but are not limited to Revit phasing, filters, separate model files broken down by phase, etc.

K. Field Routing
   1. Modeled and coordinated systems take precedence over field routing. If an element is not modeled, it will be assumed as field routed. All field routed systems shall not interfere with previously modeled/coordinated work. This includes conflicts with clearances. Trades who field route are responsible to ensure their installation will not conflict with others.

L. Priority Walls
   1. Trades shall evaluate all walls and determine which are considered priority. Priority walls shall be evaluated based on sequencing and/or proximity to adjacent systems. These shall include but not be limited to full-height walls requiring top-out, or partial height walls requiring kickers.
   2. Trades shall coordinate with Barton Malow Builders to ensure proper installation and sequencing. This includes installation of priority walls or wall top-out prior to adjacent MEP/FP.

M. Optimized Routing
   1. Trades shall comply with and follow design intent. Any optimization to routing must be within the bounds of design intent. Minor modifications to system routings are expected throughout 3D coordination and shall be provided as part of 3D coordination at no cost. This shall hold true so long as design intent is followed. Minor modification shall be defined, reviewed, and approved by TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors) and Barton Malow Builders.
   2. If cost is associated with modified routing, design intent cannot be followed, or design is not constructible, trades are responsible to contact Barton Malow Builders immediately. Proper documentation must be submitted at the time the issue is identified, typically in the form of an RFI.
   3. Trades shall coordinate each system with the intent to simplify design intent where applicable and optimize installation. This can be defined as, but is not limited to:
      a. Mitigation, reduction, or elimination of system offsets.
   4. Modified routing or elevation above ceiling.
      a. Proper clearance to maintenance and access points.
      b. Mitigation of impact to surrounding systems, architecture, or structural features.

N. Flypaper Sherlock
   1. Barton Malow Builders will utilize Flypaper Sherlock to aid clash detection and review. This is a Navisworks Manage add-on software that automates the grouping of clashes, generates heat maps highlighting congested areas, and provides issue markup for enhanced communication.
   2. Trades performing clash detection shall acquire this tool to facilitate a more efficient process. Product Information is available at https://flypaper.com/sherlock/

O. System Hierarchy
   1. During 3D coordination, priority will be given to the least flexible systems. General hierarchy in order of appearance shall be:
      a. Structural Steel
      b. Supplemental Steel/Miscellaneous Metals
      c. Architecture
      d. MEP/FP Equipment
      e. Maintenance and Access Points/Code clearances
      f. Gravity Piping
      g. Sheet Metal/Ductwork
      h. Cable Tray
      i. Conduit
      j. Pneumatic tube
      k. Light Fixtures

l. Refrigerant Piping
m. Fire Protection (wet)
n. Domestic Plumbing
o. Hangers

2. Hierarchy shall remain mutable as needed to promote an overall coordination effort best for the project. Barton Malow Builders reserves the right to modify this hierarchy as needed and shall hold authority on all final decisions related to routing in conjunction with TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors), and Troy School District Name.

P. Structural Steel Spray Fireproofing and Deflection
1. Trade shall account for spray fireproofing and deflection while conducting 3D coordination. To accomplish this, trade shall provide:
a. 2” clearance around all structural steel to account for spray fireproofing.
b. 3” clearance below bottom of structural steel to account for 2” of spray fireproofing, and 1” of assumed deflection.

Q. Model Color Matrices
1. Trades shall model all elements in color and provide a color matrix defining each system within their scope of work. This includes all sub-systems. RGB colors shall be provided. Colors shall be distinct between trades to differentiate systems. Barton Malow Builders reserves the right to request trades provide alternate colors to promote system identification.

3.03 REQUIREMENTS OF THE STRUCTURAL STEEL TRADE

A. Model Generation and Origin Point
1. Trade shall obtain Structural Revit files from the TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors) and use as the base structural model.
2. Trade shall develop and provide a structural steel fabrication model (also referred to as a mill order/procurement model) within the time frame dictated by Barton Malow Builders.
3. Trade shall provide model updates as dictated by Barton Malow Builders and ensure all trades are referencing the most up-to-date structural model.
4. The base/insertion/datum point of the structural steel fabrication model must match the point established by the TMP Architecture, Inc. (and it's Engineers, Consultants and Subcontractors) design models. At the discretion of Barton Malow Builders, structural steel trade may use a work plane base point or other export method to ensure models align. No detailing work shall take place until the base point/project internal/shared coordinates of the structural steel fabrication model and design models match.

B. Model Elements
1. Trade shall model all structural framing members as 3D objects with surfaces. This includes but is not limited to structural steel, supplemental steel, cross Bracing, wind Bracing, metal decking, slab on metal deck, gusset plates, connection details, edge of slab details (pour stop), brick relief angles, embeds, anchor bolts, and other miscellaneous metals. Elements shall be properly sized and located within the model.
2. Barton Malow Builders reserves the right to request certain elements be filtered/hidden/removed from the structural steel fabrication model to facilitate file sharing between all parties. It is the responsibility of the structural steel trade to comply with these requests prior to sharing/uploading with the 3D coordination team. This includes but is not limited to hardware, supplemental steel, miscellaneous metals, bolts, connections, etc.

C. Model File Type
1. Trade shall provide a structural steel fabrication model in a format usable by all trades. Typical examples include but are not limited to .IFC, .RVT, .DWG, .NWC.

2. Trade shall resolve all modeling issues related to their scope of work, including but not limited to improper scale, missing components, improper display graphics (solid surface/wire mesh), export settings, file format, etc.

D. Shop Drawings
1. Trade shall submit a final structural steel fabrication model and 2D shop drawings to the design team and structural engineer of record. Approved shop drawings shall be used for field erection. Barton Malow (Designation) shall dictate submittal due dates.
2. Trade shall submit approved model files to Barton Malow Builders for insertion into federated 3D coordination models.

3.04 MISCELLANEOUS REQUIREMENTS, TOLERANCES AND CLEARANCES

A. General
1. Identify Mechanical chases and coordinate riser tap locations/elevations.
2. Align clash detection standards with facility standards.
3. Abide by all current code books and requirements.
4. Trades are responsible to model all underground and in-wall systems. Sawcut extents within an existing slab shall be modeled.
5. Plumbing, Pneumatics, and other utilities penetrating slabs shall be coordinated with structural elements. Core drilling through slabs/walls/beams must be approved by the structural EOR and may require X-Ray penetration prior to coring.
6. Trades shall model place holders where applicable for portions of work yet to be designed.

B. Civil/Site Mechanical
1. Civil coordinates may not align with building coordinates. Ensure state plane and project internal/shared coordinates align. Ensure all utility connection points/inverts align.
2. Ensure grading is properly sloped away from doors and openings.

C. Architecture
1. Main walking or egress paths shall be modeled as found on the Life Safety sheets. Paths shall have a clearance 7’-0” AFF, and 6’-8” on stairs. Verify MEP routing does not conflict with this walking path.
2. Clearances on platforms, catwalks, and ladders shall be modeled and comply with OSHA.
3. Ladders greater than 20 feet high require a safety cage.
4. Per OSHA, minimum guardrail height is 42” tall with +/- of 3”. Verify required height against tapered roof insulation.
5. Verify tapered roof insulation against mechanical curbs and ensure a minimum of 12” clear to account for flashing.
6. Roof mounted equipment on stands shall be coordinated and properly sequenced with roof insulation.
7. Roof mounted equipment on stands shall be coordinated and properly sequenced with roof insulation.

D. Mechanical Rooms
1. Equipment pads shall be coordinated with all MEP equipment and be reviewed against floor drains, floor cleanouts, slab sleeves/openings, door swings, walkway clearances, etc.

E. Fire Protection
1. Dry FP systems shall be sloped as required and be routed as high as possible.
2. Sprinkler discharge and coverage zones shall be coordinated against adjacent MEP and additional heads provided as needed.
3. Head coverage shall be evaluated against architectural soffits or horizontal features.
4. Flexible head connections shall be provided only when approved by all parties.

F. Plumbing and HVAC Piping

1. All components requiring future access shall be modeled with at least 24” radial clearance. This includes but is not limited to CO’s, shut-off valves, floor drains, pumps, control panels, etc.
2. Gravity lines shall be as high as possible and meet slope requirements. When feasible, runs should be inside of beam pockets.
3. Bathroom fixtures and connections shall not conflict with adjacent structure. This includes verifying adequate in-wall space is provided for wall mount fixtures.
4. Provide clean outs as specified per national/regional building code, and design/owner requirements.

G. Ductwork/Sheet Metal
1. Return Air Mains and Branches shall typically be routed below gravity lines. Adequate space for diffuser boot connections shall be provided.
2. Grease duct shall be modeled as high as possible and pitch back to hood. Pitch and access shall comply with code; grease traps shall be avoided if possible.
3. Supply/return diffuser spacing shall be monitored throughout the 3D coordination process.
4. In line equipment shall be modeled and accessible per code. If able, access shall be less than 24” from top of ceiling.

H. Electrical
1. Electrical rooms shall be fully modeled and include but not be limited to panels, conduit, disconnects, starters, VFDs, tray, equipment, etc.
2. Pull boxes and junction boxes shall be modeled with clearance for access.
3. Low voltage wiring and equipment shall be modeled and include but not be limited to occupancy sensors, range switches, thermostats, etc. Low voltage shall be coordinated with other scopes, including but not limited to casework, doors, kitchen equipment, furniture, etc.
4. All Audio/Visual equipment and infrastructure shall be modeled, including all required structural supports. Clearances for maintenance and use of A/V equipment shall be modeled.
5. All lighting shall be modeled, including specialty theme/show lights. Trade shall coordinate final locations of devices with all applicable parties holding authority, including Troy School District.

I. Special Equipment
1. Beverage Conduits shall be modeled following bend radii requirements.
2. Kitchen equipment, laundry equipment and hoods shall be modeled and correspond with final equipment selection/approved shop drawings. Connections shall be coordinated.
3. Elevator equipment room layouts shall be requested in advance. Trades shall coordinate against these layouts and ensure systems are routed properly to accommodate final layout.

J. Healthcare
1. Typical patient room headwalls shall be modeled, coordinated, and reviewed. Trades are responsible to include field team staff in this effort (foreman, superintendents, etc.).
2. All medical gas lines shall be modeled.
3. Procedure rooms shall be modeled and coordinated. This includes but is not limited to ceiling framing, kickers, supplemental steel, equipment supports, etc.

3.05 THE FIELD TECHNOLOGY PLAN

A. The Field Technology Plan (FTP) establishes the best practice for utilizing mobile technology in the field. This includes but is not limited to accessing 3D federated models, read/write RFI’s, review plans, submittals, shop drawings, etc.

B. Field Kiosk

1. A field kiosk may be centrally located during construction to promote 3D model access, plan review, RFI review, submittal review, etc. These kiosks shall be equipped with a TV and computer; additional compartments for hard copy plans/documents will be included.

C. Tablets/iPads
1. Barton Malow Builders will utilize tablets/iPads for mobile viewing. Trades are required to make tablets/iPads available to field teams. Devices shall include data plan for internet access and be able to access Autodesk BIM360/Build, NWD models, PDF files, and MS Office products.

D. Mobile Technology Usage
1. Wireless internet may be available on specific projects and shall be used for project related activity only. Misuse of onsite mobile technology shall be reported and may result in loss of access privileges.
2. Documentation shall be distributed utilizing BIM360/Build and will be accessible on computers, tablets/iPads, field kiosks, cell phones, etc.

E. Field Discrepancy
1. When a field issue arises, the 3D federated model shall be used in conjunction with design documents and shop drawings to determine potential errors and resolutions.

F. Clearance Zones
1. Clearance zones within the model shall not be encroached in the field. If encroachment occurs, the signed off model will be used to resolve the issue. If field conditions require change to the model, it shall be tracked, recorded and updated within the model.

G. Zone Plan Meetings
1. Pre-zone Installation Meetings will be held for 3D model review and communication, clearance discussions, procedure discussions, and enhanced planning. Trades shall be present and the design team is encouraged to participate.
2. These meetings shall occur before entering each installation zone. The field team will review the upcoming tasks and plan utilizing the coordinated models, schedule, electronic documents, RFI’s and approved submittals.

H. Quality Control
1. Trades shall continually verify all installed material for compliance with the model.
2. Trades shall be fluent with the 3D tablets/Field Kiosks. Work in place shall be installed based on approved shop drawings and verified using the 3D model.

I. Field Change Procedure
1. If change is identified as required in the field:
2. A change plan will be reviewed with the 3D Coordination team to ensure the proposed changes will not generate new, unforeseen issues.
3. Any change must be approved via RFI for proper documentation. Any relevant pictures and backup shall accompany the RFI.
4. Changes shall be properly documented on the corresponding trades’ as-built field plans. Field changes shall be incorporated into 3D models throughout construction.

J. Owner Change Procedure:
1. All owner change shall be incorporated into the 3D coordination process.
2. As applicable, shop drawings shall be updated by all impacted trades.

EXHIBIT 1

4.01 ARTICLE 1: GENERAL PROVISIONS

A. This document defines protocols, expected levels of development, and authorized uses of Building Information Models on this Project. It assigns specific responsibility for the development of each Model Element to a defined Level of Development at each Project phase.

Where a provision in this Exhibit conflicts with a provision in the Agreement into which this Exhibit is incorporated, the provision in this Exhibit will prevail.

1. ***The parties agree to incorporate this Exhibit by reference into any other agreement for services or construction for the Project.***

4.02 LEVEL OF DEVELOPMENT (LOD)

A. The following LOD descriptions identify the specific content requirements and associated authorized uses for each Model Element from 300 thru 500 progressively detailed levels of completeness.

B. **LOD 300** – The Model Element is graphically represented within the Model as a specific system, object, or assembly in terms of quantity, size, shape, location, and orientation. Existing building elements are modeled as shown on building record drawings. Non-graphic information should also be attached to the Model Element such as object description, object tags (door number, equipment number, etc.), and quantities.

Examples of the details required for systems modeled to LOD 300 include, but are not limited to: site utilities; masonry; steel decking; correct slopes for gravity piping for sanitary; storm or wet fire suppression systems; piping materials specifically called out on documents included with model element attributes (generic manufacturer for system components are acceptable); insulation around pipe and duct; duct dampers included with the duct system; doors/frames (hollow metal and storefront); and owner furnished FFandE.

Authorized uses include:

1. **Construction**. Suitable for the generation of traditional construction documents.
2. **Analysis**. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension callouts.
3. **Schedule**. The Model Element may be used to show ordered, time-scaled appearance of detailed elements and systems.

C. **LOD 350** – The Model Element is graphically represented within the Model as a specific system, object, or assembly in terms of quantity, size, shape, location, orientation, and interfaces with other building systems. Non-graphic information should also be attached to the Model Element such as system type and load data.

Authorized uses include:

1. **Construction**. Suitable for the creation of shop drawings.
2. **Analysis**. The Model Element may be analyzed for performance of selected systems by application of specific performance criteria. Parts necessary for coordination of element with nearby or attached elements are modeled. These parts will include such items as supports and connections. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension callouts.
3. **Schedule**. The Model Element may be used to show ordered, time-scaled appearance of detailed elements and systems.

D. **LOD 400** – The Model Element is graphically represented within the Model as a specific system, object, or assembly in terms of size, shape, location, quantity, and orientation with detailing, fabrication, assembly, and installation information. Non-graphic information should also be attached to the Model Element and shall include data such as manufacturer name, model number, and serial number.

Examples of items and details required in LOD 400 models include, but are not limited to: concrete; concrete reinforcing steel; anchor bolts; structural steel; steel stairs; handrails; floor/roof penetration steel; significantly sized support hangers and stanchions for all systems; uni-strut associated with system components if it is located in a tight overhead space (case by case basis); architectural millwork/casework; metal panels and support steel; curtainwall system; steel stud framing including kickers and trusses at floor penetrations; valve locations;

access panels (these should be modeled with the system they provide access to); conduit racks or other substantially wide/bundled electrical routing (these can be generically modeled, i.e. extruded boxes, space claims); single conduit runs associated with any system (lighting, power, controls, etc.) if needed to coordinate concrete coring; kitchen equipment; MEP/FP and low voltage systems and equipment; pull box locations; and clearance zones.

Authorized uses include:

1. **Construction**. Model Elements are virtual representations of the proposed element and are suitable for coordination purposes and construction.
2. **Analysis**. An LOD 400 Element is modeled at sufficient detail and accuracy for fabrication of the represented component. The Model may be analyzed for performance of approved selected systems based on specific Model Elements. The quantity, size, shape, location, and orientation of the element as designed can be measured directly from the model without referring to non-modeled information such as notes or dimension callouts.
3. **Schedule**. The Model Element may be used to show ordered, time-scaled appearance of detailed specific elements and systems including construction means and methods.

E. **LOD 500** – The Model Element is a field verified representation in terms of size, shape, location, quantity, and orientation. Non-graphic information shall be updated with actual installed items.

Authorized uses include:

1. **General Usage**. The Model Element may be utilized for maintaining, altering, and adding to the Project, but only to the extent consistent with any licenses granted in the Agreement or in a separate licensing agreement.
2. **Other Authorized Uses**. The Model will be a tool for accessing as-built information for facility management and maintenance purposes.

F. **Reliance on Model Elements**

1. Barton Malow Builders may choose to utilize a Model Elements Table to further break down model elements detail responsibilities further than the above LOD descriptions prior to or during coordination.

END OF SECTION 013700

SECTION 014000
SITE SPECIFIC QUALITY MANUAL - BARTON MALOW BUILDERS

PART 1 GENERAL

TABLE OF CONTENTS

A. Overview
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1.01 OVERVIEW

A. OVERVIEW

Quality can be defined as the degree to which a project, and the specific activities within the project, meets or exceeds specified standards, requirements, and expectations established by contract documents and project stakeholders including the owner, architect, engineer, trade partners, and regulatory authorities. This **Site SpecificQuality Manual (SSQM)** provides the framework necessary to manage and maintain a high level of quality throughout each **Barton Malow Builders (BMB)** project lifecycle by:

1. Focusing on **Quality Assurance (QA)**, **Quality Control (QC)**, and lessons learned.
2. Ensuring standard practices, processes, and resources are available and implemented throughout all project lifecycles.

Workflows and methods described throughout this QM are specific to project delivery and execution. Project delivery teams should utilize and follow these workflows throughout each project lifecycle. Alternate quality practices and creative problem solving are encouraged so long as they are discussed, agreed upon, equitable, and quality driven. BMB's core values of integrity, partnership, and empowerment directly align with this strategy; every BMB employee is a stakeholder in improving quality. The quality practices outlined in this manual are continually updated as new methods are identified. This QM does not supersede quality standards outlined in contract documents.

Site-Specific clarifications to quality practices should be documented within the **Site-Specific Quality Manual (SSQM)**. The SSQM is required to be included within the BMB Project Manual and is a contractual requirement of all trade partners. **Speclink** is the software used by BMB to create project manuals; the SSQM is maintained and generated within Speclink. The SSQM includes:

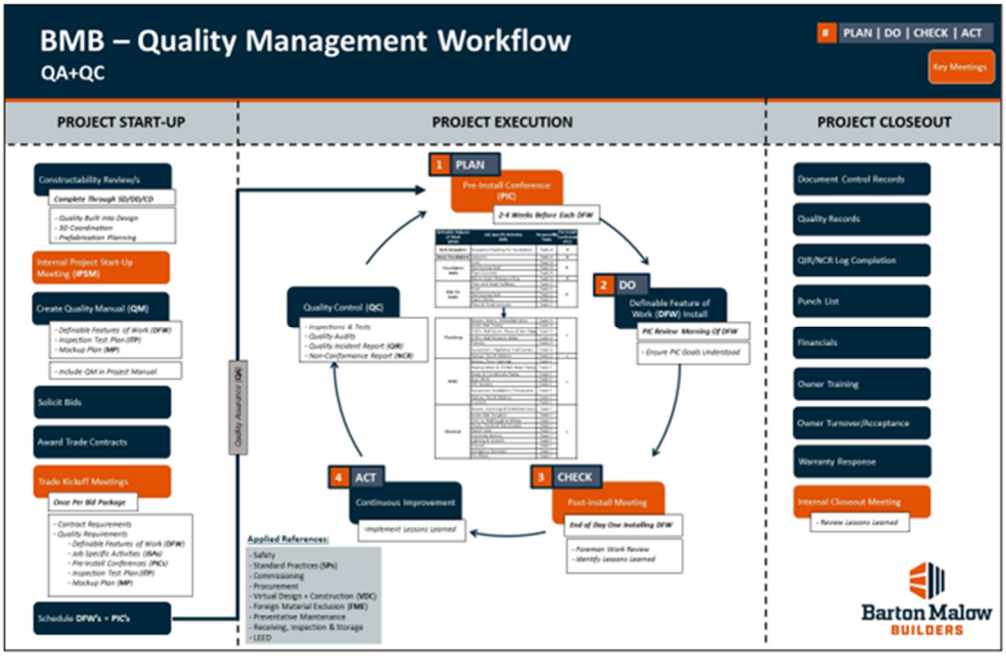
1. All practices within this QM.
2. Project specific owner and/or contractual requirements.
3. The following completed quality forms after contract document review.
    a. **Definable Features of Work (DFW)**
    b. **Inspection and Test Plan (ITP)**
    c. **Mockup Plan (MP)**

Dependent on the project, the SSQM may also include additional requirements of certain trades such as requiring trade partner quality manuals or clarifying additional owner/contractual requirements. Additional SSQM sections are prepopulated within Speclink, discipline specific, and available as needed to support inclusion of these requirements within the SSQM.

Linked content referenced throughout this QM is accessible to BMB employees and available to outside partners upon request.

B. **WORKFLOW**

Quality is implemented throughout a project's entire lifecycle, from Start-up to Closeout. The BMB quality program utilizes the **Plan | Do | Check | Act(PDCA)** workflow present in Lean and Six Sigma methodology to simplify iterative execution processes and implement continuous improvement. Refer to the BMB - Quality Management Workflow graphic below. All quality forms/practices referenced throughout this QM are applied throughout.



Within this workflow, five key meetings are highlighted. Each meeting serves to implement a critical piece of the BMB quality program. The following table shows the cadence, phase, and quality application of each meeting. Further definition of each meeting is available within the referenced section of this QM.

#	Meeting	Meeting Cadence	Project Phase	Quality Type	SSQM Reference Section
1	**Internal Project Start-Up (IPSM)**	Twice Per Project (Planning + Construction)	Pre-Construction	Quality Assurance	1.08A
2	**Trade Kickoff**	Once Per Bid Package	Pre-Construction	Quality Assurance	1.08B
3	**Pre-Install Conference (PIC)**	Once Per Definable	Pre-Construction/ Construction	Quality Assurance/ Quality Control	1.08F

		Feature of Work (DFW)			
4	**Post-Install**	Once Per Definable Feature of Work (DFW)	Construction	Quality Control/ Lessons Learned	1.09B
5	**Internal Closeout**	Once Per Project	Closeout	Lessons Learned	1.12D

C. **BMB STANDARD PRACTICES**

BMB utilizes **Standard Practices (SPs)** to ensure team members deliver consistently on a jobsite or in an office. Consistency is a main tenet of quality. Each SP contains toolkit items and detailed instructions to fulfill the SP. SPs provide the current best way to complete a process and are continually evaluated and updated.

Many of the on-site activities required to maintain quality are already implemented every day through SPs. This QM identifies and references all project delivery SPs, providing a holistic approach to quality while reinforcing SP application throughout each project lifecycle. This enables teams to execute work in a consistent, quality-driven manner.

Each project delivery team should utilize and follow SPs throughout the entirety of each project's lifecycle. Alteration or deviation from SPs due to project specific circumstances must be accepted by all BMB stakeholders. These deviations should be equitable, discussed, and agreed upon during the Pre-Construction/QA phase, prior to execution of the task or process. If these revisions represent a more efficient way to complete a process, and are not project specific, BMB will evaluate incorporation within, and updating of, the applicable SP. Efficiency gains found within SPs improve quality throughout the entire organization. The following is a list of all Barton Malow SPs; bolded SPs are tied to project delivery and quality. SPs not bolded can be used and referenced as needed based on project specific requirements. Refer to the Book of Barton Malow for more information.

#	Standard Practice Name	#	Standard Practice Name
1	**3D Coordination**	41	Notary Application and Renewal
2	**4D Scheduling**	42	Owner Insurance and Bonds
3	6-Month Review	**43**	**Partnering**
4	Annual Compensation Planning	**44**	**Prefabrication Planning**
5	**Autodesk Build Folder Structure-BMB**	**45**	**Procurement-Subcontractors**
6	Business and Workforce Inclusion	**46**	**Project Coordination Meetings**
7	Cash Management	**47**	**Project Manual**
8	**Change Management**	48	Project Opportunity Tracking
9	Client Feedback	49	Project Systems Startup
10	**Commissioning**	50	Proposals (BMB)
11	Community Week Day-Of Champions	**51**	**Punchlist Process**
12	Confidentiality and Non-Disclosure Agreements	52	Real Estate Transaction
13	**Constructability Review**	**53**	**Request for Information (RFI)**
14	Corrigan File Management	**54**	**Safety Moments for In-Person Office and Remote Meetings**
15	**Daily Record**	**55**	**Safety Set-Up**
16	Design Management	**56**	**Scheduling (Buy Out Phase)**
17	**Document Control Closeout**	**57**	**Scheduling (Closeout Phase)**

18	**Drawing Management**	**58**	**Scheduling (Construction Phase)**
19	Estimating	**59**	**Scheduling (Preconstruction Phase)**
20	**Examination, Inspection, Testing and Laboratory Vetting Process**	**60**	**Scheduling (Pursuit Phase)**
21	Forecasting	**61**	**Scheduling Services (BMB)**
22	General Conditions and Staffing Worksheet	**62**	**Site Photos**
23	GMP Review Meeting	**63**	Southfield Administration
24	**Incident Response**	64	Southfield Visitor Parking
25	Innovation	65	Specification Managemen
26	Installation Work Packages	66	Standard Practice Creation
27	Intellectual Property Protection	**67**	**Submittal Process**
28	Intercompany Purchase Orders	**68**	**Submittal Registers**
29	**Internal Project Start-Up Meeting (BMB)**	69	Subsistence
30	Interviews	**70**	**Sustainability**
31	Invoicing - Owner and Vendor	71	Team Member Change Requests
32	Joint Check	72	Trades Safety Onboarding Program-BMB
33	Joint Venture	73	Travelers Fringe Agreement
34	Kaizen Events	74	Union Audits
35	Labor Management	**75**	**VDC Deliverables**
36	**LEED Certification**	**76**	Vehicle Application [BMB-BMH]
37	**Logistics and Safety Plan**	77	Vendor Contracts
38	Market Types	78	Vendor Contracts-BMB
39	**Mobilization and Permitting**	79	Vendor Insurance and Bonds
40	New Hire Onboarding	80	Voluntary Offboarding
		81	**Quality Mangement - BMB**

D. **INDUSTRY STANDARD REFERENCES**

Numerous regulations, codes, and standards are utilized throughout the industry to ensure a quality product is delivered. Trade partners have a significant impact on the quality delivered on-site and are responsible for providing a product compliant with contractual requirements as well as national/regional standards. If there is conflict between requirements, it is strongly suggested a meeting be held with all vested parties to establish a path forward. It is typical the more stringent requirement takes precedence given contracts sufficiently account for it.

