



DLR Group

Architecture

Engineering

Planning

Interiors

Lee's Summit Middle School #4

Lee's Summit R-7 School District

Lee's Summit, Missouri

Package 2 - Structural & Site Utilities

Permit Set

Volume 1 of 1

DLR Group Project No. 13-20102-00

August 28, 2020

NOTICE: These documents are instruments of professional service, and information contained therein is incomplete unless used in conjunction with DLR Group's interpretations, decisions, observations and administrations. Use or reproduction of these documents in whole or in part without DLR Group's consent is in violation of common law, copyrights, statutory and other reserved rights, which preempts state and local public records act. Portions of these specifications were created with the MasterSpec® specification writing system, are subject to the copyright of the American Institute of Architects, and require a current MasterSpec® license for editing or use on other projects.



SECTION 000110 - TABLE OF CONTENTS

CONSTRUCTION MANAGER'S DOCUMENTS

Section 001100	Invitation to Bid
Section 002000	Bidding Requirements Master Subcontractor Agreement AIA Documents 133 and 201 – Owner Contract Master Purchasing Agreement Construction Schedule and Sequencing Plan Site Logistics Plan
Section 002100	General Provisions
Section 004100	Bid Form
Section 006000	Trade Partner Scopes of Work

ARCHITECT'S DOCUMENTS

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

Section 000105	Certifications
Section 000115	List of Drawing Sheets
Section 003132	Geotechnical Data
Section 003132A	Geotechnical Engineering Services Report

DIVISION 01 – GENERAL REQUIREMENTS

Section 011000	Summary
Section 012500	Substitution Procedures
Section 012500A	Substitution Request Form
Section 012500B	Contractor's Statement of Conformance
Section 012600	Contract Modification Procedures
Section 012900	Payment Procedures
Section 013100	Project Management and Coordination
Section 013200	Construction Progress Documentation
Section 013300	Submittal Procedures
Section 013333	Electronic Drawings
Section 013333A	AIA Document C106 Digital Data Licensing Agreement, as amended
Section 014000	Quality Requirements
Section 014200	References
Section 016000	Product Requirements
Section 017300	Execution
Section 017419	Construction Waste Management and Disposal
Section 017700	Closeout Procedures
Section 071823	Operation and Maintenance Data
Section 017839	Project Record Documents

DIVISION 02 – EXISTING CONDITIONS (NO SECTIONS INCLUDED)

DIVISION 03 – CONCRETE

Section 031230	Geofoam Concrete Forms
Section 033000	Cast-in-place Concrete

DIVISION 04 - MASONRY (NO SECTIONS INCLUDED)

DIVISION 05 - METALS

Section 051200	Structural Steel Framing
Section 052100	Steel Joist Framing
Section 053100	Steel Decking

DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES (NO SECTIONS INCLUDED)

DIVISION 07 – THERMAL AND MOISTURE PROTECTION (NO SECTIONS INCLUDED)

DIVISION 08 – OPENINGS (NO SECTIONS INCLUDED)

DIVISION 09 – FINISHES (NO SECTIONS INCLUDED)

DIVISION 10 – SPECIALTIES (NO SECTIONS INCLUDED)

DIVISION 11 – EQUIPMENT (NO SECTIONS INCLUDED)

DIVISION 12 – FURNISHINGS (NO SECTIONS INCLUDED)

DIVISION 13 – SPECIAL CONSTRUCTION (NO SECTIONS INCLUDED)

DIVISION 14 – CONVEYING EQUIPMENT (NO SECTIONS INCLUDED)

DIVISION 21 – FIRE SUPPRESSION (NO SECTIONS INCLUDED)

DIVISION 22 – PLUMBING (NO SECTIONS INCLUDED)

DIVISION 23 – HEATING VENTILATING AND AIR CONDITIONING (NO SECTIONS INCLUDED)

DIVISION 26 – ELECTRICAL (NO SECTIONS INCLUDED)

DIVISION 27 – COMMUNICATIONS (NO SECTIONS INCLUDED)

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY (NO SECTIONS INCLUDED)

DIVISION 31 – EARTHWORK (NO SECTIONS INCLUDED)

DIVISION 32 – EXTERIOR IMPROVEMENTS (NO SECTIONS INCLUDED)

DIVISION 33 – UTILITIES (NO SECTIONS INCLUDED)

END OF SECTION 000110

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL #4 – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 11 00 – INVITATION TO BID

00 11 00 Invitation To Bid

- 1.1 McCownGordon Construction is requesting Subcontractor bid proposals for the Lee’s Summit Middle School - Site & Structure Package. The project includes the construction of a new middle school and associated site work.
- 1.2 Scopes of work bidding with this package include:
 - 3A Structural & Site Concrete
 - 3B Precast Concrete
 - 4A Masonry
 - 5A Structural Steel
 - 3B Precast
 - 32A Retaining Walls
 - 33A Site Utilities
- 1.3 Bid Submittals
 - 1.3.1 Bids will be received until 2:00 PM, Tuesday, September 15th, 2020.
 - 1.3.2 All bidders are encouraged to utilize the Building Connected website for submission of online bids. If online submission is not an option, hard copies of the bid may be delivered to McCownGordon’s office at 850 Main Street, KCMO 64105. Online submission will be covered in the Pre Bid Meeting and instructions can be found in the files section of the project on Building Connected.
 - 1.3.2.1 Documents to be uploaded include:
 - 1.3.2.1.1 Bid Form
 - 1.3.2.1.2 Bid Security
 - 1.3.2.1.3 Bid Package or Scope of Work
 - 1.3.3 Bids shall be directed to Ashley Pavlu, apavlu@mccowngordon.com
McCownGordon Construction
850 Main, Kansas City, MO 64105
816.960.1111
 - 1.3.4 All bids shall be held for a period of **60** days.
 - 1.3.5 Bids shall be submitted on the provided bid form.
 - 1.3.6 Bid Bonds will be required for all bids over \$15,000.00.
- 1.4 Vendor Prequalification
 - 1.4.1 Prior to being awarded a contract, all bidders are required to qualify with McCownGordon. McCownGordon utilizes a secure online system to administer the qualification review process. Bidders who are not prequalified should contact Sam Dwyer (sdwyer@mccowngordon.com) or any member of the project team for access to McCownGordon’s qualification application.
 - 1.4.2 By submitting a bid, your company agrees that it will submit a recent financial statement, references and safety history prior to award of a contract
 - 1.4.3 Subcontractor will execute a copy of MGC’s current MSA.

00 11 17 Bid Document Access

- 1.1 Documents can be accessed through bid solicitation software www.buildingconnected.com and from the link below:

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL #4 – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 11 00 – INVITATION TO BID

1.1.1 <https://app.buildingconnected.com/public/565cdb606895000f004164f2>

1.2 All questions shall be submitted via e-mail to the contact noted above.

00 11 18 Additional Project Information

1.3 A virtual pre-bid meeting will be held for this project on September 8th, 2020 @ 2:00 PM. Trade partners interested in visiting the site, may do so at their convenience.

1.3.1 Pre Bid invitation

Topic: Lee’s Summit Middle School – Site & Structure Package Pre Bid

Time: September 8th, 2020 @ 2:00 PM Central Time (US and Canada)

Join Zoom Meeting

<https://mccowngordon.zoom.us/j/94582530257>

Dial in Numbers

888 475 4499 US Toll-free

877 853 5257 US Toll-free

Meeting ID: 945 8253 0257

1.4 Milestone Schedule Dates (per schedule included in bidding requirements)

1.4.1.1 Bid Date Tuesday, September 15th, 2020 by 2PM CT

1.4.1.2 Construction Start September 30th, 2020

1.4.1.3 Construction Completion May, 2022

1.5 All questions shall be submitted via e-mail to the contact noted above.

1.5.1.1 All questions shall be submitted no later than 12:00 pm, Thursday, September 9th, 2020.

1.6 Project Tax Status

1.6.1.1 Project is NON-TAXABLE

1.7 Project Labor Requirements

1.7.1.1 Project requires union labor for the following trades: Structural Concrete, Rough Carpentry, Overhead and Coiling Doors, Drywall and Acoustical Ceilings, Carpet and Resilient Flooring, and Resinous Flooring.

1.7.1.2 This project DOES require Certified Payroll

1.7.1.3 Work to occur during normal business hours.

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURAL PACKAGE

BID PACKAGE 00 20 00 – BIDDING REQUIREMENTS

00 20 01 Definitions

- 1.1 Bidding Documents include the Bidding Requirements and the proposed Subcontract Documents. The Bidding Requirements consist of the Invitation to Bid, Instructions to Bidders, the Project Manual, and other sample Bidding and Subcontract forms. The proposed Subcontract Documents consist of the Agreement between the Owner and Contractor, General Conditions of the Contract for Construction (and any Supplementary or other Conditions), Form of Agreement between Contractor and Subcontractor, Material and Equipment Contract between Contractor and Supplier, Drawings, Specifications, and all Addenda issued prior to execution of the Subcontract.
- 1.2 Definition set forth in the Subcontract Documents, is applicable to the Bidding Documents.
- 1.3 The Subcontract is the Agreement between the Contractor and Subcontractor for the performance of work by a Subcontractor or the Material and Equipment Contract between the Contractor and Supplier for the supply of materials or equipment by a Supplier.
- 1.4 The Work is the work to be performed or materials and equipment to be supplied under the scope of work of a Subcontract.
- 1.5 Addenda are written or graphic instruments issued by the Architect prior to the execution of the Subcontract which modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections.
- 1.6 A Bid is a complete and properly signed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.
- 1.7 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or deleted for sums stated in Alternate Bids and Unit Prices.
- 1.8 An Alternate Bid (or Alternate) is an amount stated in the Bid 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 and the Specifications, is accepted.
- 1.9 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or labor, as described in the Bidding Documents.
- 1.10 A Bidder is a person or entity who submits a Bid.
- 1.11 A Sub-Bidder is a person or entity who submits a Bid to a Bidder for materials or labor for a portion of the Work.

00 20 02 Bidder's Representations

- 1.1 Each Bidder by making his Bid represents that:
 - 1.1.1 The Bidder has read and understands the Bidding Documents and his Bid is made in accordance therewith.
 - 1.1.2 The Bidder has visited the site, has familiarized himself with the local conditions under which the work is to be performed, and has correlated his observation with the requirements of the proposed Subcontract Documents.
 - 1.1.3 The Bid is based upon the materials, systems, and equipment required by the Bidding Documents without exception.

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURAL PACKAGE

BID PACKAGE 00 20 00 – BIDDING REQUIREMENTS

- 1.1.4 The Bidder will not later request, and will not later expect to receive, additional payment for work related to conditions which can be determined by examination of the site and the Bidding Documents.
- 1.2 Bidders and Sub-Bidders shall promptly notify the Contractor of any ambiguity, inconsistency, or error which they may discover upon examination of the Bidding Documents or of the site and local conditions.
- 1.3 All interpretations, corrections, or changes of the Bidding documents will be made by Addendum. Interpretations, corrections, or changes made in any other manner will not be binding and Bidders shall not rely upon them.