Barton Malow maintains subscriptions with numerous regulatory agencies and publishers through partnership with **Techstreet Enterprises,** enabling teams to access the most current publications available. These manuals are available to all Barton Malow Enterprise employees. Refer to the Techstreet links below. Use your Barton Malow log in credentials to access Techstreet.

- American Concrete Institute (ACI)
- American Institute of Steel Construction (AISC)
- American Petroleum Institute (API)
- American Society of Civil Engineers (ASCE)
- American Society of Mechanical Engineers (ASME)

- American Society of Safety Professionals (ASSP, Formerly ASSE)
- American Society for Testing and Materials (ASTM)
- Concrete Reinforcing Steel Institute (CRSI)
- International Code Council (ICC)
- Institute of Environmental Science and Technology (IEST)
- International Organization for Standardization (ISO)
- National Board of Boiler and Pressure Vessel Inspectors (NBBI)
- Society for Protective Coatings (SSPC)
- The Masonry Society (TMS)

1.02 SAFETY

Safety is an integral part of BMB and a consistent focus in all work activities performed. BMB is committed to building safe without exception. Safety and quality work in concert; it is impossible to sacrifice one without affecting the other. Conscientiousness, planning, and proactiveness are applicable to both. Numerous forms are available to ensure that safety is pursued and properly executed on each jobsite. Refer to the SP links below and the Barton Malow Builders Safety Manual for more information.

Referenced SPs: *Incident Response* | *Safety Set-Up* |*Safety Moments-In-Person Office and Remote Meetings* | *Mobilization and Permitting*

1.03 ROLES AND RESPONSIBILITIES

All BMB employees are responsible for quality and committed to plan, execute, and deliver superior results. Consistent dedication to quality throughout each project lifecycle enables BMB to provide exceptional products and value to our clients. Specifically, each BMB employee is required to:

- Familiarize themselves with the content, procedures, and forms within this manual.
- Maintain high quality and workmanship standards.
  - Pursue zero defects or rework for all work put in place.
  - Address and correct quality concerns as they are identified.
  - Be accountable for their own workmanship as well as those around them.
  - Promote safety, quality, and productivity in all work efforts.

A quality program is most effective when it is approached holistically, whereby all parties have a vested interest in its success. Proper execution of the quality program requires a commitment to excellence, adherence to standard practices, and collaboration between all stakeholders. The following are quality responsibilities of each project delivery role.

A. **Officer/Executive/Director**

- Committed to quality
- Knowledgeable of overall company quality performance and recent trends.
- Responsible for promoting safety, quality, and productivity in all efforts.
- Manage the quality program with appropriate tools and resources.
- Hold project delivery and contractors accountable for successful adherence to quality policies.
- Responsible for overall project quality, visibility, and presence.
- Participates in quality performance reviews.
- Evaluate quality program annually.
- Coordinate all company departments and SPs to support quality management.

B. **Quality Managers**

Each project should be assigned a regional or site-specific quality manager based on a variety of factors, including but not limited to project scope, value, budget, risk, Architect/Engineer (AE) requirements, and owner requirements. Typciallly, any project larger than $250mil should be assigned a Ste-Specific Quality Manager. Both roles report to the quality department and work to improve the overall quality program through lessons learned and continuous improvement. The following represents the distinction between these two roles.

1. **Regional Quality Manager**
   - Enables project delivery teams to perform all quality tasks.
   - Trains the office and region in quality practices.
   - Provides support, training, and assistance to each project delivery team.
   - Responsible for general oversight and support of the quality program on each project.
   - Works with project leadership to assign quality responsibilities to the project team.
   - Assigned multiple projects within their given region.
   - Conduct periodic, planned, and unplanned, on-site quality audits
2. **Site-Specific Quality Manager**
   - Provides full-time, on-site quality support and ensures consistent quality is delivered.
   - Accountable for all quality responsibilities and workflows delivered on the project.
   - Prepares and enforces all required quality documentation.
   - Delegates quality responsibilities to the project team with oversight and agreement from project leadership.
   - Works with the project team to create the SSQM
   - Reviews trade partner quality manuals
   - Conduct periodic, planned, and unplanned, on-site quality audits

C. **Project Delivery Team**

Projects without an assigned Site-Specific Quality Manager are responsible for fulfilling all quality program requirements. The Regional Quality Manager will support and enable project delivery teams, however operational quality responsibilities and compliance remain with the project team. The Project Manager should utilize the Quality Roles & Responsibiities Matrix to determine responsibility assignments for each team member in concert with the Superintendent, Regional Quality Manager, the Quality Department, and leadership. Shown below is the suggested **Division of Responsibility (DOR)** for quality tasks. All responsibilities listed are specific to quality; project delivery team members remain accountable for all responsibilities inherent in their current roles. The project team may modify this DOR as needed so long as all quality responsibilities are fulfilled.

1. **Project Manager**
   - Responsible for overall project quality, visibility, and presence.
   - Issue trade contracts requiring compliance with this QM. This includes but is not limited to work scope line items and inclusion of the SSQM in the project manual.
   - Determine trade partners responsible for providing discipline specific quality manuals. Include in work scopes.
   - Review and approve trade partner quality manuals.
   - Prepare and enforce the SSQM throughout the project lifecycle.
   - Prepare and enforce the **Definable Features of Work (DFW)** including all related **Pre-Install Conferences (PICs)** and **Job Specific Activities (JSAs)**.
   - Support the **Quality Incident Report (QIR)** and **Non-Conformance Report (NCR)** process to ensure all are addressed in a timely manner.
   - Review all quality documentation associated with a work activity prior to starting work to ensure quality goals are understood.
   - Submit a monthly quality report if required per contract documents
2. **Superintendent**
   - Responsible for overall project quality, visibility, and presence.
   -Develop the **Definable Features of Work (DFW)** with the Project Manager.

- Enforce the **Inspection Test Plan (ITP)**, ensuring all required testing and inspections are performed.
-Enforce the **Mockup Plan (MP)**, ensuring all mockups are built properly, timely, and without rework.
- Create QIRs and NCRs utilizing form templates available on Autodesk Build.
- Identify, mitigate, and control all **Quality Incident Reports (QIRs)** and **Non-Conformance Reports (NCRs)**. This includes stop work orders, witness/hold points, corrective action planning, and inspection verification.
- Monitor all trade and supplier work for conformance with drawings, specifications, performance criteria, manufacturer's installation procedures, testing and other project requirements.
- Ensure proper control of all materials/equipment received, stored, and handled at the jobsite.
- Coordinate with qualified testing laboratories or third-party inspection agencies as applicable.
- Direct and convey all quality requirements to foreman/trades/third parties.

3. **Project Engineer**
   - Manage all document control related to the quality program utilizing Autodesk Build.
   - Maintain all quality records. Specific reference to **Definable Features of Work (DFW)**, **Inspection Test Plan (ITP)**, **Mockup Plan (MP)**, **Quality Incident Report (QIR)** and **Non-Conformance Report (NCR)**.
   - Prepare the **Inspection Test Plan (ITP)** and **Mockup Plan (MP)**.
   - Ensure all tests, inspections and mockups are performed in a timely manner.
   - Create and identify QIRs and NCRs with oversight from the Superintendent and/or Project Manager.
   - Ensure timely resolution of all outstanding QIRs and NCRs.
   - Complete closeout of all quality records concurrently with the overall project closeout process.
   - Collect, organize, and maintain quality metrics.
   - Collect all quality documentation associated with inspections and tests, including those performed by Subcontractors or third-party agencies.
4. **Project Administrator**
   - Supports the project engineer with all quality document control.
5. **Safety Manager**
   - Evaluates all work put in place before, during and after construction to ensure it is done safely and with a high level of quality.

D. **Trade Quality Representatives**

Trade participation is critical to ensure the success of the BMB Quality program. Trades can be defined as all trade contractors, trade professionals, trade partners, or subcontractors hired by BMB to perform work. This includes all self-perform work done by BMB. Contract language should be included with every trade work scope requiring compliance with this QM and the overall quality program. Additional work scope line items may be included by BMB which further specify the trades responsible for providing discipline specific quality manuals or fulfilling additional project specific quality requirements. This shall be determined based on contract document or owner requirements. All discipline specific quality manuals will be reviewed by BMB to ensure compliance.

Each trade should assign a quality representative responsible for managing all discipline specific quality assurance and control measures. The following is a list of trade quality representative responsibilities:

- Review the BMB QM (including all site-specific clarifications) and comply with all quality requirements applicable to their scope of work.

- Ensure the proper governing regulatory provisions, codes, standards, and owner mandated requirements are followed.

- Ensure proper follow up and closure to all **Quality Incident Reports (QIRs)** and **Non-Conformance Reports (NCRs)** applicable to their scope of work utilizing the Autodesk Build issue module.

- Ensure compliance with the **Inspection Test Plan (ITP)** and **Mockup Plan (MP)**.

- Actively participate in all **Pre-Install Conferences (PICs)**.

- Collect, manage, and submit to BMB all discipline specific quality documents associated with their scope of work. Quality documents include but are not limited to checklists, forms, inspections, and tests.

- Coordinate with BMB to create an all-inclusive list of quality documents to be used throughout the project lifecycle. Quality documents may be those required by BMB, used by the trade partner, used throughout the industry, and/or required by the owner.

- If required, submit their own discipline specific quality manual for BMB review and approval. This manual shall:

1. Demonstrate compliance with the BMB QM and/or SSQM.
2. Focus on the measures taken to ensure quality on discipline-specific tasks, as well as reference all relevant specifications, codes, testing, and inspection procedures required by the authority having jurisdiction (AHJ).
3. Be tailored to all project-specific requirements with reference to all partnerships/organization/scheduling required with other trades or third parties to provide a finished product.

1.04 THIRD PARTY PARTNERSHIPS

All projects typically require the use and engagement of third parties including but not limited to inspection, testing, commissioning (Cx), LEED, and consulting. Third parties may be contracted through BMB, a trade partner, architect, engineer, or owner. Regardless of contract structure or application, effort shall be made to ensure alignment between contract documents, standards, codes, regulations, and/or AHJ's. In the event of conflict, the more stringent requirement supersedes so long as it has been proven applicable and relevant. If/when these situations arise, a meeting should be held with all vested parties to ensure alignment and agreement. Cost implications of these discrepancies should be compared against information provided at bid time. Typical examples of sources containing potential conflicts include but are not limited to project specific requirements, owner requirements, drawing notes, consultant standards, national standards, regional standards, specifications, and design criteria.

A. Consultants

Consultants can be defined as a third party with discipline specific knowledge representing a project stakeholder. BMB typically suggests consultants be contracted by the owner to alleviate any potential conflict of interest between the consultant, BMB, a trade partner, or AE. If the owner does not agree to contract the consultant but maintains the consultant is required, then it is suggested BMB own the consultant contract. The consultant cost should be considered part of the overall cost of work; all consultant recommendations should be incorporated within the contract documents so long as they are deemed applicable and relevant.

Consultants may utilize their own details when conducting inspections or tests to ensure that built assemblies comply with the latest codes and regulations. It is critical that a quality check be done to ensure these details align with contract documents. These checks should occur prior to work activities beginning to ensure compliance. Alternate details must be reviewed and approved by the AE prior to implementation.

Consultants may be held to different contractual requirements or standards. These differences must be identified and acknowledged by all vested parties to ensure alignment. Project teams

are strongly encouraged to define the liabilities required of each consultant, compare them against contractual requirements, and ensure that consultant services align.

It is typical for consultants to maintain and generate their own issue logs or observation reports throughout construction. It is strongly suggested that BMB discuss with the consultant utilization of the AD Build issues module for third party document management. AD Build will reduce rework, allow all parties to view issues directly on Build, and improve efficiency across the entire project. BMB should request that the consultant generate their issues directly in AD Build issues module, or manually translate issues from consultant logs/reports into the AD Build issues.

B. **Site Capture & Existing Utility Verification**

Site capture can be defined as documenting the existing conditions of a site prior to any construction activities taking place. This is a critical step of every project; existing underground utilities or unforeseen underground obstructions represent one of the most consistent challenges throughout the construction industry. Conducting a proper site capture serves to mitigate these challenges and is a key component of providing additional assurance that planning has been done both above *and* below ground. Methods used to achieve this include but are not limited to reviewing historical drawings, identifying/meeting with all authorities having jurisdiction (AHJ's) and local utility companies, conducting a typical total station survey, 3D scanning, 3D modeling, drone flights, ground penetrating radar (GPR) scans, and light detection and ranging (LIDAR) scans.

While survey and layout are typically included within trade partner contracts, a proper site capture should be done *prior* to typical trade partner contract award. In some cases, project delivery teams resolve this timing challenge by expediting trade contract issuance or issuing Notice to Proceed (NTP) letters to trade partners. Alternatively, a third-party survey company can be contracted prior to typical trade partner contract award to complete site capture. The BMB project delivery team and owner should discuss and agree to all site capture and utility verification strategies prior to executing work. Refer to the SP below for more information.

Referenced SPs: ***Mobilization And Permitting***

1.05 QUALITY DELIVERABLES

Standardized quality templates are used throughout each project lifecycle to promote consistency with all work put in place. Templates typically appear as checklists or forms, re-used as repeat tasks are performed. Shown below are the typical form templates used. The **Forms** section of **Autodesk (AD) Build** houses many of these templates, enabling easy access and completion. Inspection reports are suggested to be completed on a weekly basis. Bolded forms are strongly suggested to be utilized for each project; forms not bolded are available for use based on project specific requirements. Refer to the SP below for more information.

Referenced SPs: ***Quality Management - BMB***

A. **Form Templates**

#	Title	Type
QA-001	**Definable Features of Work (DFW)**	Excel Template
QA-002	**Pre-Install Conference (PIC)**	Word Template
QA-003	**Inspection Test Plan (ITP)**	Excel Template
QA-004	**Mockup Plan (MP)**	Excel Template
QM-000	**QIR-NCR Report**	AD Build Issues Template
QM-001	**General QM Inspection Report**	AD Build Form Template
QM-002	Civil QM Inspection Report	AD Build Form Template
QA-003A	Concrete QA Checklist	AD Build Form Template
QC-003B	Concrete Pour Card Report	AD Build PDF Template

QM-004	Steel QM Inspection Report	AD Build Form Template
QM-005	**Interiors QM Pre-Board Inspection Report**	AD Build Form Template
QM-006	**Interiors QM Post-Board Inspection Report**	AD Build Form Template
QM-007	Building Enclosure QM Inspection Report	AD Build Form Template
QM-008	MEP QM Inspection Report	AD Build Form Template
QM-009	MEP Commissioning Status Report	AD Build Form Template
QM-010	Enclosure Commissioning Status Report	AD Build Form Template

1.06 LESSONS LEARNED

The BMB Lessons Learned Database is used to house all lessons learned from contributors throughout the organization. This diverse collection of lessons applies to project delivery but includes all other departments. Due to this diversity, the system and content of this database are managed by a diverse group of Barton Malow team members. Operational responsibility of this system falls under the Quality Management Department.

The database is continuously updated as new lessons are learned. All Barton Malow team members have access to this system and are strongly encouraged to upload their own lessons as they are experienced. New lessons shall be reviewed, approved, and indexed as they are received, enabling quick retrieval of information by utilizing simple or complex search criteria. Each lesson should include a summary of the original driving event, the lesson that was learned, and recommendations to eliminate the issue in the future. This enables Barton Malow to continue pursuing improvement through updates to training, best practices, policies, and procedures.

1. **Form Template**

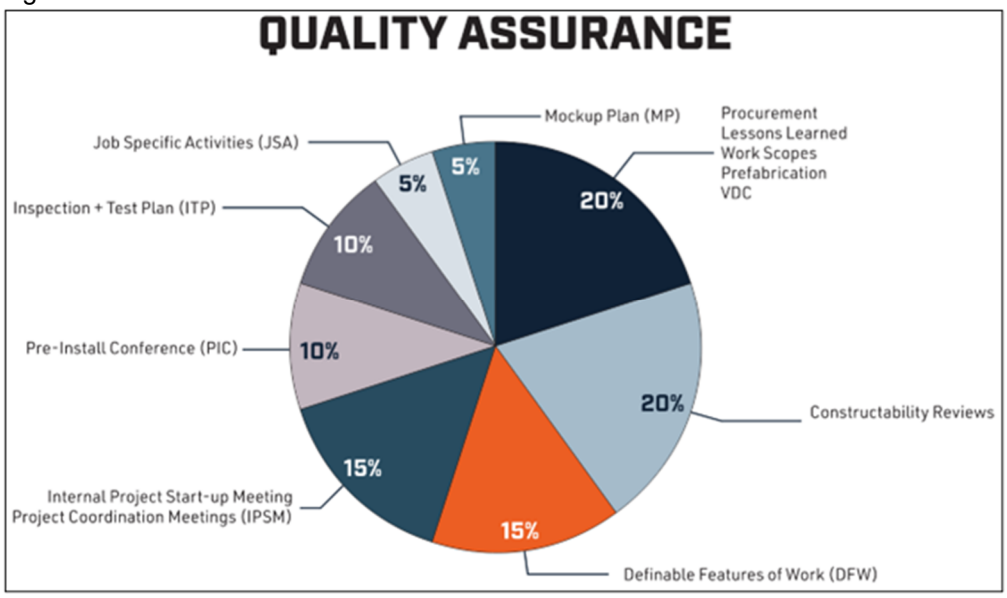
#	Quality Document Title
1	Lesson Learned Submission Form

1.07 PRE-CONSTRUCTION | QUALITY ASSURANCE

"Plan the Work, Work the Plan"

Quality Assurance (QA) can be defined as the planned and systematic activities implemented which provide confidence a product or service will fulfill requirements. QA prior to execution can drastically reduce the amount of quality control required later and plays a large role in ensuring the overall quality program is implemented properly. This ties closely with the Planning department and is an integral part of BMB's commitment to excellence by providing the *assurance* that upcoming work will be delivered safely, efficiently, and correctly. Many existing planning SPs achieve this same goal.

Directly applicable to QA is the Project Lifecycle Process. This document outlines all requirements and responsibilities of a project through touchpoints to mitigate risk and maximize opportunity for all BMB projects. This workflow further emphasizes the importance of pre-planning and QA in all BMB endeavors. The following are QA measures to be taken in addition to existing SPs, enabling planned work to be executed without rework and as required to fulfill contract requirements.



A. **Internal Project Start-Up Meeting (IPSM)**

The Internal Project Start-Up Meeting (IPSM) is divided into two phases, the Planning IPSM and Construction IPSM. Both meetings are intended to establish and maintain role clarity within project teams, identify resources required for successful completion of the project, and provide a venue to solicit project support as needed. These meetings focus on the steps required to fulfill all requirements of the upcoming planning or construction phase. The planning IPSM shall occur no more than four weeks after notification of a project win. The construction IPSM shall occur within four weeks of construction start.

Preparation prior to execution is a critical tenet of the quality program. The IPSM is the first step in providing the *assurance* that future work will be executed properly with a focus on quality, efficiency, and safety. Various forms are associated with the IPSM and must be utilized to fulfill all IPSM goals. For more information, refer to the SP below.

Referenced SPs: ***Internal Project Start-Up Meeting***

B. **Trade Kickoff Meeting**

The **Trade Kickoff Meeting** is utilized to identify, discuss, review, and plan for overall project quality requirements associated with each scope of work. This meeting should occur once per bid package, immediately after trade contract award and before submittals are sent to the Architect/Engineer (A/E). The kickoff meeting creates a quality-focused precedent for each trade partner at project start-up and sets the tone for the entire project lifecycle. In addition to typical project delivery items, the following quality specific topics should be discussed:

- Review the **Definable Features of Work (DFW)** to identify all major work activities requiring **Pre-Install Conferences (PIC's)** and all **Job Specific Activities (JSA's)** within each.
- Review the **Inspection Test Plan (ITP)** and **Mockup Plan (MP)** and ensure a strategy is established to properly execute.
- Discuss the material receiving, inspection and storage procedures planned for each scope of work.
- Review contract documents to identify and plan for all project-specific requirements associated with Preventative Maintenance and **Foreign Material Exclusion (FME)**.

1. **Participants**
   BMB Project Delivery Team and/or BMB Quality Representative, Trade contractor (including project manager, field foreman and craft labor), A/E, Owner, and all applicable consultants/third parties.

C. **Project Coordination Meetings**

Coordination, collaboration, and the dissemination of knowledge to all parties is critical to a project's success, ensuring all parties understand contractual requirements prior to execution. The SP referenced below is intended to establish the baseline set of regular meetings required to facilitate clear communication between BMB, its partners, and the owner. Meeting goals, cadence or attendees may be modified so long as information is properly distributed to applicable parties throughout the project lifecycle. To fulfill project specific requirements, additional meetings may be scheduled beyond those listed within the SP.

Referenced SPs: ***Project Coordination Meetings***

D. **Constructability Reviews**

Constructability reviews are perhaps the most important task of the QA pre-construction phase, providing project delivery teams with the opportunity to identify and resolve issues before they become field issues. This is done by reviewing each issuance of drawings, models, and specifications. It is critical this be done to ensure quality is designed into the project from the start. Completing constructability reviews at each document issuance phase (SD,DD,CD) improves the quality of the drawings and specifications themselves and is key to a successful pre-construction phase. The **Definable Features of Work (DFW)** and work scopes should be considered and referenced throughout each constructability review to ensure all tasks and scope delineations are properly accounted for.

Review of both 2D and 3D documentation allows the team to ensure the design intent present on drawings matches what is modeled in a 3D environment. The entire BMB project team is expected to participate in the constructability review process and be aware of design intent, expectations, changes, and potential issues requiring resolution. BMB leverages Autodesk Build for these reviews. Refer to the SP below for more information.

Referenced SPs: ***Constructability Review***

E. **Definable Features of Work (DFW)**

The **Definable Features of Work (DFW)** is a list of all major work activities required on a project. This is the primary QA tool, used to analyze each activity, plan for the successful execution of material and workmanship requirements, and identify which activities require **Pre-Install Conferences (PIC)** and **Job Specific Activities (JSA)**.

Identifying all DFWs prior to construction enables the project delivery team to plan for successful execution. Creation of the DFW aligns very closely with baseline schedule creation and should be completed concurrently. The DFW provides an additional level of schedule assurance by verifying major tasks shown in the baseline schedule align with the project delivery teams interpretation and analysis of contract drawings and specifications.

The project delivery team is responsible for creating the DFW. The scheduling team is responsible for verifying the baseline schedule includes all activities listed within the DFW. PICs are the responsibility of the project delivery team to schedule, hold and manage. Refer to the SPs and DFW template below for more information.

Referenced SPs: ***Scheduling (Buy Out Phase)*** **|** ***Scheduling (Close Out Phase)*** **|** ***Scheduling (Construction Phase)*** **|** ***Scheduling (Preconstruction Phase)*** **|** ***Scheduling (Pursuit Phase)*** **|** ***Scheduling Services (BMB)*** **|** ***Quality Management – BMB***

1. **Form Template**

#	Quality Document Title
QA-001	Definable Features of Work (DFW)

2. **Participants**
Project Manager, Project Team, Safety Manager, Quality Department, Scheduling Department
3. **Process**

#	DFW Steps	Responsibility
1	Complete a DFW concurrently with the baseline construction schedule. DFW must be organized chronologically by sequence of work or specification number	Project Manager Superintendent
2	Review DFW with the Quality & Safety departments to ensure list is all-inclusiv	Project Manager Quality Department Safety Department
3	Provide completed DFW to project scheduler. Ensure alignment between DFW & schedule	Project Manager Project Scheduler
4	Within the schedule, create Pre-Install Conference (PIC) activities prior to each DFW	Project Scheduler
5	Utilize the PIC to capture all Job-Specific Activities (JSAs) required of each DFW	Superintendent Quality Department
6	Maintain the project schedule throughout construction, incorporating newly identified DFW/PIC activities	Project Manager Project Scheduler
7	Maintain the DFW to capture newly identified JSAs, and ensure all JSAs are completed	Superintendent Quality Department
8	Hold a PIC prior to each DFW activity occurring on-site	Superintendent Quality Department

F. **Pre-Install Conference (PIC)**

Pre-planning quality into all work activities is a critical piece of the quality program. The **Pre-Install Conference (PIC)** is used to review and plan for all requirements associated with major work activities and enables the team to mitigate future rework. Within the BMB quality program, PIC's are held as required per contract documents and to address all detail associated with each **Definable Feature of Work (DFW)**. Topics discussed at each PIC include but are not limited to:

1. Review of plans, specifications, approved submittals, RFIs, 3D coordination models, mock-ups, work scopes, quality standards & forms, safety concerns, and schedule.
2. Plan the sequencing of each **Job Specific Activity (JSA)** and how work will be executed.
3. Address how quality of materials and workmanship will be controlled.
4. Review division of responsibilities associated with work execution and verification.
5. Review commission requirements.
6. Review of the **Inspection Test Plan (ITP)** to identify all required inspections/tests associated with the work, as well as any applicable industry standards (ASTM, ASHRAE, etc.).
7. Review of the **Mockup Plan (MP)**

It is critical that field foremen performing the work be active participants and understand all requirements. PICs should occur 2-4 weeks prior to each DFW work activity. The PIC only occurs the first time the DFW is performed; subsequent installations of the same work should not require a PIC so long as all requirements were fulfilled the first time the DFW was installed.

The plan finalized in the PIC should be enforced throughout DFW installation and verified through the **Post-Install Meeting** as well as periodic planned and unplanned on-site quality audits. These QC measures enable the project delivery team to validate the effectiveness of the PIC plan, react to field conditions present during construction, and implement continuous improvement by adjusting the plan as needed to achieve the highest quality possible.

1. **Form Template**

#	Quality Document Title

QA_002	Pre-Install Conference (PIC)

2. **Participants**
   BMB Project Delivery Team and/or BMB Quality Representative, Trade contractor (including project manager, field foreman and craft labor), A/E, Owner, and all applicable consultants/third parties.

G. **Job Specific Activities (JSA)**

Job Specific Activities (JSAs) are all sub-activities required within a **Definable Feature of Work (DFW)**. It is necessary to divide DFWs into JSAs for work sequencing, responsibility assignment, and coordination amongst trades. JSAs are created by the BMB project delivery team during preconstruction as the DFW is being developed. When the project transitions into construction, JSAs should be further defined, clarified, and discussed at the **Pre-Install Conference (PIC)**. This ensures all parties:

1. Are aware of responsibility/scope assignments.
2. Understand how scope is divided between trades.
3. Understand which trades need to coordinate and schedule with each other.
4. Understand how JSA responsibilities/scope/schedule fit within each DFW.

Additional JSAs can be generated at the PIC if doing so provides further clarity of the work to be performed. Typically, the BMB Project Manager and Superintendent are responsible for assigning JSAs to trade partners.

H. **Inspection & Test Plan (ITP)**

The **Inspection & Test Plan (ITP)** is a master list of all inspections and tests required throughout a project lifecycle. This allows a project delivery team to holistically look at all tests required and adequately plan for them. These requirements may originate from a variety of sources including but not limited to project specifications, owner requirements, and consultant requirements.

It is typical for projects to employ a variety of parties responsible for testing and inspection, including but not limited to third parties, clients, trade partners, and vendors. The ITP is intended to organize, plan for, and assign inspection and test responsibilities during pre-construction, enabling the efficient execution of these practices throughout construction. The ITP should be discussed at each **Pre-Install Conference (PIC)** to ensure that all applicable inspections/tests are identified and planned for prior to work execution.

Requirements for inspections and tests are typically stipulated by the project specifications but may be driven by other sources including but not limited to national standards, regional standards, and client, OEM, or vendor requirements. It is important inspections and tests are extracted from all applicable sources and included within the ITP. This enables the team to identify and correct discrepancies between sources. Further, the passing requirements of all inspections and tests are required to be listed within the ITP. This ensures work in place is completed with the end goal in mind, mitigating repeat inspections/tests and increasing efficiency throughout the entire project lifecycle.

Required inspections and tests can be automatically extracted from reference material and inserted within the ITP utilizing **Pype Autospecs**. This ensures all requirements are listed within the ITP and reduces time commitments. While this tool simplifies the effort required to extract all inspections/tests from the specifications, each project team should still be reviewing all inspections/tests and understand what is required. For more information on this workflow, please refer to the Barton Malow website.

Referenced SPs:*Examination, Inspection, Testing and Laboratory Vetting Process* |

1. **Form Template**

#	Quality Document Title
QA-003	Inspection & Test Plan (ITP)

I. **Mockup Plan (MP)**

The **Mockup Plan (MP)** is a master list of all mockups required by the contract documents. This plan shall identify not only all mockups, but the specific goals and requirements of each finished mockup to satisfy contractual requirements. Like previous QA procedures, establishing all requirements prior to mockup construction start enables the team to proceed with confidence and minimal rework.

1. **Form Template**

#	Quality Document Title
QA-004	Mockup-Plan (MP)

J. **Procurement**

Procurement is the process of acquiring goods and services required for a project, encompassing all activities involved in sourcing, selecting, and obtaining the required materials, equipment, and labor to successfully complete the project. An effective procurement strategy is vital to ensure the project stays within budget, adheres to timelines, and maintains quality standards. Procurement should never take place until all relevant submittals have been approved. Compliance with the referenced SPs below will ensure Quality is applied to this process, contribute to the overall success and efficiency of the project, lead to timely completion, and provide world class service to our clients.

Referenced SPs: ***Procurement-Subcontractors***

K. **Work Scopes**

The development of work scopes is an important phase of every project. Work scopes exist within the BMB project manual. Ensuring work scopes are all inclusive prior to contract issuance provides a variety of benefits, most notable being clarity between BMB and our trades, providing cost confidence for the client, mitigating change orders, and eliminating lost time due to scope discrepancies or gaps. These are all tenets of QA, providing the assurance that future work will be executed efficiently, correctly and without rework. All trade partner work scopes should include a line-item mandating compliance with the BMB **Quality Manual (QM)** and **Site-Specific Quality Manual (SSQM)**.

Developing quality-driven work scopes requires a complete review of all project drawings, specifications, and requirements. Many scope items can be considered “general” and applicable to all projects. To that end, BMB utilizes **Speclink** to develop a first draft of all work scopes. Functionality within Speclink allows the user to specify which work scopes are applicable to the project, and auto-populate each scope with general requirements. This ensures all general requirements and delineations are accounted for, allowing delivery teams to focus on the inclusion of project specific details. Reference the SP below for more information.

Referenced SPs:*Project Manual*

L. **Prefabrication**

Prefabrication can be defined as manufacturing multi-component assemblies prior to construction. Prefabricated items supplement and/or replace traditional construction methods, installing a complete system on site in lieu of individual parts and pieces. Benefits to prefabrication include accelerated construction schedules, cost savings, improved quality and safety, and consistency. Common prefabricated systems include above ceiling racks, MEP system kits, exterior wall modules, in-wall MEP, bathroom pods, vertical racks, door with hardware assemblies, wall systems, headwalls, stair assemblies, and integrated casework.

Prefabrication shall be addressed and planned for during the design phase of the project. When evaluating prefabrication opportunities, it is critical the client and design team are intimately involved in deciding which prefabrication will be pursued. Schedule, logistics quality, and cost information will be discussed and facilitated by BMB to aid in these decisions. Once decided, prefabrication requirements including space and schedule constraints must be accounted for and incorporated within the design prior to construction document issuance. Dependent on

contract type, trade partners may be involved in these conversations to ensure prefabrication design and intent align with what can be provided.

To ensure proper buyout, BMB should include line items within work scopes detailing all elements intended to be prefabricated. Trade partners must include with their bid prefabrication strategies, manufacturing logistics, schedule alignment, and experience related to the prefabrication scope. Upon contract award, shop drawings are required to clarify which materials will be prefabricated; the design team shall review these shop drawings based off previously established prefabrication goals. It is critical these drawings account for quality measures such as off-site inspection and testing. Installation on-site shall align with previously established QA/QC protocols. Refer to the SP below for more information.

Referenced SPs:*Prefabrication Planning*

M. **Virtual Design & Construction**

Virtual Design & Construction (VDC) can be defined as the application of 3D models and related technology throughout the project lifecycle (pursuit to closeout) to improve overall project performance. VDC applies to the QA program by enabling project teams to visualize future work in a 3D environment, providing detailed planning opportunity and therefore *assurance* that future work will match not only drawing but model intent. The VDC Department provides a variety of services intended to enable all BMB employees to use the latest tools and software available. Descriptions and instructions for using these tools are available in SPs, with additional on-demand or in-person training available as needed. Reference the below SP for a list of all VDC services available**.** Shown below are select VDC workflows and software most applicable to quality and project delivery.

Referenced SPs:*VDC Deliverables - BMB*

1. **Autodesk Build**
   Autodesk Build is an easy-to-navigate, cloud-based, comprehensive project management solution utilized on all BMB projects. Benefits include simplified file storage, drawing management, meeting minutes, quality control, issue tracking, model review, schedule review, and live work sessions. All project team members should access and actively use Autodesk Build including but not limited to the BMB project delivery team, trades, the owner, consultants, and any other vested parties. Autodesk Build enables project teams to streamline collaboration, communication, and documentation in one simple to use platform.
   Multiple BMB workflows and SPs utilize Autodesk Build, predominantly those tied to document control. This includes quality document workflows. The VDC department offers Autodesk Build training courses, enabling the organization to work as efficiently as possible with the best tools available. Autodesk also houses an entire library of training content organized by each individual workflow, available here. For more information contact the VDC department.
2. **3D Coordination**
   3D Coordination is the process of combining design intent and trade partner fabrication models into one environment to coordinate all systems for shop drawing production and fabrication. This provides the team opportunity to “build” the project in 3D prior to construction activities, resolving countless constructability and spatial design issues. While 3D coordination can be utilized to coordinate any modeled system, it is most commonly applied to building enclosure, MEP/FP systems, and structure coordination. There are numerous benefits to performing 3D coordination including but not limited to reduced project cost, shortened schedule, increased quality, increased productivity, reduced waste, reduced field RFIs, increased spatial reliability, facilitation of shop drawing production, enablement of prefabrication opportunity, and enablement of MEP hanger installation prior to concrete placement. 3D Coordination is required on all projects exceeding $5mil. Refer to the SP below for more information.
   Referenced SPs: *3D Coordination*

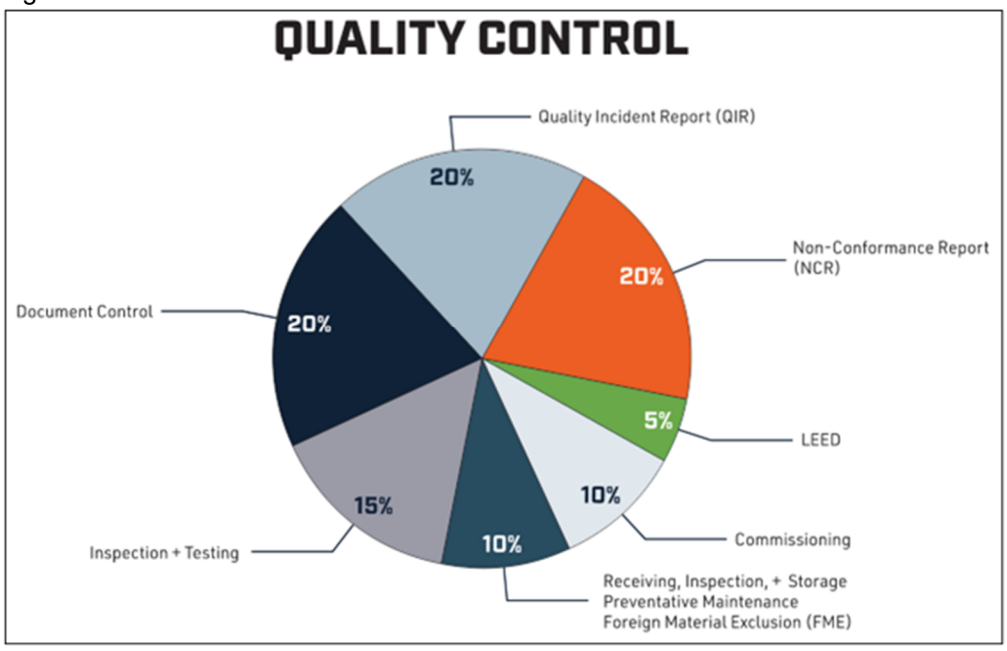
3. **Reality Capture**
   Reality Capture is the process of using the latest technology and processes to capture valuable data from your site. BMB uses 360° cameras, laser scanning, and drones to accomplish this. These tools enable real world data and geometry to be converted into digital outputs. These digital files can be used to compare as-built conditions against coordinated models, coordinate models against existing conditions, track construction progress through timeline photo comparisons, document progress, and more. While strongly suggested, utilization of these tools is dependent on project specific circumstance and availability. Refer to the BMB Reality capture website for more information.
4. **4D Scheduling**
   4D scheduling is the process of adding schedule information to model elements and simulating construction activities and stages. This provides the team with opportunity to visualize sequenced construction activities in a 3D environment. This is done by tying the 3D model with the P6 master project schedule and therefore see the model being built based off the proposed schedule. This enables teams to identify and communicate risk related to work sequencing, schedule timing, and site logistics. 4D scheduling is a useful tool to visualize scheduling or sequencing gaps and plan for them accordingly during the Preconstruction/QA phase of the job. While strongly suggested, utilization of this tool is dependent on project specific circumstance and availability. Refer to the SP below for more information.
   Referenced SPs: ***4D Scheduling***
5. **StructionSite**
   StructionSite is an application allowing teams to track construction progress with photos, pin photos to floor plans, create walk-throughs, and generate time-lapse views. This enables teams to establish a well-organized photographic record throughout the entire project lifecycle, from Preconstruction through Closeout. Every project stakeholder can benefit from using StructionSite. Structionsite utilizes 360degree cameras to capture all scenery and space surrounding it. The camera is equipped with wide angle lenses that capture two 180degree photos and automatically stitch the images together to generate complete 360degree photos and videos. While strongly suggested, utilization of this tool is dependent on project specific circumstance and availability. Refer to the SP below for more information.
   Referenced SPs: ***Site Photos***

1.08 CONSTRUCTION | QUALITY CONTROL

Quality Control (QC) can be defined as the operational inspections, techniques or activities used to fulfill *quality requirements. These requirements are established during the Pre-Construction or QA phase. Ensuring QA is done properly during the pre-construction phase of the job has the potential to drastically reduce the amount QC required later. While QA provides the assurance that future work will be done correctly, QC provides the control needed to ensure work in place complies with contract requirements, expectations, and standards.*

QC takes place during the construction phase and enables project delivery teams to identify and correct field issues as they arise. This mitigates the number of punch list items, accelerates closeout, reduces rework, and allows identification of workmanship issues the first time a task is performed, ensuring the issue is not repeated throughout the larger project.

QC is inherent in many of the project execution tasks BMB conducts every day. The Superintendent and Project Engineer are typically responsible for the majority of these tasks, however all team members have a QC responsibility. Various quality forms, checklists and templates are applicable to QC and provide additional structure around tasks already performed in existing SPs. This enables BMB to reinforce quality-driven field production, mitigate field issues, and provide the best possible product to the client. The following are QC measures to be taken in addition to existing SPs, enabling control of all executed work, mitigating rework, and fulfilling contract requirements.



A. **Document Control**

Multiple BMB SPs are available stipulating the requirements of document control and the workflows required to do so. The implementation of the quality program within document control ensures SPs are consistently utilized on each project. The Project Engineer is predominantly responsible for document control and manages a wide range of document types on each project, most importantly submittals and RFIs.

Quality plays a role in all job-site document control but is perhaps most applicable to submittals. The intent of submittals is to verify proposed materials, equipment, and methods comply with project specifications and requirements, ensuring alignment with intended design, standards, codes, and performance criteria. This aligns very closely with the tenets of the quality program; it is critical submittals are reviewed in detail to ensure they comply with and fulfill contractual requirements.

Document control is required not only for the larger project but for all quality documentation. The quality program utilizes **Autodesk BuildForms** to produce various QC templates and checklists. These QC forms are stored within the quality folder in **Autodesk Build Files**. Storing all quality files in one location enables easy turnover at project closeout. Reference the SPs below for more information.

Referenced SPs: ***Autodesk Build Folder Structure-BMB*** **|** ***Drawing Management*** **|** ***Submittal Process*** **|** ***Submittal Registers*** **|** ***Request for Information (RFI)*** **|** ***Daily Record***

B. **Post-Install Meeting**

The **Post-Install Meeting** should be utilized to review the installed DFW to ensure all requirements discussed at the PIC have been fulfilled. This meeting is led by the superintendent and requires all field foreman and craft labor participating in the DFW installation. It should occur at the end of the first day installing the DFW and occur in the field with hands on review of the built assembly. Topics discussed at the Post-Install Meeting include but are not limited to review of built assembly against drawings/specifications, means and methods to perform work, trade coordination, responsibility assignment, labor availability, schedule evaluation and forecasting, pros/cons, issues, lessons learned, and suggestions to better perform in the future. If all parties agree the DFW was completed without issue and in compliance with all contractual requirements, the trade may continue performing all repeat work

tied to the DFW. BMB will continue to review all repeat work tied to the DFW through quality controls measures and on-site quality audits.

1. **Form Templates**

#	Quality Document Title
1	Lesson Learned Submission Form

2. **Participants**

BMB Project Delivery Team and/or BMB Quality Representative, Trade contractor (including project manager, field foreman and craft labor), A/E, Owner, and all applicable consultants/third parties.

Type	Quality Document Title
Plan	Preventative Maintenance Plan
Procedure	Preventative Maintenance Procedures
Log	Preventative Maintenance Log

C. **Foreign Material Exclusion (FME)**

Foreign Material Exclusion (FME) can be defined as the preventative actions taken to avoid the introduction of foreign material into a system, area, or zone where its presence poses a risk to cleanliness, operation, or safety. In construction this can be equated to dust, debris, water, vermin, or any other material not belonging within a predesignated area (equipment internals, MEP systems, clean rooms, etc.). An FME Plan should be developed and used in conjunction with the following checklists to ensure FME takes place throughout the project lifecycle. The following templates are intended to be utilized for management of FME.

1. **Form Templates**

Type	Quality Document Title
Plan	FME Plan
Procedure	FME Closure Report
Log	FME Barrier Log

D. **Quality Incident Report (QIR)**

The **Quality Incident Report (QIR)** is a tool used to record and resolve minor issues identified on-site. QIR issues are typically:

- Minimal in nature.
- Tied to workmanship.
- Not requiring Engineering/Architectural judgement.
- Negligible cost or schedule impacts.

These attributes can be most closely correlated to a punch list item, but differentiated in that issues are addressed throughout construction in lieu of at project close out. The benefit of QIR utilization lies not only in early issue identification and closure, but more importantly in identification of issues the first time a task is performed. This ensures that the QIR issue is not multiplied as the task is repeated throughout the job.

The Barton Malow Builders Superintendent and/or Project Engineer are ultimately responsible for identification, creation, and closure of QIR issues throughout construction. The project manager may also be responsible dependent on the size of the project. **Autodesk Build** contains QIR issue templates utilized for creating, tracking, and closing all QIR issues. Refer to the SP below..

Referenced SPs: *Quality Management-BMB*

E. **Non-Conformance Report (NCR)**

The **Non-Conformance Report (NCR)** is a tool used to record and resolve major issues identified on-site. NCR issues are typically:

- Substantial in nature.

- Tied to material and/or workmanship.
- Deviating from contract drawings and/or specifications
- Deviating from design intent
- Requiring Engineering/Architectural judgement.
- Substantial in cost and/or schedule impacts.

These attributes define a more extensive issue, therefore NCRs issues are typically resolved through collaboration with all vested parties. It is strongly recommended that NCR issues are resolved via an on-site meeting to establish a path forward agreeable to all parties. Attendance at this meeting should include but not be limited to the client, Architect, Engineer, Trade partner/s, Inspector, OEM, supplier, and vendor.

It is recommended that the site-specific or regional Quality manager be intimately involved with all issues coded as an NCR. The entire project team plays a key part in this Quality collaboration and is responsible for supporting the NCR process until the issue is resolved. The BMB Superintendent and/or Project Engineer are ultimately responsible for identification and creation of NCR issues throughout construction. The entire project delivery team is responsible for closure of NCRs. Autodesk Build contains NCR templates utilized for creating, tracking, and closing all NCR issues. Refer to the SP below for more information.

Referenced SPs: *Quality Management-BMB*

F. **Receiving, Inspection & Storage (RIS)**

Receiving, inspection, & storage (RIS) can be defined as the handling, inspection, and storage of materials and equipment used on-site. The quality process provides additional checks to ensure materials and equipment are adequately handled, meet specifications, and stored with pre-planning done for quick availability. Together, these processes enhance construction project efficiency, minimize waste, and maintain a safe and organized jobsite. Proper execution of these processes relies heavily on adequate site pre-planning and logistics. Reference the Logistics and Safety Plan SP below for more information.

Trade partners are responsible for ensuring all materials required for their scope of work are properly shipped, delivered, inspected, stored, and installed. BMB supports our trade partners in this effort and ensures it aligns with all project-wide goals. In many cases, trade partners have their own quality forms utilized for material verification of receiving, inspection, and storage. BMB encourages trades to use their own forms with the expectation these discipline-specific forms include adequate detail and material-specific clarifications as needed. In the event a trade partner does not have their own forms, the following checklists are made available to promote quality control measures on all material delivered to a jobsite. BMB employees are encouraged to use these forms when applicable to support our trades and ensure quality products are being delivered.

1. **Form Templates**

Type	Quality Document Title
Report	RIS Report
Log	RIS Log
Checklist	*RIS Checklist*

Referenced SPs: ***Logistics and Safety Plan***

G. **Preventative Maintenance**

Preventative Maintenance can be defined as the steps taken to maintain the integrity of equipment or material during construction and prior to owner turnover. These requirements are typically stipulated by the Original Equipment Manufacturer (OEM), the supplier/vendor, or contract documents. Prior to on-site delivery of equipment or material requiring preventative maintenance, it is important to verify all parties agree with the transfer of care, custody, and control protocols. This should be established within contracts and stipulate all preventative maintenance practices required. If this information is not available at contract issuance, all

vested parties should agree on proposed procedures required for maintenance prior to turnover. It is critical these procedures never void product warranty. A request for information (RFI) or submittal are the recommended best steps for establishing undefined preventative maintenance requirements. Typical examples of preventative maintenance include but are not limited to filter change outs, belt replacement and oil replacement. The following templates are intended to be utilized for management of Preventative Maintenance procedures.

1. **Form Templates**

Type	Quality Document Title
Plan	Preventative Maintenance Plan
Procedure	Preventative Maintenance Procedures
Log	Preventative Maintenance Log

1.09 COMMISSIONING

The **Commissioning (Cx)** process is an integral part of each project lifecycle, typically dictated by contract documents and project-specific owner requirements. BMB tailors the Cx process of each project as needed to comply with these unique requirements. Most common Cx variations between projects are typically contract structure, trade responsibility and assignment, software selection, processes, third-party partnerships, and project/owner specific requirements. It is suggested Cx be contracted under the owner as a third-party contractor to ensure potential conflict of interest is avoided and the Cx program is approached objectively and without bias.

The Commissioning Execution Plan should be completed to ensure Cx is properly planned and executed. The Cx Plan should capture all owner and/or project specific requirements including but not limited to contract structure clarifications, identification of participating Cx trades, project specific details, or third-party engagement. BMB should review the Cx Plan with the owner to ensure it captures all necessary information. Refer to the commissioning SP below for more information and toolkit documents including the Cx Plan template.

Referenced SPs: ***Commissioning***

A. **Standards**

Mitigating change between different Cx programs enables BMB to deliver consistently. Though approach may vary between projects, every Cx program typically focuses on MEP/FP and/or building enclosure. It is common for separate commissioners to be assigned to each discipline. Forms utilized between different Cx programs are relatively consistent and applicable to each piece of material/equipment being commissioned. The forms considered typical in every Cx program are:

#	Typical Commissioning Forms	#	Typical Commissioning Forms
1	Installation Sequences	11	Owner Training Plan
2	Manufacturer Factory Testing Certificates	12	Pipe Flushing/Cleaning Plan
3	Cx Status Checklists	13	Water Treatment Reports
4	Pre-Installation Checklists	14	AHJ Approval Documentation
5	Pre-Start Checklists	15	Lube/Filter/Maintenance Reports
6	Manufacturer Check/Test/Start Forms	16	Certifications/Field Reports
7	Functional Test Forms	17	Cx Meeting Minutes
8	Performance Test Data	18	Cx Reports
9	Cx Order & Timing Scheduling	19	Transmittal Records
10	Duct Leakage Testing		

These forms are typically furnished by the responsible trades and collected by the commissioner. Each BMB project team should review Cx requirements thoroughly and ensure

all trade partners are aware of form, engagement, participation, and submission requirements. Trade partners are ultimately responsible for furnishing and completing all forms listed. BMB is responsible to manage trade partners, ensure trade participation and compliance with the Cx program, and maintain the workflows necessary to complete Cx as efficiently as possible.

B. **Software Solutions**

Various software solutions are available to simplify Cx document control requirements and easily maintain a dashboard identifying current Cx completion status. Many are web-based platforms enabling trade partners to upload documentation directly to the platform. The most common software used for Cx are Facility Grid, Synergy, Horizon (FST Technical Services), and CxAlloy.

If Cx software is not planned for use on the project, it is possible to use AD Build as a folder structure and repository for storing Cx forms. While not recommended, this workflow does eliminate the additional cost associated with Cx software. If AD Build is pursued for Cx storage, it is important to discuss and clearly delineate document management responsibilities with the owner, third-party commissioners, and all trade partners. The commissioner should be responsible for managing the overall Cx process.

1.10 LEED | SUSTAINABILITY

A. **Leadership in Energy and Environmental Design (LEED)**

Leadership in Energy and Environmental Design (LEED) is a point based green building certification program. A project must be designed with its LEED certification level in mind to ensure materials and methods used during construction are applicable. The client must be intimately involved in these preliminary design conversations to understand the LEED credits being pursued, their benefit to the project, and the potential cost impact associated with each.

Upon selection of LEED certification level, BMB will work collaboratively with its trade partners, the design team, and client to develop a **LEED Scorecard** inclusive of all credits pursued and the strategies required to achieve them. To ensure proper buyout, BMB should include line items within work scopes detailing all LEED points being pursued. Trade partners must include with their bid the strategies, manufacturing logistics, schedule alignment, and experience related to LEED certification. During construction, onsite personnel will be identified by each trade partner to manage LEED requirements and submittals. Submittals and milestone deliverables are strongly suggested to be included within the overall design and construction schedule with periodic LEED progress meetings scheduled.

Project LEED certification requires submission of all documentation to the United States Green Building Council (USGBC). The USGBC is responsible for awarding credits and determining if products and construction methods used during construction are applicable to the credits being pursued. Determination of a product or methods application to green building requirements can be interpretive; it is not uncommon for the USGBC to award partial credit. It is strongly suggested the team strive to achieve more points than needed for favorable LEED outcomes. Refer to the SP below for more information.

Referenced SPs: ***LEED Certification***

B. **Sustainability**

Sustainability in construction can be defined as designing, constructing, and operating a building in an environmentally responsible, resource-efficient, and socially beneficial way. Clients may have sustainability requirements but not formally require LEED certification. In this case, it is important that contract documents and/or client requirements are discussed and agreed upon between the client, BMB, and design team. It is critical the design team be present to ensure design criteria meet client requirements. These partnering sessions should document client requirements, verification processes, budget, contract, resource allocation, and execution strategy. These partnering sessions fulfill both QA and QC measures and ensure that execution aligns with expectation. Refer to the SP below for more information.