00 20 03 Bidding Documents

- 1.1 Bidding Documents will be distributed by the Contractor only.
- 1.2 Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner, the Contractor, nor the Architect assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 1.3 The Owner, Contractor or the Architect in making copies of the Bidding Documents available on the above terms do so only for the purpose of obtaining Bids on the work and do not confer a license or grant for any other use.
- 1.4 Plans, specifications, and addenda are available to pre-approved bidders via the bid invitation system and may be obtained by contacting Tiffany Kirkwood (see Invitation to Bid).

00 20 04 Interpretations and Substitutions

- 1.1 Bidders and Sub-Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which must reach the Contractor at least seven (7) days prior to the date for receipt of Bids. All questions are to be directed to Ashley Pavlu (apavlu@mccowngordon.com) with McCownGordon Construction Company.
- 1.2 Reference in the specifications to any product, material, type, or form of construction establish a minimum standard of quality, spare parts availability, strength, durability, usefulness, serviceability, operating cost, convenience and purpose intended and shall not be construed as limiting competition. Reference to standard specifications for basic materials shall not be modified for any substitutions proposed. Proposed substitutions shall be submitted by the Bidder to the Architect in writing no later than ten (10) days prior to Bid Date. The submittal shall clearly describe the substitution for which approval is requested, including all drawings and data necessary to demonstrate acceptability. A statement setting forth the changes in other materials, equipment, or other portions of Work, including changes in the work of other contracts that incorporation of the proposed substitution would require shall be included in the submittal. The burden of proof of the merit of the proposed substitution is on the Bidder. All acceptable substitutions will be approved in Addenda prior to Bid Date. Bidders shall not rely upon approval made in any other manner. Requests for substitutions other than as qualified above will not be considered.
- 1.3 No substitutions will be allowed subsequent to the award of a Subcontract except as specifically provided in the General Requirements.

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURAL PACKAGE

BID PACKAGE 00 20 00 – BIDDING REQUIREMENTS

00 20 05 Addenda

- 1.1 Notice of Addenda will be emailed or faxed to all who are known to have received a complete set of Bidding Documents.
- 1.2 No Addenda will be issued later than (5) calendar day prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.
- 1.3 Each Bidder shall ascertain, prior to submitting his Bid, that he has received all Addenda issued and shall acknowledge their receipt on the Bid.
- 1.4 Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.

00 20 06 Form and Style of Bids

- 1.1 Bid proposals shall be delivered as stipulated in the Invitation to Bid.
- 1.2 A Bid shall state the total lump sum price to do all Work described in the Bidding Documents under a single contract. Dollar amounts shall be stated in both words and figures, and in case of discrepancy between the two, the amount written in words shall govern.
- 1.3 Bidder shall bid all Alternate and Unit Prices requested in the Bidding Documents. The bid for Alternate and Unit Prices described in the Bidding Documents shall include all overhead, profit, and the cost of all changes required from the Base Bid conditions in order to incorporate such Work.
- 1.4 Each Bid shall be executed and signed (with name and title typed below the signature) by and in the name of the Bidder. **All bids shall be submitted on the bid form provided.**

00 20 07 Modification or Withdrawal of Bid

- 1.1 Bids may not be withdrawn, modified, or canceled for a period of time as identified in specification section 00 01 00 Advertisements and Invitations following the time and date finally designated for the receipt of Bids.
- 1.2 Prior to the time and date finally designated for receipt of Bids, any Bid submitted may be modified or withdrawn by notice to the Contractor at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder.

00 20 08 Consideration of Bids and Subcontract Award

- 1.1 Bids will not be accepted after the actual time and date established for receipt of Bids. Bidders shall assume full responsibility for timely delivery at the location designated for receipt of Bids.
- 1.2 Contractor, with input from Owner and Architect, shall have the right to reject any or all Bids and further to waive all informalities in bidding when deemed in the Owner's best interest.
- 1.3 In awarding a Subcontract the Contractor may take into consideration the Bidder's skill, facilities, capacity, experience, responsibility, previous work record, and financial standing and the necessity of prompt and efficient completion of work herein described. Inability of any Bidder to meet the requirements mentioned above may be cause for rejection of the Bid.

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURAL PACKAGE

BID PACKAGE 00 20 00 – BIDDING REQUIREMENTS

- 1.4 Bidders to whom a Subcontract is awarded shall execute a Subcontract with the Contractor within seven (7) days after written notice of the award.
- 1.5 The Contractor shall have the right to waive informalities or irregularities in a Bid received and to accept the Bid which, in the Contractor's judgment, with input from the Owner and Architect, is in the Owner's best interest.
- 1.6 The Owner and Contractor, may interview the apparent low Bidders before Subcontracts are awarded. The interview will be to ask the Bidder questions about materials, labor, duration, scope of work, the Subcontract Documents, or the Bidder's Prequalification Statement.
- 1.7 The Owner and Contractor shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided for in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and the Alternates accepted.
- 1.8 The Bidder acknowledges the right of the Owner or Contractor to reject any or all bids and to waive any formality or irregularity in any bid received. In addition, the Bidder recognizes the right of the Owner or Contractor to reject a bid if the Bidder failed to furnish any required bid security, or to submit the data required by the bidding documents, or if the bid is in any way incomplete or irregular.

00 20 09 Post Bid Information

- 1.1 The Contractor will prepare and forward two (2) original drafts of the Master Subcontract/Work Order with the notice of award of Subcontract to the successful Bidder. Bidder shall return properly executed drafts of the Subcontract, together with required evidence of insurance, and Performance and Payment Bonds, if required, to the Contractor within seven (7) calendar days.
- 1.2 If the successful Bidder is doing business under a fictitious name, he shall furnish at no cost to Contractor, if requested, a properly certified copy of his current Certificate of Registration of Fictitious Name from the applicable state and such certificate shall remain on file with the Contractor. No Subcontract will be executed by the Contractor until such certificate is furnished by the Bidder unless there already is on file with the Contractor such a current certificate, during the period of time for which such current certificate remains in effect.
- 1.3 Any successful Bidder which is a corporation organized in a state other project location state shall furnish, at its cost, to the Contractor a properly certified copy of its current Certificate of Authority and License to do business in the applicable state. No Subcontract will be executed by the Contractor until such certificate is furnished by the Bidder unless there already is on file with the Contractor such a current certificate, in which event no additional certificate is required.
- 1.4 Any successful Bidder which is a corporation organized in the applicable state shall furnish at its own cost to the Contractor, if requested, a Certificate of Good Standing issued by the Secretary of State; such certificate to remain on file with the Contractor.

00 20 10 Bond Requirements

- 1.1 All bidders shall be capable of providing payment and performance bonds for the full amount of the contract sum.
- 1.2 The Bidder shall furnish the cost to provide the following surety bonds in addition to the base bid:
 - 1.2.1 Performance Bond - To cover the faithful performance of the Subcontract.
 - 1.2.2 Labor and Material Payment Bond - To ensure payment of all obligations arising under the Subcontract

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURAL PACKAGE

BID PACKAGE 00 20 00 – BIDDING REQUIREMENTS

- 1.3 Bonds shall be written by a surety acceptable to the Contractor.
- 1.4 If bonds are required, the Bidder shall deliver the Labor and Material Payment Bond and Performance Bond to the Contractor no later than the date of execution of the Subcontract. If the Work is to be commenced prior thereto in response to a letter of intent, the Bidder shall, prior to commencement of the work, submit evidence satisfactory to the Contractor that such bonds will be furnished and delivered in accordance with this Subparagraph.
- 1.5 Unless otherwise provided, the bonds shall be written on the Contractor's bond forms as described in 00 20 12 or any bond forms acceptable to the Contractor at its sole discretion. Bonds shall be written in the full amount of the Subcontract Sum.
- 1.6 The bonds shall be dated on or after the date of the Subcontract Work Order.
- 1.7 The Bidder shall require the Attorney-In-Fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the Power of Attorney.

00 20 12 Form of Agreement Between Contractor and Subcontractor

- 1.1. Master Subcontract Agreement is attached to the end of this section.

00 20 12.1 Form of Agreement Between Owner and Contractor

- 1.1. AIA 133 and 201 Agreement is attached to the end of this section

00 20 13 Form of Agreement Between Contractor and Supplier

- 1.1. Master Purchasing Agreement is attached to the end of this section.

00 20 15 Miscellaneous Instruction to Bidders

- 1.1 Unit Prices
 - 1.1.1 All unit prices stated on the Bid by the Bidder are prices per unit of measurement for materials or services that will be added to or deducted from the Subcontract Sum by Change Order if quantities of work required are increased or decreased. All unit prices shall include necessary material, labor, equipment, overhead, profit, supervision, permits, and fees.
- 1.2 Alternates
 - 1.2.1 Drawings and general provisions of the Subcontract, including General and Supplementary Conditions and other Division-1 Sections, apply to Alternates.
 - 1.2.2 Bidders shall submit on the Bid the amount to furnish and install the Alternates as detailed on Drawings and Specifications, and as herein described.
 - 1.2.3 The Bidder shall be responsible for all trades, materials, and workmanship involved in the Alternates to the same extent as though they were specified in the Base Bid.
 - 1.2.4 Alternates which are accepted that affect other alternates will be negotiated with the Bidder after taking bids.
- 1.3 The Contractor shall have the right to exercise or reinstate any alternate any time within 60 days after the signing of the Subcontract at the prices quoted on the Bid.



850 Main
Kansas City, MO 64105
816-960-1111 Fax: 816-960-1182
Construction Management/Design-Build/General Contractor

MASTER SUBCONTRACT AGREEMENT

This Master Subcontract Agreement is entered into this _____ day of _____, _____ by and between McCOWN GORDON CONSTRUCTION, LLC ("Contractor") and _____ ("Trade Partner").

WHEREAS, Contractor may, from time to time, enter into contracts with Owners or other parties to furnish labor, materials, supplies, equipment and facilities in connection with certain construction projects, hereinafter called "the **Project**," and

WHEREAS, in order to facilitate and expedite the work to be performed on each such Project and avoid the need to separately negotiate many of the terms and conditions of the parties' agreements on them, the parties desire to agree to certain of the terms and conditions which shall govern with respect to all work performed on such Projects,

It is, therefore, AGREED as follows:

1. TERMS OF AGREEMENT.

1.1 Contractor and Trade Partner agree, as to each Project identified in writing as being governed by this Master Subcontract Agreement, to perform it in accordance with the contract between Contractor and Owner and all documents and other matters made part of said contract, including the plans, specifications and conditions for said Project prepared by the Project Architect or Engineer therefor, herein referred to as "**Architect**," together with modifications thereof and addenda thereto, herein collectively called the "**Prime Contract**," all of which will be incorporated by reference and expressly made a part of this agreement at such time as they are specifically identified in an individual Work Order executed by the parties provided such documents were given to or made available to Trade Partner. The parties agree that the form of Work Order which they shall use is that on **ATTACHMENT 1** to this Master Subcontract Agreement.

1.2 Trade Partner accepts the relationship of trust and confidence established by this agreement and covenants with Contractor to cooperate with the Owner and utilize Trade Partner's best skill, efforts and judgment in furthering the interests of Contractor; to furnish efficient business administration and supervision; to make best efforts at all times to furnish an adequate supply of workers and materials; and to perform the Work in the best and most expeditious and economical manner consistent with the Prime Contract. Trade Partner agrees to be bound to Contractor by all terms of the Prime Contract applicable to this Master Subcontract Agreement, or any individual Work Order placed pursuant to this Master Subcontract Agreement provided such documents were given to or made available to Trade Partner. Trade Partner shall fully assume and perform all such responsibilities of Contractor in connection with the performance of everything subcontracted to Trade Partner. Trade Partner will perform all Work Orders so as not to violate any terms, covenants or conditions of the Prime Contract and where any provision of the Prime Contract between Owner and Contractor is inconsistent with any provision of this Master Subcontract Agreement or individual Work Order, the Master Subcontract Agreement or Work Order shall govern.

2. **ACCEPTANCE OF SITE AND WORK REQUIREMENTS.** Prior to signing any individual Work Order, Trade Partner understands that it will have been expected to have already examined the Project site and access thereto, and the Prime Contract or any portions of it which it believes may pertain to the work of Trade Partner. Trade Partner's execution of an individual Work Order shall constitute Trade Partner's acknowledgement that it has been given access to all locations and all documents and other information it deems necessary for the proper preparation of its bid. Trade Partner represents that it is licensed and qualified to do such work, and that it has the machinery, equipment, personnel and experience to perform the work as specified within the time allotted. Contractor may at any time require evidence of Trade Partner's current and ongoing ability to complete the work. Trade Partner shall not be entitled to rely on the accuracy or completeness of any information about the site provided by the Owner except to the extent that the Contract Documents permit such reliance. Otherwise, Trade Partner shall take any and all steps it deems appropriate to ascertain for itself the characteristics of the Project site.

3. THE WORK

3.1 Trade Partner shall furnish all labor, qualified supervisory personnel, materials, supplies, equipment, tools, facilities and everything else necessary to perform, and shall perform, all the work for the construction and completion of the part(s) of the work of the Prime Contract as contained in **EXHIBIT "A"** to the Work Order - **Scope of Work**, in accordance with the schedule and sequence given to it from time to time, and in compliance with the plans, specifications and other contract documents contained in **EXHIBIT "B"** to the Work Order - **List of Contract Documents**, **EXHIBIT "C"** to the Work Order - **Project Schedule**, and **EXHIBIT "D"** - **Project-Specific Insurance Requirements**, each of which shall be attached to each specific Work Order, and which upon signing the Work Order shall become a part of this Subcontract.

3.2 Before and while proceeding with the work under a Work Order, Trade Partner shall accurately check everything previously, or currently being done by other trades, in any way relating to Trade Partner's work and shall determine the correctness of same. Trade Partner has a continuing obligation to review work that precedes it and if it later is found that there is an error that should have been reasonably noted and reported by the Trade Partner to Contractor, then the Trade Partner waives any claim to additional costs, expenses or damage resulting from.

3.3 All local codes affecting Trade Partner's performance of its work have been investigated by Trade Partner and compliance with such requirements is included as part of this Master Subcontract Agreement.

3.4 No materials shall be delivered to the Project site or storage areas that are not for use on this Project, and no equipment shall be delivered to or allowed to remain on the site except when it is needed for the execution of Trade Partner's Work. For all temporary equipment, construction equipment and scaffolding brought to the site, Trade Partner shall provide Contractor with written documentation, including make, model and (where available) serial numbers, and Trade Partner shall identify whether each piece of such equipment is owned or rented. Lien waivers for all rented equipment will be required prior to payment to Trade Partner of progress or final payments.

4. PAYMENT

4.1 Contractor agrees to pay Trade Partner for said work and everything required of Trade Partner in and by the Work Order, the sum set forth in the Work Order, subject to additions and deductions for changes as may be agreed upon in advance in writing and subject to the other terms of the Prime Contract, this Master Subcontract Agreement or the Work Order. Trade Partner shall submit to Contractor a schedule of values allocating the Work Order Price among the various line items associated with the items covered by a Work Order. It is agreed that no payments are to be made to Trade Partner until an appropriate Schedule of Values is agreed upon

by Contractor and Trade Partner, and unless Trade Partner's rate of progress, work done and materials and services furnished are satisfactory to Owner and Contractor.

4.2 Applications for Payment shall be submitted using Contractor's "Application and Certification for Payment form, **ATTACHMENT 2** to this Master Agreement. Payment shall be made only for actual work performed to the satisfaction of Owner and Contractor, and only upon Trade Partner's evidence of payment of all of its job-related obligations, including, if requested by Contractor, delivery of partial lien waivers on the form of **ATTACHMENT 3**, a current list of all sub-Trade Partners, equipment lessors and suppliers with contract values in excess of \$5,000 whose work or materials or equipment were performed or delivered during the period covered by the application for payment on the form of **ATTACHMENT 4**, and an affidavit attesting to the completeness and accuracy of the information on the Sub-Trade Partner and Materialmen List in the form of **ATTACHMENT 5** to this Master Subcontract Agreement. Payment shall be due Trade Partner seven (7) days after Contractor receives payment from Owner, less retainage as may be set forth in the Work Order which Contractor may withhold from payments otherwise due Trade Partner. In the event any items performed by Trade Partner are to be paid for at unit prices, the quantities shown are estimates only and the amounts to be paid Trade Partner shall be determined by the actual quantities of work performed or material furnished, or both, and as determined and paid for by Owner or its authorized representatives.

4.3 If the Contract Documents allow payment for stored materials, as a condition to payment, Trade Partner shall submit documentation using the bill of sale and bailment agreement forms on **ATTACHMENTS 6 AND 7** to Contractor and Owner to verify Trade Partner's title to the goods and delivery to an insured warehouse (unless the Contract Documents require the use of different forms). Trade Partner shall remain responsible for insuring and safeguarding stored materials until actually installed and accepted by Owner.

4.4 Contractor shall have the right to withhold, out of monies otherwise due to Trade Partner: the sum assessed against Contractor, or the actual cost to Contractor (whichever is greater) per day for each and every day required to complete the work beyond the time allowed in the Work Order or the Project Schedule therefor, including but not limited to liquidated damages or actual damages assessed against Contractor on account of Trade Partner's acts or omissions; any sums which Trade Partner has not paid to vendors, sub-Trade Partners, taxing authorities or other obligations associated with the Work, for or on behalf of its employees, such as withholding taxes or pension contributions, or penalties thereon, until such time as Trade Partner provides written evidence from the appropriate entity that Trade Partner's obligations have been satisfied; and an amount equal to damages arising out of Trade Partner's work or its failure to perform in accordance with this Master Subcontract Agreement or individual Work Order, including damages sustained by Contractor, until indemnity acceptable to Contractor is furnished by Trade Partner provided Trade Partner was notified in writing and has had 10 calendar days to satisfy its obligations.

4.5 Trade Partner agrees that all funds received shall be used first for payment of labor, material, equipment, supplies and services related to this work and said monies shall not be diverted to satisfy obligations of Trade Partner on other contracts until all obligations under or in connection with this Subcontract are satisfied in full. Contractor may withhold any payment or pay directly or by joint check to sub-Trade Partners or suppliers unless Trade Partner has furnished Contractor with evidence satisfactory to it that Trade Partner has paid such debts in full and performed all other obligations incumbent on Trade Partner provided Trade Partner was notified in writing and has had seven (7) days to satisfy its obligations.

4.6 Final payment under any Work Order shall be made within ten (10) days after all of the following items have occurred: (a) completion of said Project; (b) written acceptance thereof by Owner and Architect; (c) Owner has made full and final payment therefor to Contractor; (d) full releases, on the form of **ATTACHMENT 8**, of all claims against Owner, Contractor and the Project by Trade Partner and its sub-Trade Partners and suppliers; and (e) consent of Trade Partner's surety, if applicable.

4.7 Trade Partner understands that Contractor intends to pay Trade Partner out of payment proceeds received from Owner for Trade Partner's work. Accordingly, payment shall be made to Trade Partner within 7 days of receipt of such funds from Owner. In the event that Owner does not pay Contractor for the work of Trade Partner for reasons not due to the fault of Trade Partner, Trade Partner agrees that it shall not take legal action until it has given Contractor a reasonable time to pursue collection of funds against the Owner. Nothing stated in this paragraph shall prevent Trade Partner from filing a mechanic's lien against Owner's property for such non-payment, however, nor to preclude Trade Partner from taking other action sooner if such action is required to avoid forfeiture under a statute of limitation or other time limitation for action.

4.8 Under no circumstances shall prior passage of title to Owner or Contractor, prior payment by Owner or Contractor, acceptance of such release or acceptance, occupancy, use or installation of any work performed or articles delivered hereunder be deemed to (a) constitute acceptance or approval of work done under any Work Order, (b) affect the responsibility of Trade Partner to perform as required, (c) affect the right of Contractor or Owner to reject any such work determined upon inspection not to be in the condition required, or (d) be acceptance of defective work or a waiver of Contractor's rights and Trade Partner's obligations under this Master Subcontract Agreement or any individual Work Order. Without limitation on the foregoing, any acceptance of Trade Partner's work shall not relieve or discharge Trade Partner or its surety from any of its obligations and warranties.

5. **SCHEDULE OF WORK.** Trade Partner shall begin work as specified in the Work Order, and shall carry the same forward promptly, efficiently, and at a speed stated in the schedule. Trade Partner recognizes that revisions in the planning schedule are inherent in the nature of construction, which may result in revisions to the schedule of work during construction. Trade Partner acknowledges that Contractor cannot guarantee that Trade Partner will be able to start on any particular date, or continue without interruption once started. In the event that Trade Partner falls behind schedule, due to events not the fault of Contractor, Trade Partner shall work additional required hours, bring in additional materials or equipment, or take such other steps as may be deemed necessary in the opinion of Contractor to get back on schedule at no additional expense to Contractor.

6. **SUB-TRADE PARTNERS.** Prior to receiving its first payment under a Work Order, Trade Partner shall furnish to Contractor a complete list of its vendors and sub-Trade Partners on the form **ATTACHMENT 4**, to permit Contractor to ascertain on an on-going basis that such firms are complying with all pertinent requirements of the Prime Contract, this Master Subcontract Agreement or any Work Order, as well as to verify that these firms have received payment from Trade Partner from funds paid by Contractor. Trade Partner shall have a continuing duty to update its list of sub-Trade Partners and vendors, and Trade Partner's failure to do so may result in withholding of funds by Contractor in order to protect against liens and bond claims. Trade Partner shall incorporate into all sub-subcontracts and purchase orders the requirements of the Prime Contract, this Master Subcontract Agreement or any Work Order including, but not limited to, insurance, indemnification, warranties and remedies. All of Trade Partner's sub-subcontracts and purchase orders shall contain a provision permitting the assignment of such agreements to Contractor in the event of default by Trade Partner.

7. DELAYS

7.1 Trade Partner shall be responsible to Contractor for the damages which Contractor may incur by reason of any delays caused or contributed to by Trade Partner, its agents, employees, suppliers or sub-Trade Partners, including but not limited to liquidated or actual damages assessed by the Owner against Contractor, provided Trade Partner was notified in writing and it was finally determined the delay was caused by the Trade Partner, claims by other Contractors or Trade Partners, as well as Contractor's own damages. If liquidated damages are included in the Prime Contract, they will be identified on the Work Order. In the event that claims are made by others against Contractor due to delays caused by Trade Partner, Trade Partner shall indemnify, defend and save harmless Contractor from all loss, damage and expense, including attorney's fees, associated with such claims.