Referenced SPs: ***Sustainability***

1.11 CLOSEOUT

Closeout is the final stage of every project, occurring after construction but before owner turnover. A prolonged, chaotic closeout can soil an otherwise well executed project. It is critical closeout be planned for and completed in an organized, quality-driven, systematic manner. Although closeout occurs at the end of a project, it begins at project startup. Effective closeout has numerous benefits including but not limited to client satisfaction, opportunity for repeat business, relationship building, increased profitability, expedited issue resolution and building turnover, and opportunity to evaluate the project holistically for both successes and lessons learned.

Preparation prior to execution is a critical tenet of the quality program. It is strongly suggested the project delivery team review all closeout requirements well in advance to efficiently complete the closeout process. The following are typical requirements of closeout. In addition to those listed, all project specific requirements must be fulfilled.

A. **Punch List**

The punch list process identifies all remaining issues within a construction area and ensures their resolution prior to building turnover. This is critical for client satisfaction, ensuring all tasks are completed, outstanding issues are resolved, quality is achieved, and that the project is compliant with required standards and contractual agreements. It is strongly suggested each BMB project delivery team complete a “BMB pre-punch list” walk prior to the formal “AE punch list”. The goal of the “pre-punch” is to mitigate or eliminate issues identified in the formal AE punch list and therefore accelerate closeout. Reference the SP below for more information.

Referenced SPs: ***Punch List Process***

B. **Project Closeout Records**

At the end of each project lifecycle, all project-related documents are reviewed, organized, and compiled to create a comprehensive record of the entire construction process. This ensures all documents are complete and accurate, marking the end of the project and the transition to the operation and maintenance phase. Project records can be divided into two types; for-record documents generated throughout the job, and items collected from trade partners upon completion of their scope of work. Typical project closeout documents include but are not limited to:

- RFIs
- Submittals
- As-built drawings
- Coordinated sign-off documents
- Daily reports
- Warranties
- Contractor guarantees
- Attic stock
- Training records

Closeout begins at project startup. Closeout requirements should be discussed and agreed upon by all parties, including the owner, at the project kick-off meeting. All required closeout items should be included in the submittal register generated at project start-up. The best practice tool for creating the submittal register is **Pype AutoSpecs**. The best practice tool for managing the closeout process is **Pype Closeout**. **Pype** should be used as a tool in lieu of a replacement workflow; each project team remains responsible for reviewing and understanding all specification requirements. Refer to the SP below for more information.

Referenced SPs: ***Document Control Closeout***

C. **Quality Closeout Records**

Various quality forms, templates and checklists are utilized throughout the project lifecycle. Similarly to project records, quality records must be reviewed, organized, and compiled to create a comprehensive quality closeout. Critical in this phase is ensuring that all lingering Quality Incident Reports (QIRs) and Non-Conformance Reports (NCRs) are resolved. Copies of all forms are intended to be in the Quality folder within Autodesk Build Files. Reference the SP below for more information.

Referenced SPs: ***Quality Management - BMB***

D. **Internal Closeout Meeting**

The Internal Closeout Meeting should be attended by all BMB project delivery team members to review and take inventory of overall project performance. This includes but is not limited to identifying challenges foreseen and unforeseen throughout the project lifecycle, celebrating major accomplishments and team performance, and lessons learned. This provides closure and recognition of past achievements, helps to retain and transfer knowledge from project to project, and improve the quality and effectiveness of future projects.

Reviewing the lessons learned throughout each project lifecycle is a critical piece of this meeting. Each project delivery team should review the lessons learned specific to the project and discuss the corrective actions recorded during project execution. The hindsight evaluation of lessons learned during closeout provides opportunity to:

1. Modify the lesson learned during execution as needed.
2. Capture any additional lessons learned not recorded during project execution.

E. **Financials**

Project financials are the responsibility of the project delivery team. Critical to the closeout process is ensuring all outstanding financials are completed, including but not limited to cost reconciliation, change order finalization, issuance of final payments, release of liens and retention, auditing, and financial reporting. The intent of referencing financials within this QM is to ensure that financial closeout is completed efficiently. Refer to the SP below for more information.

Referenced SPs: ***Change Management***

F. **Owner Insurance Policies**

It is not uncommon for an owner to implement a property insurance policy prior to formal building turnover. These insurance companies typically specialize in loss prevention services and conduct their own review to ensure the completed building complies with insurance requirements. It is critical these reviews take place in a timely manner, and comments from the review are provided to BMB as soon as possible. Optimally, these comments should be received during the punch list process to mitigate rework. Prior to performing any work generated from the review, it is important all comments are reviewed with the owner to verify insurance based corrective actions are within scope and aligned with contractual requirements.

G. **Owner Training**

Owner training is a key part of the closeout process, ensuring all facility management (FM) staff are trained, educated and able to perform duties. Duties typically include but are not limited to performing equipment maintenance, understanding where attic stock is stored, and learning where to access O&M manuals or project records. Training requirements are typically called out within contract documents. Project delivery teams are encouraged to review all training requirements and plan training sessions in advance, post-commissioning but pre-closeout. Assume multiple training sessions will be required; it is suggested topics covered within sessions align with the client’s different FM divisions.

H. **Warranty Response**

Warranty calls after building turnover are an unavoidable reality of construction. Implementation of the quality program serves to mitigate these issues, however systems and equipment can

still experience unforeseen problems. BMB seeks to provide prompt response to warranty calls and resolve the issue as soon as possible, granted these repairs or services are covered under the construction warranty.

A main point of contact should be established with the owner prior to building turnover for all warranty issues. This is typically a BMB representative who will facilitate the warranty work with the applicable trade partner. Prior to providing warranty services, it is important to completely understand the issue, how it occurred, how it can be resolved, and how it can be mitigated in the future. BMB strives to collect this information and identify warranty issues potentially classified as lessons learned. This enables improved building functionality on future projects, more efficient project lifecycles, simplified turnover processes, and ultimately reduction of warranty calls.

1.12 GLOSSARY

A. **Quality Assurance (QA)**

- Internal Project Start-Up Meeting (IPSM)
- Definable Feature of Work (DFW)
- Pre-Install Conference (PIC)
- Job Specific Activities (JSA)
- Inspection and Test Plan (ITP)
- Mockup Plan (MP)
- Plan | Do | Check | Act (PDCA)

B. **Quality Control (QC)**

- Receiving, Inspection, Storage (RIS)
- Foreign Material Exclusion (FME)
- Quality Incident Report (QIR)
- Non-Conformance Report (NCR)

C. **Other**

- Barton Malow Builders (BMB)
- Quality Manual (QM)
- Site Specific Quality Manual (SSQM)
- Standard Practice (SP)
- Division of Responsibility (DOR)
- Autodesk (AD)
- Authority Having Jurisdiction (AHJ)
- Ground Penetrating Radar (GPR)
- Light Detection and Ranging (LIDAR)
- Notice to Proceed (NTP)
- Commissioning (Cx)
- Mechanical, Electrical, Plumbing, Fire Protection (MEP/FP)
- Leadership in Energy and Environmental Design (LEED)
- Facility Management (FM)

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 014000

SECTION 014100
REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project are the following:

B. 29 CFR 1910 - Occupational Safety and Health Standards; Current Edition.

1.02 RELATED REQUIREMENTS

A. Section 014000 - DO NOT USE Quality Requirements.

1.03 QUALITY ASSURANCE

A. Contractor's Designer Qualifications: Refer to Section - 014000 - DO NOT USE Quality Requirements.

1.04 GENERAL REQUIREMENTS

A. All Work is to comply with the rules and regulations of governing bodies having jurisdiction.

B. Standards, codes and regulations published by Manufacturer’s associations, governmental agencies and other regulatory authorities form a part of these Specifications as minimum requirements. Such references include the latest issue and legal requirements in force.

C. Where differences occur between the Contract Documents and such standards, the strictest requirements shall take precedence.

D. Supply all materials and perform all Work in accordance with the Manufacturer’s specifications and installation procedures, and in conformance with published Trade and Manufacturers’ association standards, unless specifically noted otherwise in the Contract Documents.

1.05 PERMITS AND FEES

A. The Ownerwill obtain and pay for the General Building Permit.

B. Other than the general building permit, Contractors shall provide and pay for all other permits, assessments, governmental fees, bonds, connection charges, licenses and inspection fees and any other charges necessary for the proper execution and completion of the Contractor’s Work with the Authority Having Jurisdiction (JHA).

C. Contractor is to provide, pay for and coordinate all other permits, fees, bonds, inspections, and city, county, state, federal and governing authority approvals required for the successful completion of the Work contained within its respective Bid Category and deliver required certificates of inspection and approvals to Barton Malow Builders.

D. This Project is under but not limited to the jurisdiction of the:
1. State of Michigan Building Division (LARA)
2. State of Michigan Division (LARA) for Mechanical, Electrical, Low Voltage
3. State of Michigan Fire Marshal Division (BFS) & State of Michigan Fire Department
4. State of Michigan Boiler Division (LARA)
5. State of Michigan Elevator Division (LARA)
6. State of Michigan and/or Oakland County Department of Public Health
7. Oakland County Road Commission
8. _____

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 014100

SECTION 014216
DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

A. This section supplements the definitions contained in the General Conditions.

B. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

A. Furnish: To supply, deliver, unload, and inspect for damage.

B. Provide: To supply, deliver, unload, and inspect for damage.

C. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.

D. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

E. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.

F. Provide: To furnish and install.

G. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 014216

SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Water Control & Environmental Protection
B. Temporary utilities.
C. Temporary telecommunications services.
D. Temporary sanitary facilities.
E. Temporary Controls: Barriers, enclosures, and fencing.
F. Vehicular access and parking.
G. Waste removal facilities and services.
H. Project identification sign.
I. Field offices.

1.02 RELATED REQUIREMENTS

A. Section 013553 - Security Procedures
B. Section 015100 - Temporary Utilities.
C. Section 015213 - Field Offices and Sheds.
D. Section 015500 - Vehicular Access and Parking.
E. Section 015813 - Temporary Project Signage.

1.03 WATER CONTROL & ENVIRONMENTAL PROTECTION

A. Comply with requirements in applicable Division 33 Sections for temporary drainage and dewatering facilities and operations not directly associated with construction activities included in individual Sections. Where feasible, use same facilities. Maintain Project site, excavations, and construction free of water.
   1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining property nor endanger permanent Work or temporary facilities.
   2. Before connection and operation of permanent drainage piping system, provide temporary drainage where roofing or similar waterproof deck construction is completed.
   3. Remove snow and ice as required to minimize accumulations.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near Project site.

C. Stormwater Control: Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of stormwater from heavy rains.

D. Moisture & Mold Control
   1. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.
   2. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
      a. Protect porous materials from water damage.
      b. Protect stored and installed material from flowing or standing water.

c. Keep porous and organic materials from coming into prolonged contact with concrete.
d. Remove standing water from decks.
e. Keep deck openings covered or dammed.

3. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
   a. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
   b. Keep interior spaces reasonably clean and protected from water damage.
   c. Periodically collect and remove waste containing cellulose or other organic matter.
   d. Discard or replace water-damaged material.
   e. Do not install material that is wet.
   f. Discard, replace or clean stored or installed material that begins to grow mold.
   g. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.
4. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
   a. Control moisture and humidity inside building by maintaining effective dry-in conditions.
   b. Use permanent HVAC system to control humidity.
   c. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
      1) Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
      2) Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record daily readings over a forty-eight hour period. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
      3) Remove materials that can not be completely restored to their manufactured moisture level within 48 hours.
5. All pumping or bailing necessary to keep excavations and trenches free from the accumulation of water during the entire excavating and back filling progress of the Work shall be the responsibility of the Contractor performing said excavations and trenches due to its scope of Work.
6. All Contractors are responsible for the dewatering to complete their scope of work.
7. Dispose of water in such a manner as will not endanger public health or cause damage or expense to public or private property. Abide by the requirements of the site dewatering plan and any public agencies having jurisdiction.

E. Snow Removal
   1. Contractor performing Work under exposed conditions shall remove snow and ice for the protection and execution of their Work. Keeping public traffic areas and circulation routes free of snow shall be the responsibility of Owner.

F. Maintain temporary facilities in operable condition.

1.04 TEMPORARY UTILITIES - SEE SECTION 015100

A. Owner will provide the following:
   1. Electrical power, consisting of connection to existing facilities.
   2. Water supply, consisting of connection to existing facilities.

B. Existing facilities may not be used.

1.05 TELECOMMUNICATIONS SERVICES

A. Provide, maintain, and pay for telecommunications services to field staff and/or site field office at time of project mobilization.

B. Telecommunications services shall include:
   1. Windows-based ipad and/or personal computer dedicated to project telecommunications, with necessary software and laser printer.
   2. Internet Connections: Minimum of one; DSL modem or faster.

1.06 TEMPORARY SANITARY FACILITIES

A. Barton Malow Builders to provide and maintain required temporary toilets. Provide at time of project mobilization.

B. Use of existing facilities is not permitted.

C. Maintain daily in clean and sanitary condition.

1.07 BARRIERS AND COVERED WALKWAYS

A. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.

B. Covered Walkway: Erect structurally adequate, protective, covered walkway for passage of individuals along adjacent public street(s). Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction. Comply with special requirements by Owner.
   1. Provide wood-plank overhead decking, protective plywood enclosure walls, handrails, barricades, warning signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.

C. Furnish and install all necessary shoring, bracing, flashers, safety barricades and other safety equipment in accordance with MIOSHA/OSHA rules and regulations. Provide covers for holes per MIOSHA/OSHA rules and regulations.

1.08 FENCING

A. Barton Malow Builders may provide temporary fencing with gates for required access and remove same at the completion of the Project.

B. The Contractors shall repair or replace all fencing including but not limited to Erosion and Sediment Control, Perimeter, Tree, and Safety fencing damaged as a result of its operation. Contractors shall remove and replace fencing and gates required to provide access for oversized items.

C. Contractor's personnel are not allowed to work outside of the construction fence without permission of Barton Malow Builders.

1.09 ENCLOSURES AND ROOFS

A. Roofing Contractor shall provide temporary roofing as required to provide and maintain a watertight enclosure during construction.

B. All Contractor('s) shall provide temporary enclosures for protection of construction per bid category work scopes, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior where compromised by Contractor Work.

C. Horizontal Openings: Close openings in floor or roof decks and horizontal surfaces with load-bearing, wood-framed construction.

D. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.

E. Where temporary wood or plywood enclosure exceeds 100 sq. ft. in area, use fire retardant-treated material for framing and main sheathing.

F. Contractors and their subordinate parties shall be responsible for damages to roofing, sheet metal and roof structure while performing Work. The roofing Contractor will perform the repair Work at the expense of the Contractor('s) responsible for the damage.

G. All Contractors will protect adjacent existing roof surfaces while performing their Work. No construction materials will be allowed to be placed on existing roof surfaces without prior approval of the Owner through Barton Malow Builders.

1.10 TEMPORARY PARTITIONS

A. Architectural Contractor shall provide temporary partitions and ceilings per bid category work scopes as required to separate Work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas and to prevent damage to Owner’s facilities and equipment.

B. Each Contractor shall erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.
   1. Construct dustproof partitions of not less than nominal 4-inch studs, 5/8 inch gypsum wallboard with joints taped on occupied side, and 1/2 inch fire-retardant plywood on construction side.
   2. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
   3. Protect air-handling equipment.
   4. Weatherstrip openings.

1.11 TEMPORARY STAIRS, LADDERS, RAMPS, RUNWAYS, SCAFFOLDING, HOISTING AND ELEVATORS

A. Each Contractor is to provide and maintain all necessary temporary stairs, ladders, ramps, and runways to facilitate conveyance of workers, materials, tools, and equipment for proper execution of its Work. All protection and safety barricades, devices, covers, and all other necessary items shall be provided by each Contractor as it relates to the safe conduct of its Work and protection of people and property in its Work area in accordance with applicable law.

B. Any Contractor or Subordinate Party performing excavation Work shall be responsible to furnish, install and maintain temporary barricades and/or fencing of all open excavations until such time as the back filling is complete. Flasher lights shall be provided on barricades and fencing by the Contractor as requested by Barton Malow Builders and in accordance with applicable law. As a minimum, all barricades across roads and walks shall have lights on them in working condition.

C. Each Contractor and its Subordinate Parties shall provide and maintain in good repair barricades, overhead protection, guard rails, etc., as required by law or necessary for the protection of the public and personnel engaged in the Work from hazards incidental to performance of the Work. Contractor shall do everything necessary to protect the Owner's employees, the public and workers from injuries and to protect vehicles and other property from damage.

D. Scaffolding:
   1. Each Contractor is responsible for providing, maintaining and inspecting any and all ladders, scaffolds and other staging as required to complete its Work. All such ladders, scaffolds and staging equipment shall be erected, maintained, inspected and subsequently removed by each Contractor in accordance with all applicable safety laws, rules and regulations.

E. Hoisting:
   1. Each Contractor is responsible for its own hoisting and material/equipment movement costs as required to complete the Work under its Agreement.

2. Hoisting of material or equipment above occupied areas will NOT be permitted unless the existing structure has been properly verified by a licensed professional Engineer to be able to bear the load of the material or equipment being hoisted if accidentally released. It is the responsibility of the Contractor performing such hoisting to properly and adequately reinforce existing structure.
3. Transportation of construction materials through the Owner's facility shall be accomplished in accordance with the requirements described in Section 017000 - Execution and Closeout Requirements in such a manner so as to:
   a. Not damage any of the existing facility, or Campus.
   b. Not impair the Owner's use of the facility, or Campus.
   c. Not create any type of mess or additional cleaning requirements in Owner occupied areas, or Campus.
4. The Owner’s lifting equipment is not available for the unloading conveying or installation of Contractor’s materials, unless coordinated otherwise with Barton Malow Builders.
5. Prior to the removal of all shoring and forms, the Contractor shall be responsible for temporary protection at the building floor perimeters and openings. Immediately after the removal of all shoring and forms, the Contractor shall furnish, install, and maintain all necessary temporary protections at the building floor perimeters and openings. Protection shall be OSHA 29 CFR Part 1926.502 (B) “Guardrail Systems” and shall include but not be limited to two-line rails and toe boards. Each Contractor that disturbs any temporary protection for its Work is responsible to reinstall to its original condition the guardrail or barricade system for the protection of the workers and others until final construction of perimeter exterior wall and/or shaft openings is completed. All other protection and safety barricades, devices, covers, etc., including those at all roof areas, shall be provided by the Contractor as it relates to the safe conduct of its Work in accordance with all local, state and federal law, rules and regulations and the requirements of the Contract Documents and shall be in accordance with the most stringent requirements.
6. The Contractor shall provide temporary guardrails at the building floor perimeters, interior shafts, all roof areas, or other openings, immediately after the erection of the steel frame and with the installation of steel decking. Protection shall be OSHA 29 CFR Part 1926.502 (B) “Guardrail Systems” and shall include but not be limited to two-line rails and toe boards. This temporary protector shall be left in place after completion of the steel frame for the use of all other Contractors. The Contractor shall maintain and remove said guardrails and patch concrete. Each Contractor that disturbs any temporary protection for its Work is responsible to protect the area during its Work and to reinstall to its original condition the guardrail or barricade system for the protection of the workers and others until final construction of perimeter exterior wall and/or shaft openings is completed. All other protection and safety barricades, devices, covers, etc. shall be provided by this Contractor as it relates to the safe conduct of its Work in accordance with all local, state and federal regulations and the requirements of the Contract Documents, and shall be in accordance with the most stringent requirements.

1.12 FIRE PRECAUTIONS AND PROTECTION

A. All Contractors and their Subordinate Parties shall:
   1. Assume full responsibility and take all necessary precautions to guard against and eliminate all possible fire hazards and to prevent damage to any construction work, building materials, equipment, temporary field offices, storage sheds, and all other property, both public and private.
   2. Conspicuously post the location of the nearest fire alarm pull box and the telephone number of the local fire department within the field offices and on the construction site adjacent to its Work.
   3. Take precautions to prevent fire hazards in accordance with all fire protection and prevention laws and codes. No open fires shall be permitted.

4. Shall not be permitted to perform welding, flame cutting, or other operations involving the use of flame, arcs, or sparking devices without submitting a Hot Work Permit to Barton Malow Builders a minimum of 24 hours prior or without adequate protection and shielding. Hot Work Permits can be obtained through Autodesk Build. All combustible and flammable material shall be removed from the immediate area of the hot work. Material shall be protected with a fire-resistant tarpaulin to prevent sparks, flames, or hot metal from reaching materials.
    a. Only fire-resistant tarpaulins shall be used on this Project.
5. Provide the necessary personnel and fire fighting equipment to effectively control incipient fires resulting from the hot work.
6. Provide its own fire extinguishers in the immediate area of the Work.
7. Review the entire Project at least once a week to make certain it has adhered to the conditions and requirements set forth herein.
8. Shall not bring into building at any one time more than a one day supply of flammable liquids such as oil, gasoline, paint or paint solvent
    a. All flammable liquids having a flash point of 110 degrees F or below, which must be brought into any building, shall be confined to Underwriter's Laboratories' labeled safety cans.
    b. The bulk supply of all flammable liquids shall be detached at least 75 feet from the building and from yard storage of building materials.
    c. Spigots on drums containing flammable liquids are prohibited on the project site. Drums are to be equipped with approved vent pumps.
9. Shall not store or leave overnight within the confines of the permanent building any combustible materials.
    a. This includes all internal combustion engines using gas or fuel oil.
    b. Hoisting of flammable or combustible materials to the roof shall only be in quantities as needed for immediate use
10. Agree that, in the event of fire, all its workers anywhere on site will assist in extinguishing the fire
11. Not place shanties of combustible construction inside of any structure.
    a. Such shanties shall be detached at least seventy-five (75) feet from the building or as directed by Barton Malow Builders with approval of the Owner.
    b. Totally incombustible shanties may be, if approved in writing by Barton Malow Builders, located inside of the structure.
    c. Use of only Underwriter's Laboratory approved heaters and/or stoves are permitted in field offices or storage sheds and they shall have fire-resistive material underneath and at the sides near partitions and walls. Pipe sleeves and covering shall be used where stove pipe runs through walls or roof.

B. Fire Extinguishers
1. Fire extinguishers shall be "all-purpose", and not a water type, to meet the approval of the Fire Underwriter's Laboratory, and will be inspected at regular intervals and recharged if necessary.
2. In areas of flammable liquids, asphalt or electrical hazards, extinguishers of the 15 lb. carbon dioxide type or 20 lb. dry chemical type shall be provided
3. Barton Malow Builders will provide and maintain in working order at all times during construction not less than a fire extinguisher for each 3000 sq feet with travel distance not to exceed 100 feet.
4. All other required extinguishers shall be provided by the Contractor creating such hazard.

C. Noxious Odors and Fumes
1. Combustion engine equipment, tar kettles, and any other items causing noxious odors or fumes, including diesel-powered equipment, will NOT be allowed in the building or near air

intake louvers or building entrances and exits. If intake louver locations are in doubt, consult with Barton Malow Builders.

1.13 VEHICULAR ACCESS AND PARKING - SEE SECTION 015500

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Designated existing on-site roads may be used for construction traffic.

F. Existing parking areas located in lot(s) ____ are to be used for construction parking.

1.14 WASTE REMOVAL

A. See Section 017419 - Construction Waste Management and Disposal, for additional requirements.

B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

C. Provide trash containers inside working area. Remove trash from building daily.

D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.15 PROJECT IDENTIFICATION

A. Provide project identification sign of design, construction, and location approved by Owner.

B. No other signs or advertising shall be displayed on premises without the approval of the Architect, Owner, and Barton Malow Builders. This does not exclude the posting of required trade notice and cautionary signage by Contractors.

1.16 FIELD OFFICES - SEE SECTION 015213

A. Locate offices a minimum distance of 30 feet (10 m) from existing and new structures at the direction of Barton Malow Builders.

1.17 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

A. Remove temporary utilities, equipment, facilities, materials, at the direction of Barton Malow Builders.

B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition.

PART 2 PRODUCTS

2.01 MATERIALS

A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Architect. Provide materials suitable for use intended.

B. Lumber and Plywood: Comply with requirements in Division 06 Section "Miscellaneous Rough Carpentry."

C. Roofing: Standard-weight, mineral-surfaced, asphalt shingles or asphalt-impregnated and -coated, mineral-surfaced, roll-roofing sheet.

D. Gypsum Board: Minimum 1/2 inch thick by 48 inches wide by maximum available lengths; regular-type panels with tapered edges. Comply with ASTM C 36.

E. Insulation: Unfaced mineral-fiber blanket, manufactured from glass, slag wool, or rock wool; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively.

F. Paint: Comply with requirements in Division 09 Sections "Exterior Painting" and "Interior Painting."

G. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.

H. Water: Potable.

PART 3 EXECUTION

3.01 TURNOVER

A. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

END OF SECTION 015000

SECTION 015100
TEMPORARY UTILITIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary utilities include, but are not limited to, the following:
   1. Sewers and drainage.
   2. Water service and distribution.
   3. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
   4. Heating and cooling facilities.
   5. Ventilation.
   6. Electric power service.
   7. Lighting.

1.02 RELATED REQUIREMENTS

A. Section 015000 - Temporary Facilities and Controls:

1.03 REFERENCE STANDARDS

A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to the following:
   1. Building Code requirements.
   2. Health and safety regulations.
   3. Utility company regulations.
   4. Police, Fire Department and Rescue Squad rules.
   5. Regulations for air space over adjacent properties.

B. 29 CFR 1926 - Safety and Health Regulations for Construction; Current Edition.

C. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

D. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 GENERAL REQUIREMENTS FOR TEMPORARY UTILITIES

A. At earliest feasible time, when acceptable to Owner, change over from use of temporary service to use of permanent service.
   1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permit.

C. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
   1. Keep temporary services and facilities clean and neat.
   2. Relocate temporary services and facilities as required by progress of the Work.

D. When it is necessary to modify or tie into existing utility services, Contractor shall notify Barton Malow Builders in writing a minimum of 72 hours prior to the planned disruption. All disruptions shall be scheduled with Barton Malow Builders and Troy School District and shall be kept to a minimum time. Tie-ins and shutdowns of existing utilities may have to be performed during off hours. Contractor's are to include any required premium time int he Base bid.

1.05 TEMPORARY ELECTRICITY

A. Electrical Energy Costs:

B. By Owner.
   1. The Owner will pay for electrical energy to operate temporary electrical power and lighting for the duration of the project at designated locations. Temporary power will be provided free of charge.

C. Connect to Owner's existing power service.

   Provide temporary electric feeder from existing building electrical service at location as directed.