7.2 Should Trade Partner be delayed in the performance of its work, Trade Partner may be entitled to an extension of time for performing its work, but only to the extent actually allowed to Contractor by Owner under the terms of the Prime Contract. No claim for an extension of time or damages shall be allowed to Trade Partner under any circumstances unless Trade Partner gives a written notice of a potential claim to Contractor within three (3) working days from the time of the beginning of the occurrence causing the delay, or such shorter time as may be provided in the Prime Contract.

8. **TIME.** Time is of the essence and all of the work of Trade Partner shall be fully and properly completed within the time required to permit Contractor to timely complete and fulfill all of its obligations under the Prime Contract.

9. **DEFECTIVE WORK.** In the event that any of Trade Partner's work is deemed to be defective by Contractor, Owner, Architect or any inspecting agent, building inspector or other governing approval body, Trade Partner shall immediately remove and replace that work at its own expense upon written demand by Contractor, if the Trade Partner has not responded within three (3) days of written notification or Contractor will arrange for the defective work to be removed and replaced at Trade Partner's expense.

10. **CHANGES.** Contractor may, at any time, without invalidating this Master Subcontract Agreement or individual Work Order, make any changes or alterations in the work covered by this Subcontract or order extra or additional work which it may deem expedient. No directive to perform work different or in addition to the Scope of Work of a Work Order shall be binding on Contractor unless issued in writing by an authorized representative of Contractor. With respect to such changes, or alterations, or additional or extra work, Contractor shall not be liable to Trade Partner for a sum greater than Contractor obtains from Owner on behalf of Trade Partner for such changes, unless expressly agreed upon in writing in advance. Trade Partner will not be paid for any additional or extra work or changes unless Contractor gives a written order to Trade Partner before the work is performed or changes ordered. Trade Partner shall comply with all requirements of the Prime Contract for documentation and submission of claims for additional time or money, and submit such claims to Contractor in itemized detail in time for Contractor to review them prior to required submission to Owner. If the Prime Contract does not specify a time limitation for notice of cost or time impact from changes, Trade Partner shall provide such written notice to Contractor in no more than five (5) working days from receipt of the order by Trade Partner.

11. **WARRANTY.** Trade Partner shall perform Contractor's warranty to Owner under the Prime Contract for all work under any Work Order. Further, Trade Partner unconditionally warrants that all labor, material and services furnished by it are in strict accordance with the Prime Contract, and Trade Partner shall promptly make good upon demand any defects, including the repair of the work of any other Contractor affected, to the entire approval of Contractor, Owner and Architect regardless of the expiration of any manufacturer's warranty, as directed by Contractor. Should Trade Partner refuse or neglect to proceed to promptly correct rejected materials or workmanship within three (3) calendar days of written notice from Contractor, Contractor shall have the right to have the defects remedied at the expense of Trade Partner, and deduct such amounts from sums otherwise due Trade Partner. The obligations set forth in this paragraph are continuing and shall survive occupancy, completion of the construction project, acceptance of work, or final payment to Trade Partner.

12. INDEMNITY

12.1 Trade Partner agrees to indemnify, defend and hold harmless Contractor and Owner and such other parties as identified in the Prime Contract from and against (i) all claims, causes of action and expenses arising out of injury to (including death of) any persons or damage to property alleged to have been caused in whole or in part by any act or omission of Trade Partner, its agents, employees, sub-Trade Partners, suppliers or invitees, or growing out of or incidental, directly or indirectly, to the performance of the Subcontract regardless of how such

injury, death or damage be caused, and (ii) all claims, causes of action and expenses caused by any act or omission (whether or not negligent) of Trade Partner, its agents, employees, sub-Trade Partners, suppliers or invitees, in the prosecution of the Subcontract. Trade Partner shall defend all suits brought against Contractor and/or Owner on account of any such claims of liability, shall pay any settlements made or judgments rendered with respect thereto, and shall reimburse and indemnify Contractor for all expenses, including court costs and reasonable attorneys' fees, incurred by Contractor.

12.2 The obligations set forth in this paragraph, or any other indemnity obligations set forth in this Subcontract, are continuing and shall survive occupancy, completion of the construction project, acceptance of work, or final payment to Trade Partner.

13. LIENS

13.1 Trade Partner shall fully indemnify, defend and hold harmless Contractor and Owner against any and all liens, claims, security interests or conditional bills of sale (hereinafter collectively referred to as "liens") of laborers or material men of Trade Partner and sub-Trade Partners of Trade Partner. If at any time there shall be evidence of a lien for which Owner or Contractor might become liable, which in any way relates to Trade Partner's work, Contractor shall have the right to retain, out of any payments then due or thereafter to become due, an amount sufficient to completely indemnify and protect Contractor and Owner against such lien.

13.2 Trade Partner shall promptly remove or discharge any lien (unless Trade Partner and Contractor have not been paid for the work covered by the lien by Owner), and if Trade Partner shall fail to do so within the lesser of the period set forth in the Prime Contract, if any, or three (3) working days after delivery of written notice from Contractor, Contractor shall, in addition to its other rights hereunder, have the right to remove and discharge the same, in order to protect its interest and as authorized agent of Trade Partner, at the expense of Trade Partner.

14. **INSURANCE.** Trade Partner agrees to procure and carry at its cost, until completion of this Subcontract and all applicable warranty periods, all insurance as evidenced on Trade Partner's certificate attached hereto and on **ATTACHMENT 9** unless greater insurance coverage is required by a specific Work Order. **Trade Partner must submit a copy of the additional insured endorsement, notice of cancellation endorsement, and insurance certificates, written on a standard ACORD form,** in the format shown on **ATTACHMENT 10**, stating that all coverages are in effect and will not be canceled without thirty (30) days' prior written notice to Contractor and such certificates **must be received by Contractor prior to commencement of Work.** Contractor may require that Trade Partner provide complete certified copies of the insurance policies required by **ATTACHMENT 9**. All insurance is to be issued by companies and with liability limits reasonably acceptable to Contractor. If Trade Partner should sub-subcontract any of its Work to a third party or issue purchase orders, Trade Partner shall see to it that such third party maintains such insurance and shall furnish evidence thereof to Contractor. Specifically, if Trade Partner's scope of work includes any design responsibility, Trade Partner and its licensed design professional shall furnish the professional liability insurance described on **ATTACHMENT 9**.

15. **SURETY BONDS.** If designated on a Work Order, Trade Partner shall provide a Performance Bond and a Payment Bond with a penal sum equal to the full amount of the Work Order, each naming Contractor as obligee in a sum not less than the amount of the Subcontract and in the form of **ATTACHMENTS 11 and 12**, unless otherwise agreed by Contractor, and with a corporate surety on each bond acceptable to Contractor. Such bonds shall be adjusted in penal sum in connection with the issuance of Change Orders to Trade Partner, through delivery of a Rider to the bonds where necessary to assure the obligation of the surety. No payment shall be due to Trade Partner until such bonds are furnished. The bonds shall assure the faithful performance of all of the stipulations of the Subcontract for which they are written and the payment of all persons furnishing labor, services, equipment or materials used or purchased for use in the work covered that Subcontract. In the event that the amount of the

Subcontract is increased, the bonds shall also automatically be increased in amount, without prior notice to the surety, and it will be the responsibility of Trade Partner to include in its proposals the cost of additional bond premiums to cover additional premiums.

16. TERMINATION/SUSPENSION. In the event the Prime Contract is terminated or halted under its terms or by an order of court or other public authority, or Contractor elects to take action pursuant to paragraph 17.2 below, Contractor shall, at its sole option, have the right to terminate or suspend any Work Order as of the date of such action. In the event that a Work Order is terminated, Trade Partner shall only be entitled to the actual, direct costs of all labor and material expended on the job prior to the effective date of the termination or suspension plus a sum equal to fifteen percent (15%) of all such labor and material to cover overhead and profit. In no event shall Trade Partner be entitled (a) to anticipatory profit or damages for any termination or suspension; (b) to assert a claim in quantum meruit or any other measure of damages other than that stated herein; or (c) to receive a sum in excess of what Owner pays to Contractor for such work of Trade Partner. In the event of suspension of the work covered by a Work Order, Trade Partner shall receive such adjustment to its Subcontract as is allowed under the Prime Contract.

17. DEFAULT

17.1 If Trade Partner shall become insolvent or make an assignment for the benefit of creditors or commit any act of bankruptcy, or a petition in bankruptcy shall be filed by or against Trade Partner, and Trade Partner does not immediately furnish Contractor with evidence of its intent and ability to affirm the Subcontract and complete all work in accordance with the terms of this Subcontract and any Work Order; or Trade Partner shall fail in any manner to perform the whole or any part of any term or agreement contained or assumed herein or by Work Order or the Prime Contract, Contractor shall have the right to (a) in the event of bankruptcy, petition the Bankruptcy Court for rejection of the contract; (b) provide such materials, supplies, equipment and labor in addition to any supplied by Trade Partner, as may be necessary to complete Trade Partner's work and pay for the same and deduct the amount thereof from any money which is then or would thereafter otherwise be due Trade Partner; (c) bar Trade Partner from the Project (with or without terminating the Work Order) and enter upon the premises and take possession for use and consumption in completing the work of all the materials, supplies, tools, equipment, appliances and facilities of Trade Partner thereon or thereat and complete the work, or have the same completed by others, or any combination of such methods; (d) withhold any further payment from Trade Partner until all work provided for by Trade Partner shall be wholly finished; and (e) pay for all of the same and deduct the amount so paid from any money which is then or would thereafter otherwise be due Trade Partner.

17.2 In the event of the exercise of any default rights by Contractor as set forth above, all costs incurred, including (but not limited to) the cost of materials, labor, Trade Partners, transportation, equipment expense and rentals thereon, supplies, services, insurance, taxes, appliances, tools, utilities, power, supervision, administration, job overhead, travel, payment of claims against Trade Partner for which Contractor or Owner might be liable, or settlement of which is in the best interests of the Project, legal and accounting fees and expenses, Contractor's general overhead as allocated to the work and other costs and expenses incurred or sustained by Contractor, plus ten percent (10%) of the actual cost of the work performed, shall be deducted from the Work Order price and sums otherwise due Trade Partner.

18. LABOR AND EMPLOYMENT MATTERS

18.1 Trade Partner shall comply with the wage scales and labor policies of Contractor or as may be contained in the Prime Contract, specifically including the provisions of any agreements providing for hiring and union-security and for the making of payments under health and welfare or other fringe benefit funds or plans, to the extent that the terms of such agreements can legally be applied to the Subcontract work. Trade Partner shall not employ any workers whose employment is objected to by Contractor or Owner or which violates any such labor

agreements. Trade Partner agrees to abide by any two-gate system or other procedures designed to facilitate Project work, and agrees that its manpower, equipment and deliveries will not be delayed due to use of a two-gate system and/or union picketing. Trade Partner agrees that if any portion of such work is further subcontracted, such sub-Trade Partner shall be contractually obligated to be bound by, and observe the terms of, such collective bargaining agreements to the same extent as is herein required of Trade Partner, and that an express provision imposing such obligation upon the sub-Trade Partner shall be included in any such sub-subcontract.

18.2 In the event of a strike or stoppage of work resulting from a dispute involving or affecting the labor employed by Trade Partner or its sub-Trade Partners, Contractor may at its option terminate or suspend the right of Trade Partner to proceed on a Work Order or terminate an individual Work Order or this Master Subcontract Agreement upon 48 hours notice, and it shall be obligated only to compensate Trade Partner in accordance with paragraph 17 hereof.