D. Power Source
   1. The Electrical Contractor shall include in the Bid Category Electrical provisions to install, and pay for labor, equipment and materials required to make connections to the Owner's Power Source and to provide temporary electrical power and light distribution. The Electrical Contractor shall coordinate the location of the electrical power and lighting as directed by Barton Malow Builders. All equipment to be left in place during the entire project and removed at the direction of Barton Malow Builders.
   2. Protection shall be provided for the power supply source complete with disconnect switch and other required electrical devices.

E. Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload-protected disconnecting means, automatic ground-fault interrupters, and main distribution switchgear.
   1. Install electric power service underground, unless overhead service must be used.
   2. Install power distribution wiring overhead and rise vertically where least exposed to damage.
   3. Connect temporary service to Owner's existing power source, as directed by electric company officials.
   4. Provide temporary electric feeder from existing building electrical service at location as directed by Barton Malow Builders.

F. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

G. Temporary Power Distribution:
   1. The Electrical Contractor shall include in the Bid Category Electrical provisions to provide and maintain temporary power distribution on the entire project , as follows:
      a. Construction power shall be 120/208 volts, 60 hertz, 3 phase, 4 wire plus ground, alternating current**.** Provide the following outlets together with feeders, grounding, protective devices and ground fault interrupting devices.
      b. Provide the following outlets together with feeders, grounding, protective devices and ground fault interrupting devices:
         1) Power centers - on each floor of the new building, provide a minimum of 2 power centers, or not less than one (1) per 10,000 s.f. rated not less that 100 amperes at 120/208 volt, 3 phase. 4 wire plus ground. Locate the power centers such that each will serve approximately equal areas and as far as possible, each shall be in the center of the respective area served.
            (a) Renovation Work: Within the remodeled areas, provide at least one (1) additional similarly rated power center
         2) 120/208 volt duplex outlets - Provide weatherproof, G.F.I. protected, 20 ampere grounded outlets at a minimum rate equal to 1 - duplex outlet per 400 square feet. Outlets may be grouped in clusters of up to six duplex types with corresponding pro-rated increase in area served, provided that every portion of the construction and remodeled premises can be reached from the nearest outlet using a flexible cord no more that 50 feet in length.

2. As partitions are erected, locations of power distribution points shall be added or relocated at the direction of Barton Malow Builders.
3. Ground Fault Circuit Interrupter (GFCI) protection will be provided on all temporary power receptacles and, where possible, directly on the circuit breaker supplying temporary power as referenced in NEC 305-6(a).
4. The assured equipment grounding conductor program is only to be used on circuits greater than 20 amps as referenced in NEC 305-6(b).

H. Rules and Regulations:
1. All temporary equipment and wiring for power, lighting and distribution requirements shall conform to OSHA requirements and be in accordance with applicable provisions of governing laws, codes, and ordinances.
2. All temporary wiring and distribution equipment shall be maintained so as not to constitute a hazard to persons or property.
3. Each Contractor is responsible to provide an assured grounding program in accordance with OSHA regulations for their own electrical power requirements.

I. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
2. for temporary electric service. Install service to comply with NFPA 70.

1.06 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

A. The Electrical Contractor shall include in the Bid Category Electrical provisions to provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions, as well as the following:
1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Install exterior-yard site lighting that will provide adequate illumination for construction operations, traffic conditions, and signage visibility when the Work is being performed.
3. Install and maintain 120/208 volt temporary lighting as required in interior work areas. In addition to these minimum requirements provide adequate security lighting at guarded entrances outside storage areas, parking areas, and in areas of Contractor's and Architect's field offices and sheds.

B. Lighting shall be achieved using LED, or other suitable fixture types, to Federal or State OSHA required minimum levels of illumination. Lighting shall be suitable for the application for construction operations in accordance with requirements of 29 CFR 1926 and authorities having jurisdiction.

C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required by Barton Malow Builders.

D. As partitions are erected or other interferences which hamper achieving the minimum levels of illumination, locations of lighting distribution points shall be added or relocated at the direction of Barton Malow Builders.

E. Servicing of Temporary Power and Lighting
1. The Electrical Contractor shall be responsible for the following via Bid Category Electrical:
a. Servicing, repairing and rearrangement of service equipment, temporary power, temporary lighting , and relamping.
b. Removal and disposal of temporary electrical power and lighting at completion of the Project or when so directed by Barton Malow Builders and repair of damage caused by installation or removal.

F. Permanent building lighting may be utilized during construction.

G. Task lighting in addition to OSHA required lighting shall be provided by each Contractor.

1.07 TEMPORARY POWER AND LIGHT FOR SPECIAL CONDITIONS:

A. Special conditions for temporary electrical power and lighting required by others shall be provided as follows:
   1. Each Contractor requiring service of capacity or characteristics other than specified must make arrangements with the Electrical Contractor and pay for their own installation, removal, and service.
   2. The necessary grounded portable cords, lamps, light-stands, and fuses from the distribution outlets to points of use shall be provided by each Contractor to suit its own requirements.
   3. Temporary power cannot be used for welding operations

1.08 PERMANENT ELECTRICAL POWER AND LIGHTING

A. When permanent electrical power and lighting systems are in operating condition, they may be used for temporary power and lighting for construction purposes provided the Electrical Contractor performs the following:
   1. Obtains the approval of the Architect and/or Owner through Barton Malow Builders.
   2. Assumes full responsibility for operation of the entire power and lighting systems.
   3. Verifies that warranty dates are established prior to usage of equipment and lamps.

B. As permanent power and lighting becomes available, these systems will generally supplant the appropriate portions of the temporary installation.

1.09 TEMPORARY HEATING, COOLING & WEATHER PROTECTION

A. Temporary heating/cooling requirements during the course of construction shall be divided into two categories as follows:
   1. Cold weather protection.
   2. Temporary heating.

B. Cold Weather Protection:
   1. Heating required during the construction period prior to enclosure of the building shall be classified as "cold weather protection."
   2. Each Contractor shall provide temporary heating and protection, necessary to allow its Work to continue during cold weather to meet the project milestone dates prior to building enclosure, including:
      a. The heating of materials (such as water and aggregate) as well as space heating for protection of newly placed or built construction at required temperatures (but not lower than 50 degrees F) and for the time specified.
      b. Fire retardant tarpaulins and other materials used for temporary enclosures.
   3. Heat shall be provided by smokeless UL approved portable unit heaters, using fuel of types and kinds approved by Underwriter's Laboratories, Factory Mutual, and the Fire Marshal.
      a. The Contractor shall provide fuel, power, maintenance, and attendance required for operation of portable heaters.
      b. Interior or exterior surfaces damaged by the use of portable heating units shall be replaced with new materials at the responsible Contractor's expense.
   4. It shall be the responsibility of each Contractor to protect its own Work.
   5. All Contractors are responsible for snow, ice, and frost removal as necessary to complete the work.
   6. Contractor shall include all provisions for frost laws, including diminished load capabilities to an from the jobsite.

C. All Exterior Contractors shall provide a plan to allow Work to continue without regard to temperature.

D. Temporary Heating:

1. Daily construction heat required after the building is enclosed shall be classified as "temporary heating" and will be the responsibility of the Mechanical Contractor to install and maintain.
2. The building or buildings or any portions thereof shall be considered enclosed when in the opinion of Barton Malow Builders it meets the following:
   a. The exterior wall system and temporary interior wall enclosures are in place.
   b. Openings in exterior walls are covered to provide reasonable heat retention.
3. The Exterior Contractors shall provide and maintain the temporary interior wall enclosures. If the exterior wall system is not complete in time to provide building enclosure of a portion of the new structure as scheduled, the Contractor responsible shall provide and maintain temporary exterior wall enclosures of polyethylene and, in addition to exercising all other rights and remedies under the Contract Documents and law, Barton Malow Builders shall be entitled to deduct the cost of such enclosures from the money due or to become due the Contractor(s)'s responsible for failure to meet said schedule.
4. In areas of the building or buildings where Work is being conducted, the temperature shall be maintained as specified in the various sections of the specifications, but not less than 50 degrees F for interior rough-in and not less than 65 degrees F during finishes installation. The temperature shall not be allowed to reach a level that will cause damage to any portion of the Work, including materials stored in the building, which may be subject to damage by low temperatures.
5. Until the permanent heating system, or suitable portion thereof, is in operating condition, provide sufficient and UL approved space heaters of suitable capacity to maintain required temperatures in areas where work is being conducted and materials are stored. Include all necessary maintenance, venting and attendance for this temporary heating to meet all applicable laws, rules and regulations.
6. When the permanent heating system, or a suitable portion thereof, is in operating condition, the system may be used for temporary heating, provided the Mechanical Contractor performs the following:
   a. Obtains approval from the Owner, through Barton Malow Builders, in writing for its use and any special provisions required for its temporary operation.
   b. Assumes full responsibility for the entire heating system until final acceptance of the system by the Owner.
   c. Uses supply only, not return if temporary heating utilizes the building's ductwork system.
   d. Pays all costs for maintenance, attendance and restoration to "like new" condition of the system including final cleaning of equipment and ductwork and all necessary touch-up painting.
   e. Turns over satisfactory evidence to Barton Malow Builders showing the extended warranties from manufacturers and proper maintenance procedures.
   f. Provides and maintains temporary filters, boxes and other parts used for the temporary condition and replaces same with the new permanent filters at time of occupancy consistent with the warranty provisions. The Mechanical Contractor shall pay the cost of extending warranty and guarantee periods on any permanent equipment used prior to substantial completion.
7. Electrical power required for temporary heating will be furnished free of charge. The installation and service of the necessary temporary electrical feeders will also be the responsibility of the Mechanical Contractor.

1.10 TEMPORARY VENTILATION/HUMIDITY CONTROL

A. Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

1.11 TEMPORARY WATER SERVICE

A. The Owner will pay for water used on this Project and Mechanical Contractor shall provide a source for drinking water. Each Contractor shall be responsible to provide containers, paper cups, ice, hoses, etc. for its needs.

B. Cost of Water Used: By the Owner.

C. Provide and maintain suitable quality water service for construction operations at time of project mobilization.

D. Connect to existing water source.

E. Immediately after award of the Agreement, the Mechanical Contractor shall furnish, install, maintain and subsequently remove a temporary hookup to the Owner's potable water system where directed by Barton Malow Builders for construction purposes. The Contractor shall provide all temporary piping and approved backflow prevention as necessary for distribution from the source. A minimum of 2 hose bibs shall be provided by the Mechanical Contractor as directed by Barton Malow Builders .

F. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

1.12 TEMPORARY SEWER, DRAINAGE, SANITATION

A. Sewers and Drainage:
   1. If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds, and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off-site in a lawful manner.
      a. Filter out excessive soil, construction debris, chemicals, oils, and similar contaminants that might clog sewers or pollute waterways before discharge.
   2. Toilet Facilities/Sanitary Requirements:
      a. Barton Malow Builders shall provide and maintain temporary toilet facilities for the construction of the Project.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 015100

SECTION 015213
FIELD OFFICES AND SHEDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary field offices for use of Contractors & Subordinate Parties.

B. Maintenance and removal.

1.02 RELATED REQUIREMENTS

A. Section 011000 - Use of Premises: use of premises and responsibility for providing field offices.

B. Section 015000 - Temporary Facilities and Controls:
   1. Temporary telecommunications services for administrative purposes.
   2. Temporary sanitary facilities required by law.

1.03 USE OF EXISTING FACILITIES

A. Existing facilities shall not be used for field offices.

1.04 USE OF PERMANENT FACILITIES

A. When permanent facilities are enclosed with operable utilities, relocate offices into building, with written agreement of Owner, and remove temporary buildings.

B. Contractors will not be allowed to utilize spaces within the building for storage and other purposes unless they receive written approval from Barton Malow Builders. If a temporary office is allowed in the building for storage and other purposes unless they receive written approval from Barton Malow Builders. If a temporary office is allowed in the building, it must be fire treated in accordance with Section 0015100 Interim Life Safety Plan. Contractors shall vacate these spaces when and as directed by Barton Malow Builders.

PART 2 PRODUCTS

2.01 MATERIALS, EQUIPMENT, FURNISHINGS

A. Materials, Equipment, Furnishings: Serviceable, new or used, adequate for required purpose.

2.02 CONSTRUCTION

A. Field Offices: Mobile Units with lockable entrances, operable windows, and serviceable finishes; heated and air-conditioned; on foundations adequate for normal loading with steps and landings at entrance doors.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

C. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
   1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.

2.03 ENVIRONMENTAL CONTROL

A. Heating, Cooling, and Ventilating: Automatic equipment to maintain comfort conditions.

2.04 CONTRACTOR & SUBORDINATE PARTIES OFFICE AND FACILITIES

A. The Owner or Barton Malow Builders will designate an area for construction trailers. Placement and scheduled duration shall be coordinated with Owner or Barton Malow Builders. Each Contractor is responsible to verify that all field offices, trailers, and storage sheds shall be in accordance with local codes and ordinances and the local Fire Marshal having jurisdiction. Each Contractor shall arrange and pay for its own telephone hookup and use. Sub-metering for use of utilities is mandatory. Each Contractor shall arrange and pay for its own temporary

electrical hookup, water, and toilets. The Contractor shall pay for all power used for the Contractor's temporary field office and temporary electrical service.

B. Contractors shall maintain the use of designated space for offices and sheds. This includes removal of weeds, debris, trash, and cleanup of the area after removal of such temporary structures.

C. Construction personnel shall park in the designated trade parking area. Limited parking will be available onsite as designated and coordinated with Owner or Barton Malow Builders. Temporary field offices and sheds shall not be used for living quarters.

D. Temporary field offices and sheds shall not be used for living quarters.

E. Storage trailers will be allowed on a case by case basis and must get the approval of Owner or Barton Malow Builders. Storage trailers shall be of suitable design, maintenance and appearance, and meet the approval of Owner or Barton Malow Builders and all applicable local codes and ordinances. All trailers must be visibly inspected by Barton Malow Builders before delivery.

F. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
   1. Keep temporary services and facilities clean and neat.
   2. Relocate temporary services and facilities as required by progress of the Work.

PART 3 EXECUTION

3.01 GENERAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

3.02 INSTALLATION

A. General: Comply with the following:
   1. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access. Locate facilities at the direction of Barton Malow Builders, where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required at the direction of Barton Malow Builders.
   2. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required.
   3. Provide incombustible construction for offices, shops, and sheds located within construction area or within 30 feet of building lines. Comply with NFPA 241.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment involved, including temporary utility services. Sheds may be open shelters or fully enclosed spaces within building or elsewhere onsite.
   1. Construct framing, sheathing, and siding using fire-retardant-treated lumber and plywood.
   2. Paint exposed lumber and plywood with exterior-grade acrylic-latex emulsion over exterior primer.

3.03 MAINTENANCE AND CLEANING

A. Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
   1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

3.04 REMOVAL

A. Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, at the direction of Barton Malow Builders, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
   1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
   2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities
   3. At the direction of Barton Malow Builders or Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 01 Section "Contract Closeout."

B. All temporary offices and sheds including foundation, must be removed with ten (10) days of written notice from Barton Malow Builders including restoration of grade. Structures not removed in a timely manner will be removed by Barton Malow Builders at the Contractor's expense.

END OF SECTION 015213

SECTION 015500
VEHICULAR ACCESS AND PARKING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Temporary Roads and Paved Areas
B. Parking.
C. Existing pavements and parking areas.
D. Permanent pavements and parking facilities.
E. Construction parking controls.
F. Flag persons.
G. Haul routes.
H. Maintenance.
I. Mud from site vehicles.

1.02 RELATED REQUIREMENTS

A. Section 011000 - Use of Premises: For access to site, work sequence, and occupancy.

PART 3 EXECUTION

2.01 TEMPORARY ROADS AND PAVED AREAS

A. Use of designated existing on-site streets and driveways for construction traffic is permitted.
B. Tracked vehicles not allowed on paved areas.
C. Provide and maintain access to fire hydrants free of obstructions.

2.02 PARKING

A. Use of designated areas of existing parking facilities by construction personnel is permitted.
B. There will be on-site parking for Contractors and their Subordinate Parties' employees.
C. Contractors are directed to park in designated areas only. Each Contractor is responsible for providing transportation to and from the site. Any additional arrangement is the responsibility of the Contractor. Contractor, subordinate parties and their personnel will not be allowed to park in the Owner's parking area nor in the adjacent neighborhoods. Parking locations are subject to change.
D. All parking for all trades is the responsibility of each Contractor. Barton Malow Builders will not reimburse parking tickets or pay for parking passes.

2.03 PERMANENT PAVEMENTS AND PARKING FACILITIES

A. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.

2.04 CONSTRUCTION PARKING CONTROL

A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.
B. Prevent parking on or adjacent to access roads or in non-designated areas.

2.05 FLAG PERSONS

A. Contractors must provide two flag persons while moving equipment through public areas or while receiving deliveries of materials and equipment.

2.06 HAUL ROUTES

A. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.

B. Confine construction traffic to designated haul routes.

C. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

2.07 MUD FROM SITE VEHICLES

A. Contractor shall remove mud from vehicle wheels before entering streets.

END OF SECTION 015500

SECTION 015713
TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Prevention of erosion due to construction activities.

B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.

C. Restoration of areas eroded due to insufficient preventive measures.

D. Performance bond.

E. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by responsible Contractor.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Concrete for temporary and permanent erosion control structures indicated on drawings.

B. Section 311000 - Site Clearing: Limits on clearing; disposition of vegetative clearing debris.

C. Section 312200 - Grading: Temporary and permanent grade changes for erosion control.

D. Section 313700 - Riprap: Temporary and permanent stabilization using riprap.

E. Section 321123 - Aggregate Base Courses: Temporary and permanent roadways.

F. Section 329219 - Seeding: Permanent turf for erosion control.

G. Section 329223 - Sodding: Permanent turf for erosion control.

H. Section 329300 - Plants: Permanent plantings for erosion control.

1.03 REFERENCE STANDARDS

A. ASTM D4355/D4355M - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture, and Heat in a Xenon Arc-Type Apparatus; 2021.

B. ASTM D4491/D4491M - Standard Test Methods for Water Permeability of Geotextiles by Permittivity; 2022.

C. ASTM D4533/D4533M - Standard Test Method for Trapezoid Tearing Strength of Geotextiles; 2015 (Reapproved 2023).

D. ASTM D4632/D4632M - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles; 2015a (Reapproved 2023).

E. ASTM D4751 - Standard Test Methods for Determining Apparent Opening Size of a Geotextile; 2021a.

F. ASTM D4873/D4873M - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples; 2017 (Reapproved 2021).

G. EPA (NPDES) - National Pollutant Discharge Elimination System (NPDES), Construction General Permit; Current Edition.

H. FHWA FLP-94-005 - Best Management Practices for Erosion and Sediment Control; 1995.

I. USDA TR-55 - Urban Hydrology for Small Watersheds; USDA Natural Resources Conservation Service; 2015.

1.04 PERFORMANCE REQUIREMENTS

A. Comply with requirements of EPA (NPDES) for erosion and sedimentation control, as specified by the NPDES, for Phases I and II, and in compliance with requirements of Construction General Permit (CGP), whether the project is required by law to comply or not, or as directed by Barton Malow Builders.

B. Also comply with all more stringent requirements of Oakland County Erosion and Sedimentation Control Manual.

C. Comply with all requirements of State of Michigan EGLE for erosion and sedimentation control .

D. Develop and follow an Erosion and Sedimentation Prevention Plan and submit periodic inspection reports.

E. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.
   1. Owner will obtain permits and Site Contractor will pay for permits fees and securities required by authority having jurisdiction.
   2. Owner will withhold payment to Contractor equivalent to all fines resulting from non-compliance with applicable regulations.

F. Provide to Authority Having Jurisdiction (JHA) a Performance and/or Maintanence Bond covering erosion and sedimentation preventive measures only, in an amount equal to 100 percent of the cost of erosion and sedimentation control work.

G. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.

H. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
   1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
   2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 10 years.

I. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
   1. Control movement of sediment and soil from temporary stockpiles of soil.
   2. Prevent development of ruts due to equipment and vehicular traffic.
   3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner or Barton Malow Builders.

J. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
   1. Prevent windblown soil from leaving the project site.
   2. Prevent tracking of mud onto public roads outside site.
   3. Prevent mud and sediment from flowing onto sidewalks and pavements.
   4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner .

K. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
   1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner or Barton Malow Builders ; remove deposited sediments; comply with requirements of authorities having jurisdiction.
   2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.

L. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.

1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner or Barton Malow Builders; remove deposited sediments; comply with requirements of authorities having jurisdiction.

M. Open Water: Prevent standing water that could become stagnant.

N. Maintenance: Maintain temporary preventive measures until permanent measures have been established.

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Erosion and Sedimentation Control Plan:
1. Submit not less than 30 days prior to anticipated start of clearing, grading, or other work involving disturbance of ground surface cover.
2. Include:
a. Site plan identifying soils and vegetation, existing erosion problems, and areas vulnerable to erosion due to topography, soils, vegetation, or drainage.
b. Measurements of existing turbidity of waterways.
c. Site plan showing grading; new improvements; temporary roads, traffic accesses, and other temporary construction; and proposed preventive measures.
d. Where extensive areas of soil will be disturbed, include storm water flow and volume calculations, soil loss predictions, and proposed preventive measures.
e. Schedule of temporary preventive measures, in relation to ground disturbing activities.
f. Other information required by law.
g. Format required by law is acceptable, provided any additional information specified is also included.
3. Obtain the approval of the Plan by authorities having jurisdiction.
4. Obtain the approval of the Plan by Architect/Engineer.

C. Certificate: Mill certificate for silt fence fabric attesting that fabric and factory seams comply with specified requirements, signed by legally authorized official of manufacturer; indicate actual minimum average roll values; identify fabric by roll identification numbers.

D. Inspection Reports: Submit report of each inspection; identify each preventive measure, indicate condition, and specify maintenance or repair required and accomplished.

PART 2 PRODUCTS

2.01 MATERIALS

A. Mulch: Use one of the following:
1. Straw or hay.

B. Erosion control matting or netting.
1. Cutback asphalt.
2. Polyethylene film, where specifically indicated only.

C. Grass Seed For Temporary Cover: Select a species appropriate to climate, planting season, and intended purpose. If same area will later be planted with permanent vegetation, do not use species known to be excessively competitive or prone to volunteer in subsequent seasons.

D. Bales: Air dry, rectangular straw bales.
1. Cross Section: 14 by 18 inches (350 by 450 mm), minimum.
2. Bindings: Wire or string, around long dimension.

E. Bale Stakes: One of the following, minimum 3 feet (1 m) long:
1. Steel U- or T-section, with minimum mass of 1.33 pound per linear foot (1.98 kg per linear m).
2. Wood, 2 by 2 inches (50 by 50 mm) in cross section.

F. Silt Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible; fabric including seams with the following minimum average roll lengths:
   1. Average Opening Size: 30 U.S. Std. Sieve (0.600 mm), maximum, when tested in accordance with ASTM D4751.
   2. Permittivity: 0.05 sec^-1, minimum, when tested in accordance with ASTM D4491/D4491M.
   3. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355/D4355M after 500 hours exposure.
   4. Tensile Strength: 100 pounds-force (450 N), minimum, in cross-machine direction; 124 pounds-force (550 N), minimum, in machine direction; when tested in accordance with ASTM D4632/D4632M.
   5. Elongation: 15 to 30 percent, when tested in accordance with ASTM D4632/D4632M.
   6. Tear Strength: 55 pounds-force (245 N), minimum, when tested in accordance with ASTM D4533/D4533M.
   7. Color: Manufacturer's standard, with embedment and fastener lines preprinted.

G. Silt Fence Posts: One of the following, minimum 5 feet (1500 mm) long:
   1. Steel U- or T-section, with minimum mass of 1.33 pound per linear foot (1.98 kg per linear m).
   2. Softwood, 4 by 4 inches (100 by 100 mm) in cross section.
   3. Hardwood, 2 by 2 inches (50 by 50 mm) in cross section.

H. Gravel: See Section 321123 for aggregate.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

3.02 PREPARATION

A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

3.03 SCOPE OF PREVENTIVE MEASURES

A. In all cases, if permanent erosion resistant measures have been installed temporary preventive measures are not required.

B. Construction Entrances: Traffic-bearing aggregate surface.
   1. Width: As required; 20 feet (7 m), minimum.
   2. Length: 50 feet (16 m), minimum.
   3. Provide at each construction entrance from public right-of-way.
   4. Where necessary to prevent tracking of mud onto right-of-way, provide wheel washing area out of direct traffic lane, with drain into sediment trap or basin.

C. Linear Sediment Barriers: Made of silt fences.
   1. Provide linear sediment barriers:
      a. Along downhill perimeter edge of disturbed areas, including soil stockpiles.
      b. Along the top of the slope or top bank of drainage channels and swales that traverse disturbed areas.
      c. Along the toe of cut slopes and fill slopes.
      d. Perpendicular to flow across the bottom of existing and new drainage channels and swales that traverse disturbed areas or carry runoff from disturbed areas; space at maximum of 200 feet apart (at maximum of 60 m apart).
      e. Across the entrances to culverts that receive runoff from disturbed areas.
   2. Space sediment barriers with the following maximum slope length upslope from barrier:
      a. Slope of Less Than 2 Percent: 100 feet (30 m)..

b. Slope Between 2 and 5 Percent: 75 feet (23 m).
c. Slope Between 5 and 10 Percent: 50 feet (15 m).
d. Slope Between 10 and 20 Percent: 25 feet (7.5 m).
e. Slope Over 20 Percent: 15 feet (4.5 m).

D. Storm Drain Curb Inlet Sediment Trap: Protect each curb inlet using one of the following measures:
1. Filter fabric wrapped around hollow concrete blocks blocking entire inlet face area; use one piece of fabric wrapped at least 1-1/2 times around concrete blocks and secured to prevent dislodging; orient cores of blocks so runoff passes into inlet.
2. Straw bale row blocking entire inlet face area; anchor into pavement.

E. Storm Drain Drop Inlet Sediment Traps: As detailed on drawings.

F. Temporary Splash Pads: Stone aggregate over filter fabric; size to suit application; provide at downspout outlets and storm water outlets.

G. Soil Stockpiles: Protect using one of the following measures:
1. Cover with polyethylene film, secured by placing soil on outer edges.
2. Cover with mulch at least 4 inches (100 mm) thickness of pine needles, sawdust, bark, wood chips, or shredded leaves, or 6 inches (150 mm) of straw or hay.

H. Mulching: Use only for areas that may be subjected to erosion for less than 6 months.
1. Asphalt: Use only where no traffic, either vehicular or pedestrian, is anticipated.

I. Temporary Seeding: Use where temporary vegetated cover is required.

3.04 INSTALLATION

A. Traffic-Bearing Aggregate Surface:
1. Excavate minimum of 6 inches (150 mm).
2. Place geotextile fabric full width and length, with minimum 12 inch (300 mm) overlap at joints.
3. Place and compact at least 6 inches (150 mm) of 1 1/2 to 3 1/2 inch (40 to 90 mm) diameter stone.

B. Silt Fences:
1. Store and handle fabric in accordance with ASTM D4873/D4873M.
2. Where slope gradient is less than 3:1 or barriers will be in place less than 6 months, use nominal 16 inch (405 mm) high barriers with minimum 36 inch (905 mm) long posts spaced at 6 feet (1830 mm) maximum, with fabric embedded at least 4 inches (100 mm) in ground.
3. Where slope gradient is steeper than 3:1 or barriers will be in place over 6 months, use nominal 28 inch (710 mm) high barriers, minimum 48 inch (1220 mm) long posts spaced at 6 feet (1830 mm) maximum, with fabric embedded at least 6 inches (150 mm) in ground.
4. Where slope gradient is steeper than 3:1 and vertical height of slope between barriers is more than 20 feet (6 m), use nominal 32 inch (810 mm) high barriers with woven wire reinforcement and steel posts spaced at 4 feet (1220 mm) maximum, with fabric embedded at least 6 inches (150 mm) in ground.
5. Install with top of fabric at nominal height and embedment as specified.
6. Embed bottom of fabric in a trench on the upslope side of fence, with 2 inches (50 mm) of fabric laid flat on bottom of trench facing upslope; backfill trench and compact.
7. Do not splice fabric width; minimize splices in fabric length; splice at post only, overlapping at least 18 inches (460 mm), with extra post.
8. Fasten fabric to wood posts using one of the following:
a. Four nails per post with 3/4 inch (19 mm) diameter flat or button head, 1 inch (25 mm) long, and 14 gauge, 0.083 inch (2.11 mm) shank diameter.

b. Five staples per post with at least 17 gauge, 0.0453 inch (1.150 mm) wire, 3/4 inch (19 mm) crown width and 1/2 inch (12 mm) long legs.

9. Fasten fabric to steel posts using wire, nylon cord, or integral pockets.
10. Wherever runoff will flow around end of barrier or over the top, provide temporary splash pad or other outlet protection; at such outlets in the run of the barrier, make barrier not more than 12 inches (300 mm) high with post spacing not more than 4 feet (1220 mm).

C. Straw Bale Rows:
1. Install bales in continuous rows with ends butting tightly, with one bale at each end of row turned uphill.
2. Install bales so that bindings are not in contact with the ground.
3. Embed bales at least 4 inches (100 mm) in the ground.
4. Anchor bales with at least two stakes per bale, driven at least 18 inches (450 mm) into the ground; drive first stake in each bale toward the previously placed bale to force bales together.
5. Fill gaps between ends of bales with loose straw wedged tightly.
6. Place soil excavated for trench against bales on the upslope side of the row, compacted.

D. Temporary Seeding:
1. When hydraulic seeder is used, seedbed preparation is not required.
2. When surface soil has been sealed by rainfall or consists of smooth undisturbed cut slopes, and conventional or manual seeding is to be used, prepare seedbed by scarifying sufficiently to allow seed to lodge and germinate.
3. If temporary mulching was used on planting area but not removed, apply nitrogen fertilizer at 1 pound per 1000 sq ft (0.5 kg per 100 sq m).
4. On soils of very low fertility, apply 10-10-10 fertilizer at rate of 12 to 16 pounds per 1000 sq ft (6 to 8 kg per 100 sq m).
5. Incorporate fertilizer into soil before seeding.
6. Apply seed uniformly; if using drill or cultipacker seeders place seed 1/2 to 1 inch (12 to 25 mm) deep.
7. Irrigate as required to thoroughly wet soil to depth that will ensure germination, without causing runoff or erosion.
8. Repeat irrigation as required until grass is established.

3.05 MAINTENANCE

A. Inspect preventive measures weekly, within 24 hours after the end of any storm that produces 0.5 inches (13 mm) or more rainfall at the project site, and daily during prolonged rainfall.

B. Repair deficiencies immediately.

C. Silt Fences:
1. Promptly replace fabric that deteriorates unless need for fence has passed.
2. Remove silt deposits that exceed one-third of the height of the fence.
3. Repair fences that are undercut by runoff or otherwise damaged, whether by runoff or other causes.

D. Straw Bale Rows:
1. Promptly replace bales that fall apart or otherwise deteriorate unless need has passed.
2. Remove silt deposits that exceed one-half of the height of the bales.
3. Repair bale rows that are undercut by runoff or otherwise damaged, whether by runoff or other causes.

E. Clean out temporary sediment control structures weekly and relocate soil on site.

F. Place sediment in appropriate locations on site; do not remove from site.

3.06 CLEAN UP

A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Owner.

B. Clean out temporary sediment control structures that are to remain as permanent measures.

C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION 015713

SECTION 015813
TEMPORARY PROJECT SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project identification sign.

B. Project informational signs.

1.02 RELATED REQUIREMENTS

A. Section 011000 - Use of Premises: Responsibility to provide signs.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Shop Drawing: Show content, layout, lettering, color, foundation, structure, sizes and grades of members.

PART 2 PRODUCTS

2.01 SIGN MATERIALS

A. Structure and Framing: New, wood, structurally adequate.

B. Sign Surfaces: Exterior grade plywood with medium density overlay, minimum 3/4 inch (19 mm) thick, standard large sizes to minimize joints.

C. Rough Hardware: Galvanized.

D. Paint and Primers: Exterior quality, two coats; sign background of color as selected.

E. Lettering: Exterior quality paint, colors as selected.

F. Lettering: Pre-cut vinyl self-adhesive products, colors as selected .

2.02 PROJECT IDENTIFICATION SIGN

A. One painted sign of construction, design, and content indicated on drawings, location designated.

B. Content:
   1. Project number, title, logo and name of Owner as indicated on Contract Documents.
   2. Names and titles of authorities.
   3. Names and titles of Architect/Engineer and Consultants.
   4. Name of Barton Malow.

C. Graphic Design, Colors, Style of Lettering: Designated by TMP Architecture, Inc..

2.03 PROJECT INFORMATIONAL SIGNS

A. Painted informational signs of same colors and lettering as Project Identification sign, or standard products; size lettering to provide legibility at 100 foot (30 m) distance.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install project identification sign within 30 days after date fixed by Notice to Proceed.

B. Erect at designated location.

C. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.

D. Install sign surface plumb and level, with butt joints. Anchor securely.

E. Paint exposed surfaces of sign, supports, and framing.

3.02 MAINTENANCE

A. Maintain signs and supports clean, repair deterioration and damage.

3.03 REMOVAL

A. Remove signs, framing, supports, and foundations at completion of Project and restore the area.

END OF SECTION 015813

SECTION 017000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition.

C. Pre-installation meetings.

D. Cutting and patching.

E. Surveying for laying out the work.

F. Cleaning and protection.

G. Starting of systems and equipment.

H. Demonstration and instruction of Owner personnel.

I. Closeout procedures, including 's TMP Architecture, Inc. and Barton Malow Builders Correction Punch List, except payment procedures.

J. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

A. Section 011000 - Use of Premises: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.

B. Section 013000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

C. Section 014000 - DO NOT USE Quality Requirements: Testing and inspection procedures.

D. Section 017123 - Field Engineering and Layout: Additional requirements for field engineering and surveying work.

E. Section 017419 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.

F. Section 017610 - Temporary Protective Coverings: Materials for protection of installed work.

G. Section 017800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

H. Section 017900 - Demonstration and Training: Demonstration of products and systems to be commissioned and where indicated in specific specification sections

I. Section 019113 - General Commissioning Requirements: Barton Malow Builders's responsibilities in regard to commissioning.

J. Section 078400 - Firestopping.

1.03 DEFINITIONS

A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

C. Close-out is the process of organizing the general project requirements near the end of contract time to evidence the completion of the Work. The time of close-out directly relates to completion of the project. It can either be a single time period for the entire Work, or a series of time periods for individual parts of the Work, which have been certified as Complete at different dates.

D. **Substantial completion** means that all applicable work:

1. Is sufficiently complete and fully usable in accordance with Owner's master agreement.
2. Can be fully utilized and/or operated by Owner for its intended use, and
3. Complies with the applicable scope of work except for the applicable punch list.

E. **Final Acceptance** shall mean that date upon which all close-out documentation and work, including, without limitation, all punch list items and closeout submittals, have been fully completed in accordance with the applicable scope of work.

1.04 REFERENCE STANDARDS

A. AIA G702 - Application and Certificate for Payment; 1992.

B. AIA G703 - Continuation Sheet; 1992.

C. AIA G704 - Certificate of Substantial Completion; 2017.

D. AIA G707 - Consent of Surety to Final Payment; 1994.

E. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2022, with Errata (2021).

1.05 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
1. On request, submit documentation verifying accuracy of survey work.
2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
3. Submit surveys and survey logs for the project record.

C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
2. Identify demolition firm and submit qualifications.
3. Include a summary of safety procedures.

D. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
3. Products: List products to be used and firms or entities that will perform the Work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Effect on work of Owner, Barton Malow Builders or separate Contractors.
   a. Written permission of affected separate Contractor.
   b. Date and time work will be executed.

E. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.06 QUALIFICATIONS

A. For demolition work, employ a firm specializing in the type of work required.

B. For surveying work, employ a land surveyor registered in Michigan and acceptable to TMP Architecture, Inc.. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,

C. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in Michigan. Employ only individual(s) trained and experienced in establishing and maintaining horizontal and vertical control points necessary for laying out construction work on project of similar size, scope and/or complexity.

D. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in Michigan.

1.07 PROJECT CONDITIONS

A. Use of explosives is not permitted.

B. The use of gasoline powered equipment is prohibited in enclosed spaces on this Project.

C. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

D. Perform dewatering activities, as required, for the duration of the project.

E. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

F. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property. Activities that require dust control include but are not limited to the following: demolition, cutting, grinding, and pre-preporation operations.

G. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
   1. At All Times: Excessively noisy tools and operations will may be tolerated in or adjacent to occupied buildings at any time of day; excessively noisy includes jackhammers. Include premium time to complete work off hours.

H. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.08 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
   1. Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:
      a. Foundation construction.
      b. Bearing and retaining walls.
      c. Structural concrete.
      d. Structural steel.
      e. Lintels.
      f. Stair systems.
      g. Miscellaneous structural metals.
   2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
      a. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
         1) Primary operational systems and equipment.
         2) Air or smoke barriers.

3) Fire-protection systems.
4) Mechanical systems piping and ducts.
5) Control systems.
6) Communication systems.
7) Conveying systems.
8) Electrical wiring systems.
9) Operating systems of special construction in Division 13 Sections.
10) Electronic security systems.

3. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
   a. Obtain approval of the cutting and patching proposal before cutting and patching the following elements:
      1) Water, moisture, or vapor barriers.
      2) Membranes and flashings.
      3) Exterior windows, entrances, and storefronts.
      4) Equipment supports.
      5) Piping, ductwork, vessels, and equipment.
      6) Noise- and vibration-control elements and systems.
4. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
5. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades as well as Barton Malow Builders. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.09 COORDINATION

A. All Contractors are required to review, discuss and coordinate their Work with the Work of other Contractors, Subordinate Parties, Owner and Barton Malow Builders with regard to sequence, timing, built-in Work and equipment, layout, location, compatibility of materials and sizes and required clearances prior to beginning the work to avoid construction delays which impact the Owner's occupancy of the facility.

B. Each Contractor must:
   1. Coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
   2. Make provisions to accommodate items scheduled for later installation..
   3. Layout and install its Work at such time and in such manner as not to delay or interfere with the carrying forward of the Work of others.
   4. Verify and Accept previous work
      a. As Work under each Agreement commences, the condition of preceding Work under other agreements shall be verified and accepted by each subsequent Contractor when appropriate.
      b. Report in a prompt manner any interferences, discrepancies or incompatibilities discovered to Barton Malow Builders and Architect/Engineer, whose decision as to the Contractor at fault and as to the manner in which the matter may be resolved, shall be binding and conclusive on Contractors involved. Barton Malow Builders and Architect/Engineer may direct layout/ location changes as required to make the entire work fit together. Reasonable changes of this nature will not entitle any Contractor to an increase in contract price.

c. Verification may, at Barton Malow Builders and Architect/Engineer 's discretion, include a joint review by the subsequent Contractor, previous contractor(s), and Architect/Engineer to note any corrective Work required, similar items affecting the Work and particularly items which prevent acceptance by the subsequent contractors.
d. The verification review procedures and findings shall be submitted in writing by subsequent Contractors to Barton Malow Builders.
e. Any corrective work necessary to satisfy requirements of the Contract Documents shall be performed promptly by the previous Contractor to prevent delay to the work under the subsequent Contracts.
f. After corrective work is accomplished the subsequent Contractor shall furnish written acceptance of the work as noted above.

C. Observation of the Work by others shall not relieve Contractor from its responsibility for coordination, supervision, or scheduling and direction of the Work.

D. Failure of a Contractor to notify others and Barton Malow Builders and Architect/Engineer of a potential interference, incompatibility, or discrepancy and any failure to coordinate Work with that of others prior to installation and/or fabrication shall be at the Contractor's risk.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials. For any proposed change in materials, submit request for substitution described in Section 012500 - Substitution Procedures.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or incorrect fabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed. Report any unsatisfactory or questionable conditions to Barton Malow Builders in writing.
1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

G. When working in and around existing buildings, if any hazardous material is encountered or is suspected to be present, immediately notify Barton Malow Builders and stop work in this area a until further direction is given by Barton Malow Builders or the Owner.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

D. Provide adequate temporary support to assure the structural value and integrity of the affected portion of the work. Where specified or required, submit temporary support methodologies for approval.

E. Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

F. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas during cutting & patching activities.

G. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

H. Maintain excavations free of water.

3.03 PRE-INSTALLATION MEETINGS

A. When required in individual specification sections, convene a pre-installation meeting at the site prior to commencing work of the section.

B. Require attendance of parties directly affecting, or affected by, work of the specific section.

C. Notify Architect/Engineer and Barton Malow Builders 7 days in advance of meeting date.

D. Prepare agenda and preside at meeting:
   1. Review conditions of examination, preparation and installation procedures.
   2. Review coordination with related work.

E. Record minutes and distribute copies within 2 days after meeting to participants, with 1 copies to Architect/Engineer, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Architect/EngineerBarton Malow Builders and Architect/Engineer of any discrepancies discovered.

C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.

D. Promptly report to Architect/Engineer and Barton Malow Builders the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.

E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect/Engineer and Barton Malow Builders.

F. Utilize recognized engineering survey practices.

G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

H. Periodically verify layouts by same means.

I. Maintain a complete and accurate log of control and survey work as it progresses.

J. On completion of foundation walls and major site improvements, prepare a certified survey illustrating dimensions, locations, angles, and elevations of construction and site work.

3.05 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.06 ALTERATIONS

A. Drawings showing existing construction and utilities are based on existing record documents only.
   1. Verify that construction and utility arrangements are as indicated.
   2. Report discrepancies to Architect/Engineer and Barton Malow Builders before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Services (Including but not limited to): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
   2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
   3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
      a. Disable existing systems only to make switch overs and connections; minimize duration of outages.
      b. Provide temporary connections as required to maintain existing systems in service.
   4. Verify that abandoned services serve only abandoned facilities.
   5. Remove abandoned pipe, ducts, conduits, and equipment , including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub

and tag with identification; patch holes left by removal using materials specified for new construction.

E. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.

F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

H. Refinish existing surfaces as indicated:
   1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
   2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

I. Clean existing systems and equipment.

J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

K. Do not begin new construction in alterations areas before demolition is complete.

L. Comply with all other applicable requirements of this section.

3.07 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Each Contractor shall:
   1. On behalf of itself and its Subordinate Parties be responsible for the cutting of all holes and openings through existing walls, partitions, ceilings, floors and roofs as necessary for the installation of its Work. Holes and openings shall be neatly cut and of minimum size to allow the Work to be installed. Execute cutting and demolition by methods which will prevent damage to other Work, and will provide proper surfaces to receive installation of repairs.
   2. Execute work in such a manner as to minimize disruptions to or interference with the Owner’s normal operations or functioning in the existing buildings and provide all means necessary to provide safety and convenience of those employed in and about the premises.
   3. Be responsible for patching of all holes and openings it makes. Fit work should be airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces. Patching is to match adjacent surfaces in materials and finish.
   4. Utilize only tradesmen skilled in the specific finish and material involved in making the patches. All patching is to be done in a neat and workmanlike manner to the satisfaction of Barton Malow Builders. Defective Work shall be corrected at no cost to the Owner and Barton Malow Builders.
   5. Do all necessary cutting and fitting required to make a satisfactory connection where new Work connects with existing so as to leave the entire Work in finished and workmanlike condition. Furnish all labor and materials to this end, whether or not shown or specified. All measurements must be verified at the site.
   6. Employ the original installer and fabricator, when possible, to perform cutting and patching for, weather-exposed or moisture-resistant elements, sight-exposed finished surfaces.

7. Execute fitting and adjustment or products to provide a finished installation to comply with the specified products, functions, tolerances and finishes.
8. Restore Work which has been cut or removed and shall install new products to provide completed Work in accordance with the Contract Documents. Each Contractor will be responsible to pay the appropriate Contractor as designated by Barton Malow Builders for restoring any portion of the Project that is disturbed, including but not limited to, landscaping, slabs, walls, ceilings, fire-rated partitions, spray-on fireproofing, and finishes, to their original state as a result of Contractor's action.
9. Be held responsible for reckless cutting of holes in slabs, walls or other finishes, or for scraping off areas of fireproofing larger or greater than that which is necessary for installation of its Work.

D. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

E. Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

F. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with all required codes and Contract Documents.
4. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
5. Excavating and Back filling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
6. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
7. Proceed with patching after construction operations requiring cutting are complete.

G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken

4. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

H. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

I. Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

3.08 SITE CLEAN-UP/RUBBISH REMOVAL PROCEDURE

A. An effective and efficient clean-up procedure on the Project site contributes to both the productivity and safety of all those involved. The following requirements are intended to provide a satisfactory and equitable method to manage and accomplish project clean up.

B. General:
1. Each Contractor shall be responsible for daily, weekly and final clean-up of its Work and the work of its Subordinate Parties. The cost of this requirement shall be included in the Contractor's Bid Proposal.Contractor is required to comply with applicable labor agreements and jurisdictional rules in the hiring of laborers to perform its clean up obligations under the Contract Documents. Each Contractor will be responsible for control of dust generated by its operations on a daily basis. Roadways must be maintained clear of all debris at all times. Contractors shall only use cleaning materials which will not create hazards to health or property and which will not damage surfaces. Only those cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned shall be used. Any sweeping compounds used in cleaning operations shall not leave residue on concrete floor surfaces that may affect installation of finish flooring materials

C. Daily Clean Up:
1. Each Contractor shall be responsible, DAILY for the clean -up, transport and removal from the site of identifiable debris including but not limited to, bulky debris, packaging, containers, unused materials and equipment, (i.e., masonry and concrete materials, drywall, steel, crates, carton, demolition debris, other packaging, and combustible items). No piles of debris shall be left in the building overnight. The cost of any overtime premium required to remove debris immediately at the end of each workday shall be included in the Contractor's Base Bid.
2. Each Contractor must handle materials in a controlled manner during clean-up and all other operations so that dust and other contaminants resulting from the cleaning or disposal process will not affect the Owner’s operations or equipment or the work or equipment of any other Contractor on the site. Each Contractor is responsible to leave its Work and work area in a clean condition. This includes, but is not limited to, removal of all grease, dust, dirt, stains, labels, fingerprints and other foreign matter.

D. Weekly Clean Up:
1. Each Contractor, while on-site, shall provide to Barton Malow Builders one (1) person for each five tradesmen (or portion thereof) employed at the site, one day per week, for up to eight (8) hours, for the exclusive purpose of performing overall project weekly clean-up of unidentifiable debris. The cost of this (these) person(s) shall be included in Contractor’s bid. The weekly clean-up Work shall include sweeping, loading and disposal of miscellaneous debris such as mud tracked through the building, drinking cups, bottles, lunch wrappers, and other unidentifiable debris. Trash and debris from this operation shall be placed in the dumpster(s) provided by Barton Malow Builders.

2. Each Contractor shall furnish sweeping compound to hold down dust during the weekly clean up.

E. Use of Owner's Facilities
1. The Owner's facilities are not to be used by Contractor for the disposal of trash or debris from its Work.

F. Failure to perform Clean Up:
1. If any Contractor or its Subordinate Parties fails to maintain a satisfactory clean-up program, Barton Malow Builders will issue written notice, to the responsible Contractor, that the necessary clean-up must be performed within 24 hours after the notice is given. The establishment of a definite deadline for the removal of debris and rubbish will supersede the necessity for any formal notification that such work must be done. If Contractor(s) fail to perform the clean-up, by the deadline, Barton Malow Builders may perform clean-up on the Project and back charge the responsible Contractor(s) for the costs. If necessary in order to remove unidentifiable debris beyond what is removed during weekly clean up, Barton Malow Builders will perform such clean-up and shall pro-rate the cost among the Contractors in its discretion, based on Contractor(s) type of work and manpower on site. Back charges may be deducted from the monthly invoices of the Contractor(s) and/or final payment.

3.09 PROTECTION OF INSTALLED WORK

A. See Section 017610 for temporary protective covering materials.

B. Protect installed work from damage by construction operations.

C. Provide special protection where specified in individual specification sections.

D. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

E. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

F. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

G. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

H. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

I. Prohibit traffic from landscaped areas.

J. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

K. Removal and replacement of ceilings not scheduled to be replaced shall be the responsibility of the Contractor requiring access.

3.10 SYSTEM STARTUP

A. Coordinate with requirements of Section 019113 - General Commissioning Requirements.

B. Coordinate schedule for start-up of various equipment and systems.

C. Notify Architect, Barton Malow Builders and Owner seven days prior to start-up of each item.

D. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.

E. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.

F. Verify that wiring and support components for equipment are complete and tested.

G. Execute start-up under supervision of applicable Troy School District, Barton Malow Builders personnel and manufacturer's representative in accordance with manufacturers' instructions.

H. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

I. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION

A. See Section 017900 - Demonstration and Training.

B. Demonstrate operation and maintenance of products to Owner's personnel 2 weeks prior to date of Substantial Completion.

C. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.

D. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.

E. Utilize approved operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

F. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

G. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

3.12 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.13 FINAL CLEANING

A. Owner will provide comprehensive cleaning after final acceptance.

B. All Contractors shall be responsible for the following final cleaning operations at a time designated by Barton Malow Builders. Normally, Final Clean Up will occur before punch list inspection or prior Owner Occupancy turnover. Final Cleaning consists of the following Work:

1. Removal of grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and all other foreign materials from sight-exposed interior and exterior surfaces.
2. Temporary labels, stickers and similar items shall be removed from fixtures and equipment. Unless otherwise directed in the technical specifications, Subcontractors shall not remove permanent nameplates, equipment model numbers, ratings, or other items intended to be permanently affixed to the fixture or equipment.
3. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
4. Clean filters of operating equipment.
5. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems, and landscape areas.
6. Broom cleaning exterior paved surfaces and raking clean other surfaces of the grounds.
7. Tunnels and closed off spaces shall be cleaned of packing boxes, wood frame members and other waste materials used in the construction.
8. Prior to final completion or Owner occupancy, whichever occurs first, Contractor shall conduct an inspection of sight-exposed interior and exterior surfaces, and all Work areas, to verify that the entire Work is left in a broom clean condition and that all Final Cleaning as set forth above has been performed.

3.14 CLOSEOUT PROCEDURES

A. The following procedure and forms will be used to sequentially progress through the contract close-out stage in a productive and timely manner.
   1. Step 1: Preparation for Contract Close-Out
      a. During the course of the Project, the Contractor will thoroughly review the Contract Documents as it relates to the requirements and obligations and gather and submit to Barton Malow Builders the proper submittals, shop drawings, material certifications, waivers, certificates of insurance, bonds, and other contractual requirements impacting contract close-out as outlined in 017800 - Closeout Submittals.
      b. Evidence of compliance with requirements of governing authorities (state, local or federal).
      c. Evidence of Payment and Release of Liens: Refer to requirements of Section 012000 - Price and Payment Procedures.
   2. Step 2: Initiating the Final Close-Out Process
      a. When nearing 75% completion of the Work, the Contractor will review the status of the Close-Out process with Barton Malow Builders. The Contractor's contractual responsibilities will be reviewed and outstanding close-out and other submittals identified.
   3. Step 3: Obtaining the Certificate of Substantial Completion
      a. As the Contractor is nearing the completion of the Work and after concurrence with Barton Malow Builders, it shall submit a written request for Substantial Completion, all required documentation as outlined, and a listing of all minor deficiencies yet to be completed.
      b. The following documents are the minimum required at the time of request for Substantial Completion. Contractor shall also submit all additional documentation as required in the Contract Documents:
         1) AIA G704 Certificate of Substantial Completion
         2) As-built records (see Section 017800 - Closeout Submittals)
         3) Architect/Engineer approved Operation and Maintenance Manuals (see Section 017800 - Closeout Submittals). Typically, all O&M manuals will be submitted to the Owner at 75% completion of the project prior to acceptance of equipment systems or building occupancy.
         4) Keys, Maintenance Stock, and Spare Parts - quantities as required in the specifications
         5) Test and Start-up/Owner Training Sessions (see Section 017900 - Demonstration and Training)
         6) Submission of Permits and Approvals (i.e., Fire Marshal, Department of Public Health Approvals, etc.)
         7) Guarantee and Warranties (see Section 017800 - Closeout Submittals)
         8) Punch list (list of work to be completed or corrected). Contractors should account for multiple work to complete lists and punch lists.
      c. Once Barton Malow Builders has received all required documents they will be forwarded to the Architect and Owner. Barton Malow Builders will review the Contractor's request for Substantial Completion; all above documentation, and list of deficiencies, add appropriate comments, and forward to the Architect and/or Owner for review. In conjunction with the Contractor, Barton Malow Builders will establish a schedule for the completion of all listed items, which in no event shall exceed any time periods established in the Contract Documents for Final Completion.
      d. When the Architect and/or Owner determine(s) that the Work is substantially complete, the Certificate of Substantial Completion shall be issued to the Contractor.
   4. Step 4: Contractor Completes Punch list Work

a. Each Contractor shall submit a signed off punchlist by item and letter certifying all punch list items are completed, in a manner acceptable to the Owner, Barton Malow Builders and the Architect.
b. All punch list items must be completed within 14 days of issuing, unless otherwise approved by Barton Malow.
c. Process and steps that need to be taken by Contractor in order to have items reviewed/completed in Autodesk Build can be found in - Autodesk Build Manual. The punch list/work to complete list can be found under the "Issues" category.