18.3 Subject to Contractor's approval, Trade Partner shall employ a competent superintendent to direct its Work and shall not remove its superintendent from the work without Contractor's written approval. This superintendent shall be onsite whenever work is being performed by Trade Partner. This person shall be fluent in all languages necessary to effectively communicate with Contractor's staff and Trade Partner's staff and sub-Trade Partners. He or she shall give Contractor's Superintendent his/her home and mobile phone numbers, email address and pager number. Any employee of Trade Partner adjudged by Contractor to be unskilled or unqualified or whose employment, in Contractor's judgment, would be detrimental to Contractor's work shall promptly be removed from the Project upon receipt of written notice from Contractor and shall not be re-employed on the Project without the written consent of Contractor.

18.4 Trade Partner shall comply with all laws protecting the rights of its employees and potential employees, including Equal Employment Opportunity laws (specifically, Executive Order 11246 September 24, 1965, attached to this Subcontract as **ATTACHMENT 13**) and any relevant state acts against discrimination, and the rules, regulations, and relevant orders of the Secretary of Labor which are applicable to Trade Partner's performance of its Work. Trade Partner shall execute a copy of the EEO Compliance Certificate included in **ATTACHMENT 13**, and shall indemnify, defend and hold harmless Contractor against any expense incurred including imposition of fines which results from violation of such laws.

19. **PROTECTION OF PERSONS AND PROPERTY.** Trade Partner assumes exclusive responsibility for protection of its personnel, materials, equipment, facilities and work, including fall protection, trenches and shoring for trenches and excavations. Trade Partner shall initiate, maintain and supervise all safety precautions and programs in connection with its work, and post all necessary notices and warnings, with minimum standards as set forth on **ATTACHMENT 14** to this Master Subcontract Agreement. It shall take all reasonable precautions for the safety of, and shall provide protection to prevent damage, injury or loss to:

- (a) all its employees on the Project and all other persons who may be affected thereby;
- (b) all its work and all materials and equipment to be incorporated therein, whether in storage on or off the job site, or in transit, and regardless of whether legal title has passed to Owner under the terms of the Prime Contract, which is within the care, custody or control of Trade Partner, or any of its sub-Trade Partners;
- (c) other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

Trade Partner shall designate a responsible member of its organization at the site whose duty shall be the prevention of accidents. This person shall be deemed to be Trade Partner's superintendent unless otherwise designated in writing by Trade Partner to Contractor. Trade Partner shall notify Contractor of any injury to its employees, or employees of sub-Trade Partners, immediately. Trade Partner shall include a similar section in all its sub-subcontracts, but shall nevertheless remain responsible for all recordkeeping, notification and posting requirements, and for all violations of law, citations, fines or penalties assessed against any of its sub-Trade Partners. If applicable, Trade Partner shall furnish all required Material Safety Data Sheets (MSDS) for materials utilized in the course of its work. Trade Partner shall complete Contractor's Emergency Contact Information Form for each Work Order issued, using the form on **ATTACHMENT 15**.

20. **TAXES.** Taxes, as applicable under the Prime Contract, are included in the price to be paid to Trade Partner under a Work Order, and Trade Partner assumes and accepts exclusive liability for, and agrees to pay (a) all taxes, contributions, interest and penalties under any governmental or private old age benefit, welfare benefit, social security, pension, annuity, or unemployment compensation or insurance law, plan or program now existing or hereafter imposed, (b) all taxes and contributions required to be withheld from or in respect of wages and salaries, under any law now existing or hereafter imposed, including interest, and penalties, (c) all taxes measured by receipts in connection with the work under a Work Order and all sales, use, income, occupation or excise taxes, including interest and penalties, referable to any Work Order or this Master Subcontract Agreement or anything to be done or furnished by Trade Partner and all permits, fees and licenses relative to the work covered by this Subcontract. If a specific Project is tax-exempt, Contractor shall issue to Trade Partner documentation to verify this, and it will be included as an Exhibit to the Work Order, and Trade Partner shall comply with all procedures required to satisfy the Owner or government's requirements with respect to same.

21. **COMPLIANCE WITH LAWS.** Trade Partner agrees to comply with all federal, state or local laws, ordinances, regulations and administrative orders applicable to performance of work under a Work Order, and to fully indemnify and hold harmless Contractor on account of any violation by Trade Partner thereof. Trade Partner agrees to indemnify Contractor against any expense incurred including imposition of fines which results from Trade Partner's violation of such laws. Trade Partner acknowledges that its work area on any Project and all places where its materials, supplies, equipment and facilities are located are under its exclusive control and Trade Partner is solely responsible for the detection and abatement of any conditions not in compliance with such laws, and Contractor is not and shall not be responsible for them.

21.1 Trade Partner represents that, to the extent required by law, it is duly licensed as a construction contractor for the type of work covered by this Subcontract. Trade Partner's failure to obtain or maintain required licenses shall be a material default.

21.2 Trade Partner shall be responsible for ensuring compliance with the Immigration Reform Act of 1986 and all laws regulating immigration and the verification of eligibility for employment of persons. Trade Partner shall use Form I-9, attached hereto as **ATTACHMENT 16**, to verify that its employees are eligible for employment and keep records of such verification for the periods prescribed by the Immigration Reform Act of 1986.

21.3 Effective January 1, 2009, all Trade Partners and sub-Trade Partners with contract amounts in excess of \$5,000 on public projects in Missouri are required to verify the employment eligibility status of employees through the E-verify federal program administered by the Department of Homeland Security, U.S. Citizenship and Immigration Services. If the Project is a public one performed in Missouri, Trade Partner will be required to use E-Verify and complete an affidavit attesting to its compliance as required by R.S. Mo. 285.530.1 on a form to be included with the Work Order. At such time as Trade Partners are required to utilize E-Verify for federal contract work or other public or private work, compliance with any such requirements shall also be part of this Subcontract. Trade Partner shall indemnify, defend and hold harmless Contractor against any expense incurred including imposition of fines which results from violation of such laws.

21.4 Missouri Safety Training Requirements In the event that the Project involves a public works project in the State of Missouri, Trade Partner and all sub-Trade Partners shall provide a 10-hour OSHA construction safety program or similar program approved by the Missouri Department of Labor and Industrial Relations, to be completed on site by all employees within sixty (60) days of beginning work on the Project, pursuant to Section 292.675, Revised Statutes of Missouri. Trade Partners and sub-Trade Partners in violation of this requirement will forfeit to the public owner \$2,500 plus \$100 per day for each employee without training. Public bodies and Contractor may withhold penalties from the payment due to Trade Partner and its sub-Trade Partners. To assure compliance with this requirement, Trade Partner and all sub-Trade Partners will be required to provide such training and complete an affidavit attesting to its compliance as required by statute on a form to be included with the Work Order.

22. SAMPLES, SHOP DRAWINGS. Trade Partner shall submit all samples, shop drawings, test and other data as required hereunder by the earlier of thirty (30) days from the date of the Work Order or the date required by the Project Schedule. Any handling, transmittal, approval or anything else done by Contractor with respect to these shall not relieve Trade Partner from responsibility for errors in the samples, shop drawings or other data and shall not relieve Trade Partner of its obligations to perform its work in accordance with the intent of the Contract Documents or any term of this Master Subcontract Agreement or Work Order and of its responsibilities for any deviations from the requirements of either of them.

23. DECISIONS. Any decision concerning the work, or termination thereof, the quantity or classification of anything done hereunder, the intent or application of the Prime Contract or claims for payment or compensation hereunder in respect to work done or omitted under a Work Order which is binding upon Contractor shall bind Trade Partner absolutely, whether such decision be made by Owner, Architect or any officer, agency or tribunal empowered to render the same by the Prime Contract or as a result of any procedure referred to therein or contemplated thereby.

24. DISPUTES

24.1 In case of any dispute between Trade Partner and Contractor, Trade Partner agrees to be bound to Contractor to the same extent Contractor is bound to Owner by the terms of the Prime Contract and by any decisions made thereunder by Owner, Architect or any other party authorized to render the same by the Prime Contract. Trade Partner agrees to exhaust all remedies which are available to it through Contractor, or to participate in mediation, prior to instituting a separate action in court or otherwise; and in the event a separate action is instituted prior to the exhaustion of such remedies, Trade Partner agrees to stay such action pending Contractor's exhaustion of Trade Partner's remedies against Owner. Trade Partner agrees that the dispute resolution provisions of the Contract Documents, if any, including binding arbitration, are incorporated by reference as part of this Subcontract so as to be binding as to disputes between Trade Partner and Contractor that involve, in whole or in part, questions of fact and/or law that are common to any dispute between Contractor and Owner or others similarly bound to such dispute resolution procedures, and that all such disputes may be consolidated for hearing and resolution by the same arbitration or other tribunal specified in the contract between Contractor and Owner. Trade Partner consents to the joinder and participation of other parties as Contractor deems appropriate.

24.2 If Trade Partner makes a claim of any nature, Trade Partner agrees to present such claim in writing, with full documentation therefor, to Contractor within sufficient time for Contractor to take the action required within the time limitations of the Prime Contract for asserting claims against Owner. Contractor shall not be obligated to appeal from any decision, or to prosecute any claim on behalf of Trade Partner, and Contractor may, at its option, abandon to Trade Partner any such claim by giving written notice to Trade Partner that Contractor will

no longer prosecute such claim. In such event, Trade Partner shall have the right to prosecute such claim in the name of Contractor, but at Trade Partner's own cost and expense.

24.3 Trade Partner agrees to participate in such dispute resolution procedure (including binding arbitration) as is contained in the Prime Contract, or if Contractor does not elect to require use of procedures in the Prime Contract, to participate in mediation and/or arbitration under the Construction Industry Rules of the American Arbitration Association. Contractor shall make its election to require use of either procedure by written notice to Trade Partner within thirty (30) days of receipt of Trade Partner's claim, or with delivery of Contractor/Owner's claim against Trade Partner.

24.4 It is the intent of Contractor to resolve disputes as quickly, efficient and amicably as possible. To this end, Contractor reserves the right to require a meeting with senior management of Trade Partner within ten (10) days of demand by Contractor to resolve outstanding disputes. Both parties must commit to use their best faith efforts to resolve disputes, and meet again, as necessary, to facilitate this process. If the dispute has not been resolved within twenty (20) days of the first meeting, Trade Partner may proceed with its other remedies under this Master Subcontract Agreement.

24.5 Nothing contained herein shall excuse Trade Partner from completion of the work in the manner provided in this Master Subcontract Agreement or Work Order, nor shall the pendency of any dispute or arbitration proceeding excuse any interruption, deficiency, delay, default or noncompliance therewith.

24.6 This Master Subcontract Agreement, Work Orders and all disputes between the parties shall be governed by the laws of the State of Missouri, and the jurisdiction and venue for any action between the parties shall be solely and exclusively in Jackson County, Missouri, unless the Project is covered by the Miller Act, 40 U.S.C. § 270 *et seq.*, in which case jurisdiction shall lie exclusively in the United States District Court for the Western District of Missouri. In the event that this clause is not enforceable, the parties agree that a lawsuit filed in any other jurisdiction, including the jurisdiction where the project work is performed, may be stayed by the court upon request of either party to allow time for issues to be resolved in an action brought in the court referenced above, and any judgment entered in a Missouri court shall be fully enforceable in that original court action.

25. **DESIGN RESPONSIBILITY.** If any portion of the Work subcontracted to Trade Partner includes responsibility for design, Trade Partner represents that the design will be prepared by a licensed design professional in the state where the Project is located in accordance with all laws or regulations governing the same. Trade Partner further agrees that such design shall be prepared in accordance with the highest standard of care for design professionals in the locality where the Project is located.

26. **INDEPENDENT CONTRACTOR.** Trade Partner shall be and is an independent Contractor and assumes all of the rights, obligations and liabilities applicable to it as such. The exercise of any of the rights reserved to Contractor in this Master Subcontract Agreement shall only be for the purpose of assuring that the work is being performed and results accomplished according to the terms of this Master Subcontract Agreement and according to the terms of the Prime Contract.

27. **FACILITIES, CLEANUP.** Trade Partner shall provide at its own expense whatever services, storage sheds, work shops and offices are necessary for the performance of its work. Trade Partner shall clean up on a daily basis all refuse, rubbish, scrap materials and leave its work area broom-clean. Trade Partner shall deposit waste in containers as directed by Contractor. If Trade Partner refuses or fails to perform this cleaning as directed by Contractor after 24 hours notice, Contractor shall have the right and power to proceed with said cleaning, and Trade Partner will on demand repay to Contractor the cost thereof at the rate of \$45.00 per hour, or Contractor may deduct such sums from sums otherwise due Trade Partner. This includes responsibility for the proper removal of any material identified by the EPA on its List of Identified Hazardous Waste or that displays hazardous characteristics.

28. **INTERPRETATION.**

28.1 All negotiations, quotations, proposals and/or agreements prior to the date of this Subcontract not included herein are hereby voided and this is the sole agreement of the parties.

28.2 This Subcontract shall bind the representatives, executors, administrators, successors, receivers, and assigns of the parties hereto.

28.3 No provision contained in this Subcontract shall create or give to third parties any claim or right of action against Contractor or Trade Partner in addition to those legally existing in the absence of such provision.

28.4 The captions in this Subcontract are for convenience or reference only and shall not define or limit any of the terms or provisions hereof.

28.5 If any portion of this document should be found to be unenforceable, it is agreed that the remaining provisions shall remain in full force and effect.

28.6 Additions or changes to this Subcontract shall be in writing signed by the parties hereto.

28.7 Waiver of any provision of this Subcontract or any breach hereof shall not constitute a waiver of any other provision or any subsequent breach of the same or any other provision hereof.

28.8 Although drawn by Contractor, this Master Subcontract Agreement shall, in the event of any dispute over its meaning or application, be interpreted fairly and reasonably, and neither more strongly for or against either party.

29. **ASSIGNMENT.** Trade Partner shall not assign or subcontract any Work Order or any part of its scope, or any interest therein, or assign any monies due or to become due to Trade Partner without first obtaining the written consent of Contractor, and no such assignment shall be binding on Contractor unless and until accepted in writing by Contractor.

30. **NOTICE.** Trade Partner agrees that three (3) working days' written notice of any action Contractor proposes to take hereunder shall be sufficient. Written notice shall be deemed to have been duly served upon Trade Partner when delivered to Trade Partner by mail, facsimile transmission, or in person. Any notices or documentation submitted to Trade Partner for further submission to Owner or its designer or any governmental entity shall be submitted to Contractor sufficiently in advance to allow for Contractor's review and subsequent transmittal.

31. **PRECONDITION.** No Work Order shall become binding on Contractor until Trade Partner has furnished Contractor with the required Certificates of Insurance and Endorsements, and any other documents or items specified in the this Master Subcontract Agreement, Work Order and Prime Contract, **AND TRADE PARTNER MAY NOT BEGIN WORK UNTIL REQUIRED ITEMS HAVE BEEN SUBMITTED**, and Trade Partner has been approved by Architect, Owner and any other party required so to do by the Prime Contract If any of them shall fail or refuse to approve Trade Partner, the Work Order shall be null, void and of no force or effect and Contractor shall owe nothing to Trade Partner.

32. The following ATTACHMENTS are incorporated herein by reference as fully as if reprinted herein and are all integral parts of this Agreement, and shall apply to any Work Orders entered into by the Parties:

1. Form of Work Order
2. Form of Application and Certification for Payment

3. Form of Partial Waiver of Lien and Release of Claims
4. Form of List of Sub-Trade Partners, Equipment Lessors and Vendors
5. Form of Affidavit of Accuracy of List of Sub-Trade Partners, Equipment Lessors and Vendors
6. Form of Bill of Sale
7. Form of Bailment Agreement
8. Form of Final Waiver of Lien and Release of Claims
9. Insurance Requirements
10. Sample ACORD Certificate of Insurance
11. Form of Performance Bond
12. Form of Payment Bond
13. EEO Requirements and EEO Compliance Certificate
14. McCownGordon Safety Requirements
15. McCownGordon Emergency Contact Information Form
16. I-9 Immigration Form

IN WITNESS WHEREOF, the parties have executed this Subcontract in multiple copies on the day and year first above written.

McCown Gordon Construction, L.L.C.



By: _____

By: Jeff Placek

Title _____

Title: Chief Financial Officer

Date: _____

Date:

McCownGordon
850 Main Street
Kansas City, Missouri 64105
Phone: (816) 960-1111
Fax: (816) 960-1182

Project Name Here

Attachment No. 001 - Example Work Order

SWO - Scope of Work

DATE CREATED:

CONTRACT COMPANY:

CREATED BY:

CONTRACT STATUS:

EXECUTED:

OWNER CONTRACT DATE:

MASTER
AGREEMENT DATE:

SIGNED CONTRACT RECEIVED DATE:

DEFAULT RETAINAGE:

LIQUIDATED DAMAGES:

OVERHEAD MARKUP:

BONDS REQUIRED:

PROFIT MARKUP:

TAX EXEMPT:

OH&P For Work Performed
By Own Forces:

OH&P For Work Performed
By Others:

DESCRIPTION:

INCLUSIONS:

EXCLUSIONS:

EXHIBITS:

ATTACHMENTS:

Subcontractor is expected to fulfill all the obligations contained in the Master Subcontract Agreement (the "MSA"), and, in addition, the following requirements. In the event of any inconsistency between the MSA and this Work Order, Subcontractor shall comply with the more stringent requirement.

McCownGordon
850 Main Street
Kansas City, Missouri 64105

SUBCONTRACTOR
Street Address
City, State, Zip Code

SIGNATURE

DATE

SIGNATURE

DATE

MASTER SUBCONTRACT AGREEMENT

ATTACHMENT 2

TRADE PARTNER ACCOUNTING REQUIREMENTS

Trade Partner Invoicing Process:

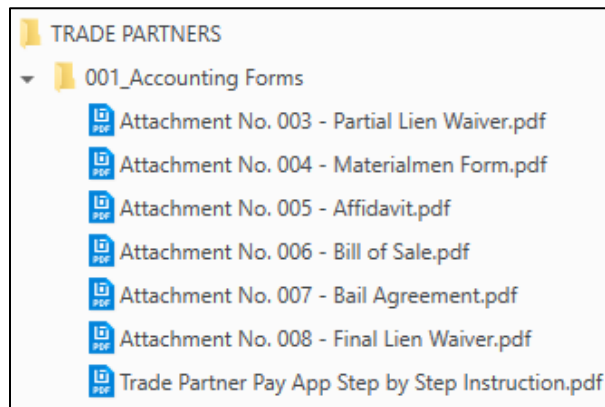
1. Due: 20th day of the month forecasting thru the end of the month
2. Documents requested to support invoicing:
 - a. Attachment 3 – Partial Lien Waiver – Every month
 - b. Attachment 4 – Materialmen Form – Every month
 - c. Attachment 5 – Affidavit – Must be notarized – Every month
 - d. Sub Tier Lien Waivers from previous month – Every month except first billing
 - e. Attachment 6 – Bill of Sale – Only if billing for stored materials
 - f. Attachment 7 – Bail Agreement – Only required if billing for stored materials
 - g. Photo documentation – Only required if billing for stored materials
 - h. Attachment 8 – Final Lien Release – Only required for final invoice
3. Submission:
 - a. Invoice submission will be made through Procore
 - b. Refer to McCownGordon Trade Partner Invoicing for instruction located in the Procore Documents tab of this project.
4. Any invoice not directly tied to a work order should be submitted to ap@mccowngordon.com

If you have questions related to pay applications monthly progress process, please contact the applicable Accounting email address: SubPayables@mccowngordon.com or ap@mccowngordon.com.

NOTE: Submitting all required documents along with the Pay Application will speed up payment

Location of Accounting Documents for download:

1. Procore Documents Tab of this project:
 - a. Select the folder **TRADE PARTNERS**
 - b. Select the folder **001_Accounting Forms**



If you have questions related to the location of Accounting documents, please contact the Project Coordinator for this project.

APPLICATION AND CERTIFICATION FOR PAYMENT

TO: McCown Gordon Construction,L.L.C.

850 Main Street
 Kansas City, MO 64105
 Attn.: Accounting
 816.960-1111 FAX 816.472.1605

INVOICE #	
APPLICATION DATE:	
PERIOD TO:	
PROJECT #:	
MASTER AGREEMENT DATE:	
WORK ORDER DATE:	

FROM: [Redacted]

PROJECT 0

NAME: [Redacted]

Via Architect:

Contract for: type of work

TRADE PARTNER APPLICATION FOR PAYMENT

CHANGE ORDER SUMMARY			ADDITIONS	DEDUCTIONS
Number	Description	Date Issued		
Subtotals			\$0.00	\$0.00
Net change by Change Orders			\$0.00	

Application is made for Payment, as shown below, in connection with the Contract Continuation Sheet is attached.

1 ORIGINAL CONTRACT	\$0.00
2 Net change by Change Orders.....	\$0.00
3 CONTRACT SUM TO DATE (Line 1 plus 2).....	\$0.00
4 TOTAL COMPLETED AND STORED TO DATE.....	\$0.00
<small>(Column G on page two- continuation sheet)</small>	
5 RETAINAGE:	
a. [Redacted] % of Completed Work	\$0.00
<small>(Column F+G on G703)</small>	
b. 0% % of Stored Material	\$0.00
<small>(Column H on G703)</small>	
Total retainage (Lines 5a + 5b or Total in Column J of G703.....)	\$0.00
6 TOTAL EARNED LESS RETAINAGE.....	\$0.00
<small>(Line 4 Less Line 5 Total)</small>	
7 LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate).....	\$0.00
<hr/>	
8 CURRENT PAYMENT DUE	\$0.00
<hr/>	
9 BALANCE TO FINISH PLUS RETAINAGE.....	\$0.00
<small>(Line 3 less Line 6)</small>	

The undersigned Subcontractor certifies that to the best of the Trade Partners knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Trade Partner for Work for which previous Certificates for Payment were issued and payments received from the Contractor, and that current payment shown herein is now due.