5. Step 5: Final Inspection Notice
   a. Each Contractor is to forward **(written notice and accompanying documentation)** to Barton Malow Builders that Work is ready for final inspection and acceptance. Barton Malow Builders will forward written notice to the Architect if Barton Malow Builders is in agreement that Work is complete. The Architect will perform a final inspection and sign off on the punch list form if Work is in fact completed. If punch list work is not found complete, the Contractor shall take action to remedy any insufficiencies and then shall re-submit the written notice and accompanying documentation that Work is ready for **final** inspection and acceptance. If Barton Malow Builders and/or Architect are required to perform more than 2 site visits to determine Substantial or Final Completion of Contractor's Work, the costs for such additional inspections shall be back charged to Contractor.
   b. The following documents are the minimum required to complete final payment. Contractor shall also submit all additional documentation as required in the Contract Documents:
      1) Final Payment Request (AIA G702 & AIA G703).
      2) Guarantees/Warranties (including subs and suppliers).
      3) Final Sworn Statements (including subs and suppliers).
      4) Acknowledgment of Payment and Partial Unconditional Release
      5) Final Unconditional Waiver Release Subcontractor/Material
      6) Certified Payroll Report
      7) MBE participation with final accounting and compliance.
      8) Consent of Surety Company to Final Payment (AIA G707)
      9) Consent of Surety to Reduction or Partial Release of Retainage (AIA G707 A)
      10) Certificate of Substantial Completion (AIA G704).
      11) Completion of all closeout.
      12) Completion and acceptance of all punch list work and commissioning items .
      13) Contact Information.
      14) Proof of transmission of all spare parts, attic stock, and O&M Manuals.
      15) Items 2 through 8 must always be submitted with the final request for payment.
6. Step 6: Review of Final Payment
   a. Barton Malow Builders and the Architect will review the Contractor's final payment request and Close-Out file. Barton Malow Builders reserves the right to withhold 20% of the estimated cost for each punch list item not completed until complete. If all administrative documents are attached or have been submitted (i.e. guarantee, warranty, waiver of lien, etc.), all Work is complete, and all other responsibilities are met, the Project Team will forward the Contractor's Application for Final Payment to the Owner and payment shall be processed according to the Owner's regular procedures.

3.15 MAINTENANCE

A. Provide service and maintenance of components indicated in specification sections.

B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.

C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.

D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.

E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION 017000

SECTION 017120
ON-SITE PROJECT SAFETY

PART 1 – GENERAL

1.01 SECTION INCLUDES:

A. Contractor's Safety Requirements
B. Contractor's Safety Submittals
C. Barton Malow Builders Rights
D. Safety Related Forms
E. Hazardous Materials
F. Infection Control
G. Other Safety Requirements
H. Substance Abuse Testing Program
I. Interim Life Safety Plan

1.02 RELATED DOCUMENTS

A. Attention is directed to Bidding, Contract and General Requirements, which are hereby made a part of this Section.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 CONTRACTOR'S SAFETY REQUIREMENTS

A. General
   1. Contractor is responsible for its own Safety Program for Work on this Project that is at least as stringent as the requirements set forth in this section of the Project Manual and/or Barton Malow Builders safety manual.
   2. Contractor shall provide a safe workplace and shall otherwise take all precautions for the safety of Subordinate Parties and persons and property in or near the premises where Work is being performed.
   3. Contractor shall comply with all applicable federal, state and local laws, rules and regulations, including, but not limited to, applicable provisions of the Occupational Safety and Health Act ("OSHA") and/or the governing state law.
   4. Contractor shall comply with all requirements stated in the Site Specific Safety Instructions (SSSI), form or elsewhere in the Contract Documents.
   5. Contractor shall ensure that its employees understand and comply with applicable safety and health programs, rules, and regulations.
   6. In addition to the requirements set forth in this Section , the Contractor shall comply with all terms, conditions and provisions of all applicable laws.
   7. The Contractor shall assign an individual to act as Safety Representative who will have the responsibility of resolving safety matters, and acting as a liaison among Contractor, Barton Malow Builders and the Owner . The Safety Representative must be a person who is capable of identifying existing and predictable hazards in surroundings that are unsanitary, hazardous or dangerous to employees, and has the authority to take prompt corrective measures to eliminate them. The Safety Representative must meet the standards for a Competent Person under applicable law when required (scaffolding, confined spaces, etc.) and be on site full time. The Safety Representative or an alternate must attend periodic safety meetings as directed by Barton Malow Builders and; as a minimum,possess an OSHA 500 certificate.
   8. Contractor, through its site supervisors and/or Safety Representative, shall attend a pre-construction meeting where planning for safe execution of the project will be addressed.

9. Contractor is fully responsible for all Hazardous Materials it creates or releases in connection with, or brings to, the Project. Contractor shall immediately report to Barton Malow Builders any Hazardous Materials that it discovers or which are released at the Project.
10. Minimum training for on-site employees shall include basic safety orientation, site specific orientation, task-specific safety instruction, weekly Tool Box Talks, and other periodic safety meetings. Contractor shall document all such training. Onsite Contractor supervision shall have completed OSHA-30 training.
11. Contractor shall self-inspect its areas of control to assure compliance with the safety requirements.
12. All on-site employees of either Contractor or its Subordinate Parties are required to report any unsafe act or condition and any work-related injuries or illness immediately to a supervisor. If the act or condition can be safely and easily corrected, the employee or supervisor shall make the correction. All on-site employees have the obligation to stop any or all work in the event it may lead to injury or incident.
13. Contractor shall notify the Barton Malow Builders project leadership immediately of all injuries or incidents. Contractor will also be required to fill out a safety incident report along with witness reports available in the Barton Malow Builders Safety Manual or BIM 360 Templates.
14. Contractor shall have emergency procedures to deal with the immediate removal and treatment, if necessary, of any employee who may be injured or become ill. Contractor shall keep on the Project site a first-aid kit supplied according to current regulations, and shall have on-site a person trained to administer first aid.
15. Contractor shall inform Barton Malow Builders of the arrival of any federal or state inspector or compliance officer prior to touring the site. Any reports, citations, or other documents related to the inspection shall be provided promptly to Barton Malow Builders .
16. Contractor shall have a written Substance Abuse Policy. The use or possession of illegal drugs or the use of alcohol while performing Work on the Project are strictly prohibited and may lead to immediate removal from the Project.
17. Contractor shall be responsible for payment of all safety-related citations, fines and/or claims arising out of or relating to its Work levied against the Owner , Architect/Engineer, Barton Malow Builders , or their employees or affiliates.
18. Barton Malow Builders has the right to require that Contractor submit monthly its hours worked and incident rates for the Project.

B. Additional Barton Malow Builders Requirements
1. Work crews shall conduct a Job Hazard Analysis (JHA) discussion to plan for safe performance before beginning any work task. Contractor shall prepare a written record of each JHA.
2. All workers, management, and visitors shall check into prior to entering the jobsite using the QR code and adhere to the site mask requirements.
3. All workers, management, and visitors shall wear approved hard hats, safety glasses, safety vest or High Visibility clothing 100% while on site, outside the trailers. All workers will wear gloves specific to work tasks being performed unless they will add additional hazard and potential for injury. All workers, management and visitors will have gloves on their person in the event they are required to use their hands to touch, grasp or move any type of construction material or equipment while onsite. All workers, management, and visitors shall check into the jobsite using the qr code and adhere to the site mask mandate. Cowboy-style hard hats are prohibited. Hardhats must not be removed to use welding shields. Welding shields must attach to hardhats or be hand held.
4. Sleeved shirts (minimum of four inches), long pants (not sweat pants), and durable work boots are required minimum clothing.
5. Personal radios or music players with earphones are not permitted.

6. All persons working at elevations of six feet or greater must have 100% continuous fall protection. Engineering controls are preferred, but personal fall arrest systems are also permissible. An exception is permitted for safe use of ladders up to 24 feet long.
7. Prior to removing or modifying any barricade or handrail, Contractor shall request permission from Barton Malow Builders project leadership. Contractor is responsible to repair or restore any barricade that it modifies or removes.
8. Class III (household) stepladders are prohibited; metal ladders are not allowed.
9. All scaffolds must be tagged and checked daily before each use for safety compliance. A green tag will be used for a successfully inspected scaffold and a red tag will be used for any scaffold found to be in an unsafe condition. Scaffolds shall never be left in an unsafe condition and must be removed, disabled or properly assembled immediately.
10. All persons operating cranes must be certified as crane operators by one of 4 testing agencies, NCCCO, NCCER, CIC or OECP. Daily crane inspection reports must be prepared by the operator and kept with the crane, available for inspection.
11. Riding the headache ball is prohibited.
12. All dozers, loaders, tractors and end loader backhoes must have functioning backup alarms.
13. Keep equipment at least 15 feet from energized power lines.
14. Electrical, pneumatic, and other energy systems that could be accidentally energized or started up while work is in process must be locked out (not merely tagged out).
15. Only fire retardant materials may be used to build shanties or other temporary enclosures inside of buildings finished or under construction. Shanties shall be continually policed by their occupants to prevent the accumulation of waste or other combustibles.
16. Engineering controls must be used to restrain silica dust per applicable law.
17. Any cost incurred by corrections made by Barton Malow Builders due to safety violations caused by Contractor shall be back charged to the offending Contractor.

3.02 CONTRACTOR'S SAFETY SUBMITTALS

A. Contractor shall provide copies of the following written safety submittals to Barton Malow Builders at the times indicated:

Contractor Safety Certificate

Contractor Safety Plan

Site-Specific Safety Information

Contractor Safety Orientation Completion List

Employee CPR Certificates

Employee OSHA-30 Certificates

Employee Arial Lift Training Certificates

SDS Sheets

_____

B. Barton Malow Builders 's receipt of the Safety Program or other submittals from Contractor does not constitute approval of the Program or submittal or permission to deviate from the requirements of the Contract Documents and applicable law.

C. Contractor will allow inspection of, and Barton Malow Builders may request copies of, any and all safety-related documents and records in its possession relating to the Project.

3.03 BARTON MALOW BUILDERS RIGHTS

A. Safety Hazard Notifications may be issued to the Contractor when an unsafe act or condition is reported or observed. Barton Malow Builders shall not be required to supervise the abatement or associated reprimand of unsafe acts or conditions within a Contractor's scope of work as this is solely the responsibility of Contractor. Nevertheless, Barton Malow Builders has the right, but

not the obligation, to require Contractor to cease or abate any unsafe practice or activity it notices, at Contractor's sole expense.

B. Contractor's failure to comply with the contract safety requirements will be considered a default of the Agreement, and may result in remedial action including, but not limited to, withholding of payment of any sums due or termination.

C. Barton Malow Builders failure to require the submission of any form, documentation, or any other act required under this Section of the Project Manual shall not relieve the Contractor from any of its safety obligations.

D. Nothing in this Section or in this Agreement makes Barton Malow Builders responsible or liable for protecting Contractor's employees and other Subordinate Parties or assuring or providing for their safety or preventing accidents or property damage.

E. All requirements referenced in this Section 017120 are binding on Contractor and all of its Subordinate Parties, even where such requirements may exceed the standards of applicable law.

3.04 SAFETY RELATED FORMS

A. The following safety related forms are in Section 0016001 Forms and Autodesk Build:
   1. Contractor Safety Certificate
   2. Site-Specific Safety Information

3.05 HAZARDOUS MATERIALS

A. This Section describes the following requirements including:
   1. Definition of Hazardous Materials
   2. Awareness of Hazardous Materials
   3. Contractor Hazardous Materials Responsibilities

B. Definition of Hazardous Materials:
   1. A "Hazardous Material", as used in this Project Manual means asbestos; asbestos containing material; lead (including lead-based paint); PCB; molds; any other chemical, material, or substance subject to regulation as a hazardous material, hazardous substance, toxic substance, or otherwise, under applicable federal, state, or local law; and any other chemical, material, or substance that may have adverse effects on human health or the environment.

C. Awareness of Hazardous Materials:
   1. Each Contractor shall be constantly aware of the possible discovery of Hazardous Materials. Should Contractor encounter any Hazardous Material or suspected Hazardous Material, the Contractor shall immediately stop Work in the area affected and report the condition to Barton Malow Builders.

D. If the Contractor encounters any Hazardous Material or suspected Hazardous Material, the Contractor agrees to immediately initiate the required procedures of the Environmental Protection Agency (EPA), and/or state or local agencies having jurisdiction to protect any and all persons exposed to the affected areas or adjacent areas affected thereby.

E. Contractor is fully responsible for all Hazardous Materials it creates or releases in connection with, or brings to, the Project.

F. See the General and Supplementary Conditions of the Agreement for further instructions and obligations related to Hazardous Materials.

G. Each Contractor shall be responsible to bind ALL of its personnel and its Subordinate Parties to the provisions in these paragraphs and to instruct each employee of the of its duty to report any and all suspected Hazardous Materials and to comply with all applicable laws.

H. No material shall be brought on or to the project site that does not have a manufacturer's label stating contents.

I. The Contractor shall comply with all applicable federal and state laws, rules, ordinances and regulations regarding transportation, storage, spills, releases and disposal of Hazardous Materials.

J. No asbestos or asbestos-containing material will be brought to the jobsite or incorporated into the Work by Contractor or its Subordinate Parties.

3.06 OTHER SAFETY REQUIREMENTS

A. In addition to the requirements listed above, special attention is required to the following for all Contractors:

1. Noise and Vibration – each Contractor shall review the type of equipment or methods of operation in consideration of adjacent occupied areas that could be adversely affected by noise or vibration, and shall use best efforts to minimize any noise or vibration affecting such areas. Coordinate the scheduling of any work causing excessive noise and/or vibration with Barton Malow Builders prior to beginning work.
2. Water Damage / Leaks Prevention – all Contractors shall pay special attention to any possibility of leaks or water damage due to construction Work and its impact on surrounding occupied areas.
3. Exhaust & Fumes - for Work involving hazardous fumes including, but not limited to, adhesives, paints/primers, grinding, saw cutting, equipment exhaust, or welding, each Contractor shall review alternate materials or methods of Work that may be required depending on adjacent occupied areas. Construction activity is not permitted within area of existing fresh air intakes.
4. All of Owner ’s security measures must be strictly followed by all Contractors and their Subordinate Parties including, but not limited to, rules about limited construction access at specified doors/entry points, wearing proper identification, and emergency procedures.
5. All shut-downs for electrical, plumbing, mechanical, fire protection or any other service shall be scheduled with the Owner through Barton Malow Builders at least 72 hours prior to the shut down, and affected occupied areas must be reviewed with the Owner at that time. Should an unscheduled shut-down or interruption of services take place, Barton Malow Builders shall be notified immediately and the Contractor shall be required to remedy the situation immediately and shall review the situation with the Owner and Barton Malow Builders after service is restored.
6. If modifications to the existing ventilation system are necessary, Contractor shall verify that existing systems as modified can produce the proper air exchange rates and pressure required in critical areas, and that air is not being directly circulated from construction areas into other occupied/patient care areas and shall document such verification to the Owner through Barton Malow Builders.
7. Contractors are required to review its proposed cleaning techniques for exterior facade of existing buildings, ramps and walks with Barton Malow Builders and the Owner . Water blasting techniques shall be used (instead of sandblasting) near air intakes, mechanical rooms or patient care areas.
8. Each Contractor shall provide for its Subordinate Parties protective apparel as required (coveralls, foot gear head gear, eye protection and face masks) suitable for use by construction personnel and authorized visitors when leaving Work areas and passing through adjacent occupied areas.
9. When finished Work is installed, each Contractor shall cover and protect its own absorbent materials (carpets, fabrics, etc.) to assure that such materials do not absorb excessive dust and/or debris before an area is finally cleaned and turned over to the Owner for occupancy.

3.07 SUBSTANCE ABUSE AWARENESS

A. The requirements of this section apply to Contractor employees and the employees of Subcontractors and other Subordinate Parties who provide services for construction on the job

site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

B. Covered Employees: This policy applies to all full-time, part-time, temporary, intern, contract and non-bargaining trade employees of Contractor. Bargaining trade employees will be subject to the collective bargaining agreement in effect during the relevant time period.

C. All Contractors, Subcontractors and other Subordinate Parties that work on projects managed by Barton Malow Builders will be required to have a substance abuse policy in place for their employees that is comparable to Barton Malow Builders 's policy. In the event of a conflict between policies, Barton Malow Builders 's policy will govern. This requirement will be included in all Barton Malow Builders contracts and purchase orders.

D. Definitions:
   1. Illegal Drugs: in this policy means: (a) inhalants and controlled substances; (b) any drug which is not legally obtainable; and (c) medications containing a controlled substance, which are used for a purpose or by a person for which they were not prescribed or intended or in amounts which exceed the prescribed dosage.
   2. Legal Drugs: are defined as prescribed drugs and over-the-counter drugs which have been legally obtained, are being used only for the purpose for which they were prescribed and/or manufactured and in the prescribed amounts, and are being used by the person for whom they were prescribed.
   3. Under the Influence: means appearance, speech, behavior, or bodily odor which causes a superior to reasonably suspect the employee to be impaired by alcohol, illegal drugs or legal drugs.
   4. Impaired: ” is defined as: (a) the deterioration of an individual’s judgment and a decrease in his/her physical ability due to alcohol, illegal drugs or legal drugs; (b) and/or the inability of a person to perform the essential functions of his/her job duties due to alcohol, illegal drugs or legal drugs; (c) and/or having a blood alcohol level exceeding .04%; (d) and/or testing positive for a legal or illegal drug that exceeds the following cut-of concentration level:
      a. Amphetamines, including Methamphetamine, Ritalin, Ecstasy – 1,000 ng/ml;
      b. Barbiturates – 300 ng/ml;
      c. Benzodiazepines – 300 ng/ml;
      d. Cannabinoid – 50 ng/ml;
      e. Cocaine – 300 ng/ml;
      f. Methadone – 300 ng/ml;
      g. Opiates – 2,000 ng/ml;
      h. Phencyclidine – 25 ng/ml

E. Prohibited Activities:
   1. Possessing or consuming any alcoholic beverage while: (a) on the job; (b) on Company property (except during a Company-sanctioned social function in which the Company provides or permits alcoholic beverages); (c) on client property (except during a client-sanctioned social function in which the client provides or permits alcoholic beverages); (d) in vehicles during work hours.
   2. Engaging in the unlawful or unauthorized manufacture, distribution, dispensation, possession, sale, transfer, storage, concealment, transportation, promotion, or use of a controlled substance, illegal drug, alcoholic beverage or drug related paraphernalia.
   3. Reporting for work or working while under the influence of alcohol or with illegal drugs in the employee’s system.
   4. Using a legal drug or medication: (a) without a prescription in the employee’s name written by a physician; and/or (b) in amounts that exceed the dosage identified on the prescription; and/or (c) in amounts that impair the employee’s ability to perform his or her job.

F. Such conduct is also prohibited during non-working hours to the extent that, in the opinion of the management of the Company, it:
   1. Impairs the employee's ability to perform his or her job.
   2. Affects the Company's reputation, threatens its integrity or interferes with a client relationship.
   3. Is considered illegal and/or unlawful conduct as defined by local, state or federal law.

G. Authorized Testing:
   1. Reasonable Suspicion Testing: A Contractor, Subcontractor, or other Subordinate Party shall submit to a drug test and/or alcohol test if there is reasonable suspicion or cause to suspect (including but not limited to based on the employee's appearance, speech or behavior) that the employee is under the influence of alcohol, illegal drugs or legal drugs.
   2. POST-ACCIDENT TESTING: A Contractor, Subcontractor, or other Subordinate Party shall submit to a drug and/or alcohol test if such Contractor, Subcontractor, or Subordinate Party: (1) suffers an occupational on-the-job injury; (2) is suspected of causing or contributing to a serious work accident; and/or (3) is involved in a reportable accident while operating equipment or driving a motor vehicle.
      a. On-the-job injuries are defined as injuries occurring during a serious or potentially serious accident or incident where: (a) safety precautions were violated; (b) negligent or careless acts were performed; (c) the employee(s) failed to wear prescribed personal protection equipment; and/or (4) the employee failed to follow prescribed safety rules.
      b. A reportable accident is defined as: any accident which results in the death of a human being or bodily injury to a person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or total damages to all property aggregating $1000.00 or more, based upon actual costs or reliable estimates.
      c. In all cases of post-accident testing, testing should be taken within eight (8) hours of the accident. It is the employee's responsibility to notify his/her Supervisor of all incidents.

3.08 INTERIM LIFE SAFETY PLAN

A. This Section describes the following requirements including:
   1. Fire Precautions and Protection
   2. Temporary Fire Standpipe System
   3. Noxious Odors and Fumes

B. Fire Precautions and Protection
   1. All Contractors and their Subordinate Parties shall assume full responsibility and take all necessary precautions to guard against and eliminate all possible fire hazards and to prevent damage to any construction work, building materials, equipment, temporary field offices, storage sheds, and all other property, both public and private. The location of the nearest corporation or public fire alarm box and the telephone number of the local fire department shall be conspicuously posted by Contractor throughout the field offices and in the building structure adjacent to its Work and it shall take precautions to prevent fire hazards in accordance with all fire protection and prevention laws and codes.
   2. Each Contractor's superintendent in charge at the Project shall review the entire Project at least once a week to make certain the Contractor has adhered to the conditions and requirements set forth herein.
   3. No open fires shall be permitted. Contractors and their Subordinate Parties shall not be allowed to start fires with gasoline, kerosene or other highly flammable materials.
   4. Welding, flame cutting, or other operations involving the use of flame, arcs, or sparking devices will not be allowed without adequate protection and shielding without prior permission of the Owner through Barton Malow Builders /Commercial Construction/JLN. All combustible and flammable material shall be removed from the

immediate area. Material shall be protected with a fire resistant tarpaulin to prevent sparks, flames, or hot metal from reaching materials. Contractor shall provide the necessary personnel and firefighting equipment to effectively control incipient fires resulting from welding, flame cutting, or other operations involving the use of flame, arcs or sparking devices. Each Contractor performing Work involving welding or open flame shall provide its own fire extinguishers in the immediate area of the Work.

5. Not more than a one day supply of flammable liquids such as oil, gasoline, paint or paint solvent shall be brought into any building at any one time. All flammable liquids having a flash point of 110 degrees F or below, which must be brought into any building, shall be confined to Underwriter's Laboratories' labeled safety cans. The bulk supply of all flammable liquids shall be detached at least 75 feet from the building and from yard storage of building materials. Spigots on drums containing flammable liquids are prohibited on the project site. Drums are to be equipped with approved vent pumps.
6. Combustible materials shall not be stored or left overnight within the confines of the permanent building. This includes all internal combustion engines using gas or fuel oil. Hoisting of flammable or combustible materials to the roof shall only be in quantities as needed for immediate use.
7. Only fire resistant tarpaulins shall be used on this Project.
8. Each Contractor will provide and maintain in working order at all times during construction fire extinguishers conveniently located on each floor area in accordance with OSHA regulations. A floor stand shall be provided with appropriate signage. A representative of this contract shall walk the project on a weekly basis and document the status of the extinguishers. Any extinguisher requiring service shall be serviced that same day. Documentation shall be submitted to Barton Malow Builders each week. Contractor responsible for maintaining monthly signoff tags on fire extinguishers.
9. Fire extinguishers provided by Contractors shall be "all purpose", and not a water type, to meet the approval of the Fire Underwriter's Laboratory, and will be inspected at regular intervals and recharged if necessary.
10. In areas of flammable liquids, asphalt or electrical hazards, extinguishers of the 15 lb. carbon dioxide type or 20 lb. dry chemical type shall be provided by the Contractor creating such hazard.
11. Each Contractor agrees that, in the event of fire, all its workers and all Subordinate Parties workers anywhere on site will assist in extinguishing the fire
12. Contractor's and their Subordinate Parties' shanties of combustible construction shall not be placed inside of any structure. Such shanties shall be detached at least seventy-five (75) feet from the building or as directed by Barton Malow Builders /Commercial Construction/JLN with approval of the Owner . Totally incombustible shanties may be, if approved in writing by Barton Malow Builders /Commercial Construction/JLN, located inside of the structure.
13. Use of only Underwriter's Laboratory approved heaters and/or stoves is permitted in field offices or storage sheds and they shall have fire resistive material underneath and at the sides near partitions and walls. Pipe sleeves and covering shall be used where stove pipe runs through walls or roof.
14. Flammable portions of construction shanties inside the structure must be painted inside and outside with "ALBI" fire retardant paint or other fire retardant paint of equal quality as approved by the Owner .

C. (Temporary) Fire Standpipe System
1. The Fire Protection Contractor shall furnish, install and maintain a temporary fire standpipe system in all parts of building for use of fire department during construction.
2. Permanent risers shall be installed as floor slabs are cast, with capped 2 1/2 inch hose valves on each floor and temporary cap or plug on top. One riser at a time shall be extended up so that remainder are available for use at all times.
3. Provide permanent cross connections or provide temporary cross connections.

D. Noxious Odors and Fumes

1. All Contractors are notified that combustion engine equipment, tar kettles and any other items causing noxious odors or fumes will NOT be allowed in the building or near air intake louvers. If intake louver locations are in doubt, consult with Barton Malow Builders Company/Commercial Construction/JLN.

END OF SECTION 017120

SECTION 017123
FIELD ENGINEERING AND LAYOUT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Layout of the Work

1.02 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Submit in addition to items required in Section 017000 - Execution and Closeout Requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. Notify Owner's Representative, Barton Malow Builders and TMP Architecture, Inc. of any discrepancies immediately in writing before proceeding to lay out the work. Locate and protect existing benchmarks and base line. Preserve permanent reference points during construction.

B. Existing Utilities and Equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify existing conditions.

3.02 LAYOUT OF THE WORK

A. Maintain field office files, drawings, specifications, and record documents.

B. Each Contractor shall be responsible for the layout and engineering of its own Work from the established points and lines given by a State of Michigan registered surveyor.