0
Name of Person Certifying [Redacted]

By: [Redacted] **Date:** [Redacted]

McCown Gordon Construction L.L.C.:

By: [Redacted] **Date:** [Redacted]

Trade Partner Notary:

Subscribed and sworn before me this [Redacted]

Notary Public: [Redacted]

My Commission expires: [Redacted]

State of: [Redacted] County of: [Redacted]

MASTER SUBCONTRACT AGREEMENT

ATTACHMENT 3

TRADE PARTNER, SUB-TIER OR MATERIALMAN PARTIAL RELEASE OF LIEN AND WAIVER OF CLAIMS

To: McCownGordon Construction LLC, the Owner of the real estate (the "Realty") identified below, any Lender(s) having any loans secured by the Realty, the Applicant's Contractor (if not the General Contractor) and other parties, if any, having any interest in (hereinafter collectively the "Beneficiaries").

The "Realty" (Owner): _____

The undersigned hereby applies for payment, certifies and waives lien rights, bond rights and all other claims.

Payment Request Amount: \$ _____ by _____
Trade Partner

Name Date of last work covered by payment request: _____

Certificate

The undersigned, contingent upon the issuance, final clearance and payment of a valuable consideration of the sum stated above, and being familiar with the penalties for false certification, does hereby certify to the Beneficiaries that:

1. The labor performed and the equipment and material supplied through the date of last work covered by the payment request reference above, represent the actual value of work accomplished under the terms of the undersigned's agreement and all authorized changes thereto concerning work to be performed on the Realty (hereinafter the "Contract").
2. No labor, equipment or materials have been supplied under contracts or agreements with the undersigned, either verbal or written, or any arrangements of any type whatsoever, other than under the Contract and duly authorized and executed change orders, except as specifically noted below:
3. Payment in full, less retainage if any, has been made by the undersigned through the period covered by all prior payments (a) to all of the undersigned's sub-Trade Partners, equipment providers, materialmen and laborers, and (b) for all materials and labor used or furnished by the undersigned in connection with the performance of the Contract. The undersigned represents and warrants that it owes no monies or other things of value to any sub-Trade Partner, materialman, person or entity for work performed or material supplied through the date of the most recent payment by Owner, except as noted below:
4. The undersigned has complied with Federal, State and Local tax laws, including, without limitation, Income Tax Withholding, Sales Tax, Fringe Benefits owed pursuant to collective bargaining agreements, Social Security, Unemployment Compensation and Worker's Compensation laws, insofar as applicable to the performance of the contract. Specifically, the undersigned has paid, or out of the proceeds of this payment will promptly pay, all sales or use tax due and owing.
5. The undersigned acknowledges and agrees that it is receiving the funds paid in consideration of this Application as a trustee, and said funds will be held in trust for the benefit of all sub-Trade Partners, materialmen, suppliers and laborers who supplied work for which the Beneficiaries or their property might be liable, and that the undersigned shall have no interest in such funds until all these obligations have been satisfied in full.

Partial Waiver and Release of Claims

NOW, THEREFORE, the undersigned, upon receipt of the sum of \$ _____ Check# _____ (Payments to date including current payment) for all work through _____ irrevocably and unconditionally releases and waives any and all mechanic's liens or other liens or right to claim any and all mechanic's liens or other liens against the Realty, except as pertains to unpaid retainage. Additionally, the undersigned waives and releases any other claims against the Owner, the property or McCownGordon Construction LLC, its sureties on any bonds, or any other claims of any kind whatsoever in connection with this

MASTER SUBCONTRACT AGREEMENT

ATTACHMENT 3

TRADE PARTNER, SUB-TIER OR MATERIALMAN PARTIAL RELEASE OF LIEN
AND WAIVER OF CLAIMS

Contract and with the Realty. The undersigned shall indemnify and hold the Beneficiaries and their respective successors and assigns harmless against any lien, bond, claims or suits in connection with the materials, labor, and everything else in connection with this Contract.

Trade Partner: _____

By: _____

Title: _____

Date: _____

State of _____

County of _____

On this _____ day of _____, 20____, before me, the undersigned, personally appeared _____, _____ of he/she executed _____, known to me to be the person who executed this document and acknowledged to me that the same for the purposes therein stated.

Notary Public in and for said County and State

Commission Expires

McCownGordon PROJECT NUMBER: _____

McCownGordon PROJECT NAME : _____

TRADE PARTNER FIRM: _____

ATTACHMENT 4 – Materialmen List of Sub-tier, Subcontractors and Equipment Suppliers

McCownGordon Project Name/No: _____
 Trade Partner Name: _____
 Progress Invoice No: _____
 Progress Invoice Date: _____

Check here if you are using Sub-Tier Contractors, Equipment Lessors and / or Materialmen on this project. The following is a list of all of the Sub-tier, Equipment Lessors and Materialmen which are being utilized on this project with the approximate dollar amount for the purchase. A Partial and /or Final Lien Waiver is required from any Sub-Tiers, Equipment Lessors or Materialmen that have a contract amount \geq \$20,000.00. Failure to provide this required documentation will result in the Payment Application being rejected by McCownGordon.

COMPANY NAME	COMPANY ADDRESS	PHONE	CONTRACT AMOUNT (\$)	PAID TO DATE	REQUISITION AMOUNT THIS APPLICATION	BALANCE

COMPLETE THE SECTION BELOW FOR ALL TEMPORARY EQUIPMENT & SCAFFOLDING BROUGHT TO THE PROJECT SITE.

COMPANY NAME	EQUIPMENT TYPE	MAKE / MODEL	SERIAL NUMBER	RENTED or OWNED If Equip. is Rented please attach a copy of the Lien Waiver from the Rental Company	NAME OF RENTAL COMPANY

PLEASE CONTINUE ON TO A SECOND PAGE IF NEEDED.

To be approved by McCown Gordon Construction prior to payment

Project Manager Approval: _____ Date: _____

Project Accountant: _____ Date: _____

Note: This Sub-tier, Equipment Lessor and Materialmen list should be attached with all progress invoices irrespective of whether Sub tier contractors and Materialmen are being utilized or not

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 5

AFFIDAVIT

AFFIDAVIT FORM

STATE OF _____ }

COUNTY OF _____ }

_____ being duly sworn on his oath deposes and says: that he/she _____
(Owner / Officer) (Title)

of the _____, a Trade Partner of _____
(Company Name) (Type of Work – Scope of Work)

on the _____ located at _____;
(Project Title) (Project Address)

That he is familiar with the provisions for penalties for false certification; that he certifies that all bills for labor, material, services or other things of value including, but not limited to, withholding taxes, social security taxes, unemployment taxes and fringe benefits furnished by or through them before the date of _____ under the Subcontract with McCownGordon Construction, LLC have been fully paid, settled and satisfied; that the companies and parties listed on Standard Attachment 4: Sub-tier Contractor and Materialmen List are his only material suppliers or Trade Partners for this job for the period ending _____; that he understands that McCownGordon Construction, LLC, or anyone on their behalf may and will act and rely upon this instrument in releasing any funds due or owing the said _____.

McCownGordon Construction, LLC relies totally on the accuracy of _____ with respect to the names of the Trade Partners and suppliers and their respective amounts due. If after final payment has been made in good faith to _____ and any additional claims, invoices, bills or liens are presented for unpaid materials, equipment or labor, _____ agrees to indemnify and release McCownGordon Construction, LLC of from any liability associated with said claims, invoices, bills or liens.

Sales tax has been paid on all materials and any other taxes on labor or other services have been accrued and/or remitted to the proper taxing authorities. I further certify that we are registered to do business within the State of this project.

Subscribed, and sworn before me, _____ this _____, day of _____.
(Month/Year)

By: _____
(Trade Partner Representative)

Title: _____

Notary: _____

My Commission Expires: _____

PROJECT NUMBER / NAME: _____ TRADE PARTNER FIRM: _____

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 6

BILL OF SALE

SELLER: _____

In consideration of payments made by _____ (“Buyer”) referenced in the agreement dated _____, 20____, receipt of which is hereby acknowledged, Seller declares and certifies that it now possesses, and does hereby grant, sell, transfer and deliver to Buyer all right, title and interest in the following goods:

Buyer to have all right and title to the goods in himself and his executors, administrators and assigns forever and Seller, on behalf of itself, its successors and assigns, will warrant and defend the title to said goods and chattels hereby sold unto Buyer, its successors and assigns, forever, against the lawful claims and demands of all persons. It is expressly understood and agreed that the acceptance of the goods described herein is not a waiver of any right of action that the Buyer may have for breach of warranty or any other cause under the agreement referenced above or at law.

IN WITNESS WHEREOF, Seller has executed this Agreement the ____ day of _____, 20____.

Seller: _____

By: _____

Title: _____

Subscribed and sworn to before me this ____ day of _____, 20____.

Notary Public in and for said County and State

My commission expires:

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 7

BAIL AGREEMENT

BAILOR: Owner/ McCown Gordon Construction LLC

BAILEE: Trade Partner/Supplier

LOCATION OF STORAGE:

The goods and materials described below are held and stored at the above referenced location pursuant to the Contract by and between Bailee, as Trade Partner/Supplier, and Owner/ McCownGordon Construction LLC as Contractor, for Work to be performed at the _____ Project located at _____.
In consideration of payment made to the undersigned Bailee, the receipt and sufficiency of which are admitted, the Bailee agrees:

1. to keep said goods and materials at the above-mentioned address, separate and apart from all other goods and identified as subject to this bailment,
2. to keep said goods and materials fully insured against all risk of physical loss or damage,
3. to keep said goods protected from the weather, commingling, vandalism and/or diversion from said Project, and
4. to deliver said goods and materials to the Project site in conjunction with the performance of Bailee's Contract referenced above or upon the direction of Bailor and no other. The Bailee acknowledges that it has no ownership rights or title in, nor shall claim any lien upon, said goods and materials.

QUANTITY	DESCRIPTION OF ITEM

Received and Acknowledged:

Contractor/Supplier (Bailee)

Dated: _____

By: _____

Authorized Signature

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 8

TRADE PARTNER, SUB-TIER CONTRACTOR OR MATERIALMAN FINAL RELEASE OF LIEN AND WAIVER OF CLAIMS

To: McCownGordon Construction LLC, the Owner of the real estate (the "Realty") identified below, any Lender(s) having any loans secured by the Realty, the Applicant's Contractor (if not the General Contractor) and other parties, if any, having any interest in (hereinafter collectively the "Beneficiaries").

The "Realty": _____

The undersigned hereby applies for payment, certifies and waives lien rights, bond rights and all other claims.

Payment Request Amount: \$ _____ by _____
(Trade partner Name)

Date of last work covered by payment request: _____

Certificate

The undersigned, contingent upon the issuance, final clearance and payment of a valuable consideration of the amount stated above, and being familiar with the penalties for false certification, does hereby certify to the Beneficiaries that:

1. The amount requested for labor performed and equipment and material supplied on this Project or in connection with the Property reference above, represent the actual value of work accomplished under the terms of the undersigned's agreement and all authorized changes thereto concerning work to be performed on the Realty (hereinafter the "Contract").
2. No labor, equipment or materials have been supplied under contracts or agreements with the undersigned, either verbal or written, or any arrangements of any type whatsoever.
3. Payment in full has been made by the undersigned through the period covered by all prior payments (a) to all of the undersigned's sub-tier contractors, equipment providers, materialmen and laborers, and (b) for all materials and labor used or furnished by the undersigned in connection with the performance of the Contract. The undersigned represents and warrants that it owes no monies or other things of value to any sub-tier contractor, materialman, person or entity for work performed or material supplied through the date of the most recent payment by Owner, and that the payments that have been or will be made out of this final payment to such persons or firms will fully and completely compensate them for all work in connection with the Project.
4. The undersigned has complied with Federal, State and Local tax laws, including, without limitation, Income Tax Withholding, Sales Tax, Fringe Benefits owed pursuant to collective bargaining agreements, Social Security, Unemployment Compensation and Worker's Compensation laws, insofar as applicable to the performance of the contract.
5. The undersigned acknowledges and agrees that it is receiving the funds paid in consideration of this Application as a trustee, and said funds will be held in trust for the benefit of all sub-tier contractors, materialmen, suppliers and laborers who supplied work for which the Beneficiaries or their property might be liable, and that the undersigned shall have no interest in such funds until all these obligations have been satisfied in full.