C. Each Contractor is responsible for detailed and accurate layout of its own and its Subordinate Parties' Work to dimension from the principal lines, grades, and levels set forth in the Contract Documents or the principal lines, grades and levels provided by a State of Michigan registered surveyor. Each Contractor shall make provisions to preserve all control points, such as monuments, stakes, benchmarks, or other datum points, and shall replace at its own cost any of these which might be lost or displaced through its neglect.

D. Contractors shall examine the conditions under which the Work is to be installed, shall take field measurements and verify field conditions, and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Any errors, inconsistencies, omissions, discrepancies, or conditions detrimental to proper performance of the Work that are discovered shall be reported to Barton Malow Builders and TMP Architecture, Inc. at once. Contractors are not to proceed until the required corrections are accomplished.

E. The exactness of grades, elevations, dimensions, or locations given on any Drawings issued by Architect or the work installed by other contractors, is not guaranteed by Barton Malow Builders, Architect/Engineer, or Owner. The Contractor shall, therefore, satisfy itself as to the accuracy of all grades, elevations, dimensions, and locations. In all cases of interconnection of its Work with existing or other Work, it shall verify at the site all dimensions relating to such existing or other Work. Any errors due to the Contractor's failure to verify all such grades, elevations, dimensions, or locations shall be promptly rectified by the Contractor without any additional cost to the Owner or Barton Malow Builders.

F. As the Work progresses, the Contractor shall prepare layout drawings showing the exact locations of Work under its Contract as a guide to all trades. Prior to any installation, the

separate Contractors shall exchange layout drawings and coordinate the Work and be subject to verification by all subsequent Contractors.

G. As Work under each Agreement commences, the condition of preceding Work under other agreements shall be verified and accepted by each subsequent Contractor when appropriate. Verification may, at Contractors discretion, include a joint review by the subsequent Contractor, previous contractor(s), and to Barton Malow Builders and TMP Architecture, Inc. note any corrective Work required, damage to previous Work, verification of elevations, tolerances, levels and plumbness, critical dimensions, surface conditions, and similar items affecting the Work under the Contract Documents and particularly items which prevent acceptance by the subsequent Contractors. The verification review procedures and findings shall be documented in writing by subsequent Contractors, signed by all parties, and copies provided to the Barton Malow Builders and TMP Architecture, Inc.. Any corrective work necessary to satisfy requirements of the Contract Documents shall be performed promptly by the previous Contractor to prevent delay to the work under the subsequent Contracts. After corrective work is accomplished the subsequent Contractor shall furnish written acceptance of the work as noted above. Barton Malow Builders, Architect/Engineer, or Owner participation in a joint review under this paragraph shall in no event be deemed to constitute approval of any layout or other Work that fails to comply with the Contract Documents.

H. Each Contractor shall be responsible to take such field measurements as may be required to determine the size of ordered material. In the event "guaranteed dimensions" are required, the Contractor shall promptly advise other Contractors through Barton Malow Builders by use of drawings, templates or mock-ups of the required conditions.

I. All Work, and in particular, piping, ducts, conduit and similar items, shall be neatly and carefully laid out to provide the most useful space utilization and the most orderly appearance. Except as otherwise indicated or directed, piping and similar Work shall be installed as conditions reasonably permit, located to prevent interference with other Work or with the use of the spaces. Before Contractor installs a valve in an exposed location, it must make all efforts to install it in an accessible, concealed location. Contractors shall carefully plan the layout and review any questionable installations with Barton Malow Builders and TMP Architecture, Inc..

J. The Owner or Barton Malow Builders may utilize a registered land surveyor to verify alignment and layout of certain portions of the Work. If that Work is out of tolerance or incorrect, the installing Contractor will be responsible for prompt correction of the Work to comply with the Contract Documents, along with all expenses incurred by Owner or Barton Malow Builders in such verification process, including, but not limited to, the cost for the surveying services, as well as the additional time expended by Barton Malow Builders personnel at standard billing rates.

3.03 CLOSEOUT ACTIVITIES

A. See Section 017800 - Closeout Submittals, for closeout submittals.

B. See Section 017900 - Demonstration and Training, for additional requirements.

END OF SECTION 017123

SECTION 017419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Owner may decide to pay for additional recycling, salvage, and/or reuse based on Landfill Alternatives Proposal specified below.

E. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.
   5. Incineration, either on- or off-site.

F. Regulatory Requirements: Each Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 RELATED REQUIREMENTS

A. Section 011000 - Use of Premises: List of items to be salvaged from the existing building for relocation in project or for Owner.

B. Section 013000 - Administrative Requirements: Additional requirements for project meetings, reports, submittal procedures, and project documentation.

C. Section 015000 - Temporary Facilities and Controls: Additional requirements related to trash/waste collection and removal facilities and services.

D. Section 016000 - Product Requirements: Waste prevention requirements related to delivery, storage, and handling.

E. Section 017000 - Execution and Closeout Requirements: Trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

F. Section 311000 - Site Clearing: Handling and disposal of land clearing debris.

1.03 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitable, corrosive, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitable, corrosive, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Landfill Alternatives Proposal: Within 10 calendar days after receipt of Notice of Award of Bid, or prior to any trash or waste removal, whichever occurs sooner, submit a projection of trash/waste that will require disposal and alternatives to landfill, with net costs.
   1. Submit to Barton Malow for Owner's review and approval.
   2. If Owner wishes to implement any cost alternatives, the Contract Sum will be adjusted as specified elsewhere.
   3. Include an analysis of trash/waste to be generated and landfill options as specified for Waste Management Plan described below.
   4. Describe as many alternatives to landfill as possible:
      a. List each material proposed to be salvaged, reused, or recycled.
      b. List the proposed local market for each material.
      c. State the estimated net cost resulting from each alternative, after subtracting revenue from sale of recycled or salvaged materials and landfill tipping fees saved due to diversion of materials from the landfill.
   5. Provide alternatives to landfill for at least the following materials:
      a. Aluminum and plastic beverage containers.
      b. Corrugated cardboard.
      c. Wood pallets.
      d. Clean dimensional wood.
      e. Land clearing debris, including brush, branches, logs, and stumps.
      f. Concrete.
      g. Bricks.
      h. Concrete masonry units.
      i. Asphalt paving.
      j. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.

C. Once Owner has determined which of the landfill alternatives addressed in the Proposal above are acceptable, prepare and submit Waste Management Plan; submit within 10 calendar days after notification by Barton Malow and Owner.

D. Waste Management Plan: Include the following information:
   1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
   2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost of disposing of all project trash/waste in the landfill(s).
   3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
   4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
   5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
   6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler.

PART 3 EXECUTION

2.01 WASTE MANAGEMENT PROCEDURES

A. See Section 015000 for additional requirements related to trash/waste collection and removal facilities and services.

B. See Section 016000 for waste prevention requirements related to delivery, storage, and handling.

C. See Section 017000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

END OF SECTION 017419

SECTION 017800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project record documents.

B. Operation and maintenance data.

C. Warranties and bonds.

D. Attic Stock

1.02 RELATED REQUIREMENTS

A. Section 007200 - General Conditions and 007300 - Supplementary Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.

B. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

C. Section 017000 - Execution and Closeout Requirements: Contract closeout procedures.

D. Section 017900 - Demonstration and Training : Contract training procedures as defined in contract documents.

E. Individual Product Sections: Specific requirements for operation and maintenance data.

F. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Each submittal shall show Contractor's review stamp signed or initialed, certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information are in accordance with the requirements of the work and Contract Documents.

B. Each submittal register item shall be accompanied with a submittal cover sheet. The form must be filled out in its entirety for each respective register item and placed as the first page fo the PDF uploaded to the register item in Autodesk Build .

C. Identify: Project, Contractor, Subcontractor or supplier, pertinent drawing and detail number, and specification section number and article/paragraph, as appropriate, on each copy.

D. If a submittal register item is missing, notify Barton Malow Builders so it can be added to the system for your team to attach appropriate PDFs for submission.

E. In general, all submittals, except color, physical samples, or mockups, are to be created in a PDF document form and uploaded to their respective register number in Autodesk Build so it can be electronically reviewed by all parties necessary. Scanned copies of submittals will not be accepted.

F. All submittals will be reviewed electronically, and the Contractor will be notified in Autodesk Build when the review is complete. The status will be noted both on the PDF and in the Autodesk Build system assigned to the item.

G. Follow all other Submittal procedures as outlined in section 013000 - Administrative Requirements.

H. All closeout submittals less final warranties are to be submitted within 60 days of the punch list.

I. Provide hard copies if required by Contract Documents, or if requested by Barton Malow Builders.

J. Quality Assurance:
   1. Preparation of data shall be done by personnel:
      a. Trained and experienced in maintenance and operation of described products.

b. Familiar with requirements of this Section.
c. Skilled as technical writer to the extent required to communicate essential data.
d. Skilled as draftsman competent to prepare required drawings.

K. Types of Closeout Submittals
1. Project Record Documents (As-Built):
a. Submit documents to Barton Malow Builders upon completion of each respective scope of work as required in Contract Documents
b. Deliver Record Documents via: Redline PDF or AutoCAD.
2. Operation and Maintenance Data:
a. When applicable, submit O&M Data when submitting initial product data for each respective product
b. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed Architect/Engineer approved documents within 30 days prior acceptance for turnover.
c. Prepare data in the form of an electronic instruction manual for use by the Owner.
d. Cover Sheet: Identify each submittal with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS.". Ensure the cover sheet contains the following information:
1) Identity of general subject matter covered in the manual and all designations from the contract documents.
2) Identity of separate structures and/or equipment as applicable.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

A. Each Contractor shall be responsible to maintain at the job site one copy (either electronic or hard copy) of:
1. Current Record Drawings (As-Built).
2. Record Project Manual
3. Addenda
4. Reviewed/Approved Shop Drawings
5. Change Orders
6. Other modifications to Contract
7. Field test report records
8. Affidavits

B. Make documents available for inspection by the Owner, Barton Malow Builders and the Architect.

C. Store record documents separate from documents used for construction.

D. Do not use project record documents for construction purposes.

E. Record information concurrent with construction progress.

F. Failure to maintain documents up-to-date will be cause for withholding payments to Contractor.

G. Maintain documents in clean, dry, legible condition.

H. At the outset of the project, obtain from the Architect through the Barton Malow Builders, at no charge to the Contractor, one complete set of electronic Contract Documents (via Autodesk Build) including:
1. Technical Specifications with all addenda.
2. One complete set of prints of all Drawings.

I. Record Drawings:
1. Label each document "Project Record".

2. Do not permanently conceal any work until required information has been recorded.
3. Contractor may at his option enter required information on a "working set" and then at completion of Project transfer the information to final submitted "Project Record" set
4. Legibly mark each item to record actual construction including:
    a. Measured depths of foundations in relation to survey data.
    b. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
    c. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
    d. Field changes of dimension and detail.
    e. Changes made by PCO- Notice to Proceed.
    f. Details not on original Contract drawings.

J. Technical Specifications and Addenda:
1. Contractor shall legibly mark up each section to record:
    a. Manufacturer, trade name, catalog number and Supplier of each product and item of equipment actually installed.
    b. Changes made by PCO- Notice to Proceed.
    c. Other items not originally specified.

K. Conversion of Schematic Layouts:
1. Arrangement of conduits, circuits, piping, ducts and similar items are in most cases shown schematically on the Drawings.
2. Contractor shall legibly mark to record actual construction:
    a. Dimensions accurate to within 1" of the center of items shown schematically.
    b. Identify each item, for example, "cast iron drain", "galvanized water", etc.
    c. Identify location of each item, for example, "under slab", "in ceiling plenum", "exposed", etc.
3. The Owner, Architect or Barton Malow Builders may waive requirements of schematic layout conversion, when in their opinion, it serves no beneficial purpose. Do not, however, rely on waivers being issued except as specifically issued by the Barton Malow Builders in written form.

3.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Contractor, Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

E. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under Contract.
1. Prepare operating and maintenance data as specified in this Section and as referenced in other pertinent sections of the Technical Specifications.

F. Instruct Owner's personnel in maintenance of products and in operation of equipment and systems in accordance with the requirements in 017900 - Demonstration and Training.
1. Submit electronic copies of completed Architect/Engineer approved operation and maintenance manuals at least 30 days before execution and have hard copies on hand for use in demonstrations and instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each architectural Product, Applied Material, and Finish:
   1. Manufacturer's data, giving full information on products.
      a. Product data, with catalog number, size, composition, and color and texture designations.
      b. Information for re-ordering custom manufactured products.
   2. Instructions for Care and Maintenance and preventative maintenance:
      a. Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
   3. Moisture protection and weather-exposed products:
      a. Include product data listing applicable reference standards, chemical composition, and details of installation.
      b. Provide recommendations for inspections, maintenance, and repair.
   4. Additional information as specified in individual product specification sections.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. Content, for each unit of equipment and system, as appropriate:
   1. Description of unit or system, and component parts.
      a. Identify function, normal operating characteristics, and limiting conditions.
      b. Include performance curves, with engineering data and tests.
      c. Complete nomenclature and model number of replaceable parts.
   2. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
   3. Operating Procedures:
      a. Include start-up, break-in, and routine normal operating instructions and sequences.
      b. Include regulation, control, stopping, shut-down, and emergency instructions.
      c. Include summer and winter operating instructions.
      d. Include any special operating instructions.
   4. Maintenance Requirements:
      a. Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
   5. Provide servicing and lubrication schedule, and list of lubricants required.
   6. Include manufacturer's printed operation and maintenance instructions.
   7. Include sequence of operation by controls manufacturer.
   8. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
      a. Predicted life of parts subject to wear.
      b. Items recommended to be stocked as spare parts.
   9. Provide control diagrams by controls manufacturer as installed.
   10. Provide Contractor's coordination drawings, with color coded piping diagrams as installed.
   11. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
   12. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
   13. Include test and balancing reports.
   14. Additional Requirements: As specified in individual product specification sections.

B. Content, for each electric and electronic system, as appropriate:
   1. Description of unit or system, and component parts.
      a. Identify function, normal operating characteristics, and limiting conditions.
      b. Include performance curves, with engineering data and tests.
      c. Complete nomenclature and model number of replaceable parts.
   2. Panelboard Circuit Directories:
      a. Provide electrical service characteristics, controls, and communications; typed.
   3. Include color coded wiring diagrams as installed.
   4. Operating Procedures:
      a. Routine and Normal operating instructions
      b. Sequences required
      c. Special operating instructions
   5. Maintenance and Preventative Maintenance Procedures:
      a. Routine operations.
      b. Guide to "trouble-shooting".
      c. Disassembly, repair and re-assemble.
      d. Adjustment and checking.
   6. Include manufacturer's printed operation and maintenance instructions.
   7. List of original manufacturer's spare parts, manufacturer's current prices, and recommended quantities to be maintained in storage.
   8. Other data as required under pertinent sections of specifications.

C. Prepare and include additional data when the need for such data becomes apparent during instruction of Owner's personnel.

D. Additional requirements for operating and maintenance data: Reference sections of Technical Specifications.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 3 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Electronic searchable CD of all O&M information in PDF format (refer to 013000 - Administrative Requirements) should be provided for initial review and approval. Hard copies (number of copies as directed by Barton Malow Builders and/or project specifications) should be provided after approval of electronic copies.

E. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

F. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Contractors, Subconctractors, & Other Subordinate PartiesContractors, Subcontractors, Suppliers, and other Subordinate Parties, with names of responsible parties.

G. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

H. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

I. Text: Manufacturer's printed data, or typewritten data.

J. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
   1. Supplement product data with drawings as necessary to clearly illustrate:
      a. Relations of component parts or equipment and systems.
      b. Control and flow diagrams.
   2. Coordinate drawings with information in Project Record Documents to assure correct illustration of completed installation.

K. Arrangement of Contents: Organize each volume in parts as follows:
   1. Project Directory.
   2. Table of Contents, of all volumes, and of this volume.
   3. Operation and Maintenance Data: Arranged by system, then by product category.
      a. Source data.
      b. Product data, shop drawings, and other submittals.
      c. Operation and maintenance data.
      d. Field quality control data.
      e. Copy of each warranty, bond and service contract issued
         1) Provide information sheet for Owner's personnel, give:
            (a) Proper procedures in event of failure.
            (b) Instances which might affect validity of warranties or bonds.
   4. Design Data: To allow for addition of design data furnished by Manufacture or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.06 WARRANTIES AND BONDS

A. This section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturers' standard warranties on products and special warranties:
   1. Refer to General Conditions for terms of the Contractor’s period and obligations for Correction of the Work.

B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and Contractors required to countersign special warranties with the Contractor.

C. Obtain warranties and bonds, executed in duplicate by responsible Contractors, suppliers, and manufacturers, within 14 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until date of Owner Equipment Acceptance is determined.

D. Definitions:
   1. **Standard Product Warranties:** are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by manufacturer to Owner
   2. **Special Warranties:** are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

E. Deliver all written warranties and guarantees required by the Contract Documents with the Owner and Barton Malow Builders named as beneficiaries. All warranties shall include labor, equipment, materials and incidentals per warranty called out per specification section, shall be signed by the manufacturer or Contractor as the case may be, and countersigned by the Contractor. All written warranties shall be addressed to the Owner and delivered to Barton Malow Builders upon completion of the Project, before or with the submission of Request for Final Payment.

F. In addition to all other warranties set forth in the Contract Documents or imposed by applicable law, Contractor warrants to Owner and Barton Malow Builders that the Work will be free from defects and performed in strict conformity with the requirements of the Contract Documents. This warranty survives the termination of the Agreement and shall only be extinguished by limitation periods imposed by applicable law and shall not be limited by any other provisions contained in the Agreement, including any provisions or time periods related to Contractor's obligation to correct defective Work.

G. Contractor, upon signing the Agreement, shall obtain and forward to Barton Malow Builders any and all Standard Product Warranties for products, materials and systems covered under its Agreement. The Manufacturer's warranties do NOT relieve the Contractor from its warranty obligations under the Contract Documents.

H. Special Warranties shall become effective on a date of Owner Acceptance for equipment or systems and Substantial Completion for products and materials of the entire Project or portions thereof as agreed upon by the Project Team. As additional Work is accepted, separate warranties for those specific portions of the Work shall be issued and properly dated. Issuance of warranties for a portion of the Work shall in no way become the basis for Application for Final Payment.

I. If for any reason, the Bidder cannot warrant any part of the Work using products, materials, or construction methods that have been specified or shown, it shall notify Barton Malow Builders in writing at least ten (10) days before the bid submission date, giving reasons together with the names of products and data on substitutions it can guarantee. Should the Bidder fail to so notify Barton Malow Builders within this time period, it will be bound to all warranties and guarantees as set forth in the Contract Documents.

J. Related Damages and Losses: In correcting Work that has been rejected as defective or otherwise failing to conform to the Contract Documents, whether before or after Substantial Completion, Contractor shall bear all related costs, including, but not necessarily limited to, the cost to correct the Work, the cost to correct all other Work that has been damaged by the defective or non-conforming Work, or that is damaged in the process of correcting the defective or nonconforming Work, and the cost of all additional testing and inspections and compensation for the Architect/Engineer, Barton Malow Builders, or Owner's services and expenses made necessary thereby.

K. Reinstatement of Warranty: When Work covered by a warranty with a specific time period has failed and has been corrected by Contractor, the warranty shall be reinstated for a time period equal to the original warranty.

L. Express warranties are in addition to implied warranties and shall not limit the duties, obligations, rights, and remedies otherwise available to the Owner or Barton Malow Builders under the law. Express warranty periods shall not be interpreted as limitations on the time in which Owner or Barton Malow Builders may enforce Contractor's duties and obligation or their rights and remedies under the Agreement and applicable law.
    1. Rejection of Warranties: The Owner, Architect/Engineer, and Barton Malow reserve the right to reject warranties and to limit selection to products with warranties not in conflict with requirements of the Contract Documents.

M. Where the Contract Documents require a Special Warranty, or similar commitment on the Work or part of the Work, the Owner, Architect/Engineer, and Barton Malow reserve the right to refuse to accept the Work, until the Contractor presents evidence that the entities required to countersign such commitments are willing to do so.

N. Manual: Bind in commercial quality 8-1/2 by 11 inch (216 by 279 mm) three D side ring binders with durable plastic covers.
    1. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor, Subcontractor, and Equipment supplier; and name of responsible company principal.

2. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
3. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Contractor, Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

END OF SECTION 017800

SECTION 017900
DEMONSTRATION AND TRAINING

PART 1 GENERAL

1.01 SUMMARY

A. Procedures for demonstration of equipment operation and instruction of Owner's personnel where indicated in specific specification sections. This will be coordinated through Barton Malow Builders.

B. Training of Owner personnel in operation and maintenance is required for:
   1. Items specified in individual specification sections.

1.02 RELATED REQUIREMENTS

A. Section 017800 - Closeout Submittals: Operation and maintenance manuals.

B. Section 019113 - General Commissioning Requirements: Additional requirements applicable to demonstration and training.

C. Other Specification Sections: Additional requirements for demonstration and training.

1.03 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures; except:
   1. Submit preliminary schedule/agenda to Barton Malow Builders for Architect's and Owner's approval, listing three separate times and dates for demonstration of each item of equipment and each system, at least 2 weeks or as required prior to proposed dates for Owner's choosing.
   2. Submit 1 electronic copy of reports within one week after completion of demonstrations, that demonstrations and instructions have been satisfactorily completed.
      a. Provide time and date of each demonstration.
      b. Hours devoted to demonstration.
      c. Provide list of persons present in the form of a sign-in sheet
   3. When preparing the submittal, be sure to include video recording of actual training with the aforementioned documentation.

B. Training Reports:
   1. Identification of each training session, date, time, and duration.
   2. Sign-in sheet showing names and job titles of attendees.
   3. List of attendee questions and written answers given, including copies of and references to supporting documentation required for clarification; include answers to questions that could not be answered in original training session.

C. Video Recordings: Submit digital video recording of each demonstration and training session for Owner's subsequent use.
   1. Format: DVD Disc.
   2. Label each disc and container with session identification and date.

1.04 QUALITY ASSURANCE

A. Instructor Qualifications: Familiar with design, operation, maintenance and troubleshooting of the relevant products and systems.
   1. Provide as instructors the most qualified trainer of those contractors and/or installers who actually supplied and installed the systems and equipment.
   2. Where a single person is not familiar with all aspects, provide specialists with necessary qualifications.

B. When specified in individual Sections, require manufacturer to provide authorized representative to demonstrate operation of equipment and systems, instruct Owner's personnel, and provide written report that demonstrations and instructions have been completed.

C. Barton Malow Builders or Owner will provide list of personnel to receive instructions, and will coordinate their attendance at agreed-upon times.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PREPARATION

A. Provide substantiating information that verifies equipment has been inspected and put into operation; testing, adjusting, and balancing has been performed; and equipment and systems are fully operational.

B. Submit copies of completed approved operation and maintenance manuals (017800 - Closeout Submittals) at least 2 weeks before execution and have at hand for use in demonstrations and instructions.

3.02 DEMONSTRATION - GENERAL

A. Demonstrations conducted during system start-up do not qualify as demonstrations for the purposes of this section, unless approved in advance by Owner.

B. Demonstrations conducted during Functional Testing need not be repeated unless Owner personnel training is specified.

C. Demonstration may be combined with Owner personnel training if applicable.

D. Operating Equipment and Systems: Demonstrate operation in all modes, including start-up, shut-down, seasonal changeover, emergency conditions, and troubleshooting, and maintenance procedures, including scheduled and preventive maintenance.
   1. Perform demonstrations within 2 weeks after O&M approval and acceptance.
   2. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
   3. Contractor shall document the testing, equipment start-up and training sessions as required using the following forms by contacting Barton Malow or in Autodesk Build:
      a. **Equipment/System Acceptance** - This form will be completed for each piece of equipment or system for each contract that requires operational testing and/or training before acceptance. This will document the date of testing, the equipment tested, names of personnel that witnessed the testing and acceptance.
      b. **Owner Training Register -** This form will be completed for each contract that requires training to be provided to the Owner’s personnel. This will document the date of training, type of training, names of the personnel trained, and acceptance of the training.

E. Non-Operating Products: Demonstrate cleaning, scheduled and preventive maintenance, and repair procedures.
   1. Perform demonstrations within 2 weeks after O&M manual approval and acceptance.

3.03 TRAINING - GENERAL

A. The amount of time required for instruction on each item of equipment and system is that specified in individual sections.

B. Conduct training on-site unless otherwise indicated.

C. Contractor is responsible for camera recording the training sessions. The camera recording should be of professional quality and Barton Malow Builders should be provided with 1 copies of the in format required.

D. Do not start training until Functional Testing is complete, unless otherwise specified.

E. Training schedule will be subject to availability of Owner's personnel to be trained; Barton Malow Builders will compile and distribute the final schedule for the system demonstration, training, start-up, and turnover of all systems and equipment based on previous input provided by Contractors. Once final schedule has been distributed, failure to conduct sessions according

to schedule will be cause for Troy School District and/or Barton Malow Builders for personnel "show-up" time.

F. Review of Facility Policy on Operation and Maintenance Data: During training discuss:
   1. The location of the O&M manuals and procedures for use and preservation; backup copies.
   2. Typical contents and organization of all manuals, including explanatory information, system narratives, and product specific information.
   3. Typical uses of the O&M manuals.

G. Product- and System-Specific Training:
   1. Review the applicable O&M manuals.
   2. For systems, provide an overview of system operation, design parameters and constraints, and operational strategies.
   3. Review instructions for proper operation in all modes, including start-up, operation, control, adjustment, troubleshooting, servicing, shut-down, seasonal changeover and emergency procedures, and for maintenance, including preventative maintenance.
   4. Provide hands-on training on all operational modes possible and preventive maintenance.
   5. Emphasize safe and proper operating requirements; discuss relevant health and safety issues and emergency procedures.
   6. Discuss common troubleshooting problems and solutions.
   7. Discuss any peculiarities of equipment installation or operation.
   8. Discuss warranties and guarantees, including procedures necessary to avoid voiding coverage.
   9. Review recommended tools and spare parts inventory suggestions of manufacturers.
   10. Review spare parts and tools required to be furnished by Contractor.
   11. Review spare parts suppliers and sources and procurement procedures.

H. Be prepared to answer questions raised by training attendees; if unable to answer during training session, provide written response within three days.

I. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instructions

J. Ensure proper notice is provided to Barton Malow Builders if attendees will need jobsite access for proper training.

END OF SECTION 017900