Final Waiver and Release of Claims

NOW, THEREFORE, the undersigned acknowledges receipt of prior payments in the sum of \$ _____ (Payments to date), and contingent upon receipt of the sum of \$ _____ (final payment) for all work completed through date of waiver for which the undersigned irrevocably and unconditionally releases and waives any and all mechanic's liens or other liens or right to claim any and all mechanic's liens or other liens against the Realty. Additionally, the undersigned waives and releases any other claims against the Owner, the property or McCownGordon Construction LLC, its sureties on any bonds, or any other claims of any kind whatsoever in connection with this Contract and with the Realty.

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 8

SUBCONTRACTOR, SUB-TIER CONTRACTOR OR MATERIALMAN FINAL RELEASE OF LIEN AND WAIVER OF CLAIMS

The undersigned shall indemnify and hold the Beneficiaries and their respective successors and assigns harmless against any lien, bond, claims or suits in connection with the materials, labor, and everything else in connection with this Contract.

Trade partner: _____

By: _____

Title: _____

Date: _____

State of _____

County of _____

On this _____ day of _____, 20____, before me, the undersigned, personally appeared _____, _____ of _____, known to me to be the person who executed this document and acknowledged to me that he/she executed the same for the purposes therein stated.

Notary Public in and for said County and State

Commission Expires

McCownGordon PROJECT NUMBER : _____

McCownGordon PROJECT NAME : _____

TRADE PARTNER FIRM: _____

MSA ATTACHMENT 9

INSURANCE REQUIREMENTS

1. **General Requirements.** Subcontractor agrees to procure and carry, at its sole cost, until completion and final acceptance of the work under this Agreement, and all applicable warranty periods, (and as a condition precedent to payment), all insurance, with identical limits of liability and scope of coverages, as required of McCownGordon ("Contractor") in the Prime Contract, or such higher amounts as set forth below. Such insurance will protect Subcontractor (and its consultants, or anyone directly or indirectly employed by any of them or anyone for whose acts they may be liable) from claims arising out of its operations.
 - 1.1. **Blanket Coverage:** If you are working on multiple projects for Contractor, provide blanket coverage showing maximum limits. Please include in the description box "for any and all projects contracted with McCownGordon Construction, LLC." If your broker cannot provide a blanket certificate, Contractor will accept a certificate referencing the specific project in lieu of "any and all projects."
 - 1.2. All insurance policies required herein are to be written by a company duly entered and authorized to transact that class of insurance in the state where the work is to be performed. All policies written by private carriers are to be written by carriers with an A.M. Best rating of "A-VII" or better.
 - 1.3. Contractor reserves the right to request for review certified copies of any and all insurance policies required herein.
 - 1.4. Subcontractor shall furnish an **ACORD Form 25** Certificate of Insurance, evidencing insurance with conditions and coverage as required herein. Furnishing certificates of insurance does not obligate Contractor or its agents to approve, evaluate, or notify Subcontractor of its compliance or non-compliance with the requirements set forth herein. In no way shall receipt of Subcontractor's certificate of insurance negate, reduce, limit or waive Contractor's right to enforce the requirements herein. Contractor shall have the right to examine any policy for compliance.
 - 1.5. Subcontractor shall have the Certificate of Insurance completed with the Certificate Holder listed as:

McCownGordon Construction, LLC
c/o IMA Certificate Compliance
1705 17th Street, Suite 100
Denver, CO 80202
 - 1.6. Subcontractor is required to register with IMA Certificate Compliance, Contractor's certificate compliance system. Subcontractor will receive a registration e-mail from certificatecompliance@imacorp.com. Follow the instructions therein to complete registration. Your broker will be required to upload a certificate on your behalf. Certificates not emailed directly from insurance brokers/agents will not be accepted. Certificates received through the mail will not be accepted. If your broker has questions, they may contact IMA directly at 303-615-7994 or at certificatecompliance@imacorp.com.
2. Subcontractor shall provide the following insurance with coverage and limits as outlined:
 - 2.1. **Commercial General Liability Insurance.** Subcontractor shall obtain and maintain Commercial General Liability Insurance on **ISO form CG 00 01** occurrence form or equivalent for hazards of: (i) construction operation, (ii) subcontractors and sub-subcontractors (iii) independent contractors, (iv) products and

MSA ATTACHMENT 9

INSURANCE REQUIREMENTS

completed operations (with completed operations to remain in force for two years after project completion), (v) explosion, collapse and underground, and (vi) contractual liability, including personal injury, death and property damage. **Each Project shall maintain minimum limits of \$1,000,000.00 each occurrence and \$2,000,000.00 general aggregate, and \$2,000,000.00 in product & completed operations and shall include:**

- 2.2. General Aggregate Limit Per Project
- 2.3. Contingent Liability for operations performed by Subcontractor;
- 2.4. Contractual Liability to insure the Indemnification clause contained in this MSA. To the fullest extent permitted by law, with no Contractual Liability Exclusions modifying or deleting the definition of "insured contract" from the unaltered ISO CG 00 01 Edition date 10/01 (CG 24 26 or similar);
- 2.5. **Additional Insured Endorsement:** The Subcontractor shall require its insurance company, to the fullest extent permitted by law, to name and include McCownGordon, the Owner, and others as required by the Prime Contract, as Additional Insured under Subcontractor's Commercial General Liability insurance policy, with primary/non-contributory coverage, to provide coverage to the Additional Insured for liability due to the acts, omissions, negligence or fault of Subcontractor or its employees, agents or representatives. Additional Insured endorsement(s) shall provide that any person or organization that Subcontractor is required to add as an Additional Insured under the Prime Contract shall be included as an Additional Insured. Endorsements limiting coverage to parties with whom Subcontractor has a direct contract with will not be accepted. Coverage shall include both ongoing and completed operations. Vicarious or imputed forms of Additional Insured endorsements will not be accepted. Evidence by endorsement or policy language of additional insured and primary and non-contributory coverage must be provided on forms acceptable to Contractor. Copies of such endorsements must be included with the certificate.
- 2.6. **Blanket Waiver of Subrogation:** Subcontractor agrees to waive all rights of recovery on a blanket basis. If a blanket waiver is not provided, the policy shall be specifically endorsed for this project, naming the Additional Insured parties as set forth above.
- 2.7. The following exclusions are *absolutely prohibited* and shall not be included in Subcontractor's policy if applicable to the work:
 - 2.7.1. No exclusion for "third-party action over suits" or any similar restriction of coverage applicable to claims brought against others by an employee of Subcontractor or its subcontractors.
 - 2.7.2. No damage to Work performed by Subcontractor exclusion (CG 22 94 or similar).
 - 2.7.3. No exclusion for subsidence, which is specifically prohibited for any work involving excavation, soil stabilization, earth retention, concrete, structural steel, landscaping, waterproofing, fire protection and plumbing.
 - 2.7.4. No "residential" exclusion that would void or restrict coverage due to the nature of the Work.
 - 2.7.5. No EIFS exclusion
- 2.8. **Comprehensive Automobile Liability Insurance.**
 - 2.8.1. Subcontractor shall obtain and maintain comprehensive automobile insurance, including contractual liabilities insuring the indemnities set forth in this MSA, covering all owned, non-owned and hired automobiles used in connection with the services or other work hereunder and shall have **minimum bodily injury and property damage limits of \$1,000,000.00 combined single limit per accident.** Coverage shall include McCownGordon, the Owner, and others as required by the Prime Contract as additional insured. If blanket coverage is not provided for the Additional Insured, the

MSA ATTACHMENT 9

INSURANCE REQUIREMENTS

policy shall be specifically endorsed for this project, naming the Additional Insureds as required under Section 2.1.4. Subcontractor agrees to waive all rights of recovery on a blanket basis. If a blanket waiver is not provided, the policy shall be specifically endorsed for this project, naming the Additional Insured parties. Pollution Liability - Broadened Coverage and MCS-90 endorsement shall be procured when applicable.

2.9. Workers' Compensation and Employer's Liability Insurance.

- 2.9.1. Subcontractor shall obtain and maintain Worker's Compensation Insurance to cover the statutory limits of the Workers' Compensation laws of the state in which the work is to be performed and when applicable to Federal Laws, Voluntary Compensation and Employer's Liability (including occupational disease) coverage **with limits not less than \$1,000,000.00 bodily injury by accident, each accident, \$1,000,000.00 bodily injury by disease, each employee, and \$1,000,000.00 bodily injury by disease policy limit, for all workers on site, regardless of whether a worker is also an owner of Subcontractor.** The Insurance shall provide a waiver of subrogation in favor of Contractor (and Owner if required by the Prime Contract).
- 2.9.2. Where applicable, Workers' Compensation policy coverage shall include the United State Longshore & Harbor Workers' Compensation Act, the Jones Act and an all states endorsement. Workers' Compensation certificates must clearly identify that coverage applies in the state where the project is located.
- 2.9.3. If State Law does not require Employers' Liability Insurance, Subcontractor shall obtain and maintain Employers' Liability Insurance either by endorsing their Workers' Compensation Insurance policy or by endorsing their Commercial General Liability policy with a Stop Gap endorsement.

2.10. Umbrella/Excess Liability Insurance.

- 2.10.1. Subcontractor shall obtain and maintain Umbrella/Excess Liability Insurance. This insurance shall provide excess insurance, over and above the Employers' Liability, Commercial General Liability, and Automobile Liability policies on a following form basis. The limit of liability for this insurance shall be as follows:
- 2.10.2. All Subcontractors shall provide **a minimum of \$5,000,000.00 each occurrence and \$5,000,000.00 in the aggregate;**
- 2.10.3. Subcontractors providing work including but not limited to the following: work that is part of the building envelope, crane operation, caissons, piling, soil stabilization, underpinning, tunneling, dewatering, earth retention systems, excavation, and structural elements of the building shall provide **a minimum of \$10,000,000.00 each occurrence and \$10,000,000.00 in the aggregate.** Higher Umbrella limits may be required by Contractor on a per project basis.

2.11. Professional Liability Insurance.

- 2.11.1. Subcontractor and any of its sub-subcontractors whose scope of work includes any professional services, including but not limited to: design, architecture, engineering, testing, surveying, design/build services, temporary engineering, engineered excavations, shoring systems, post-tension supply, structural pre-cast concrete, or fire protection systems, or whose scope of Work includes the delegated design of any component of their Work, including but not limited to; helical piers, retaining walls, platform scaffold systems, site security, swimming pools, data cabling, window washing equipment, concrete form systems, structural steel, specialized millwork,

MSA ATTACHMENT 9

INSURANCE REQUIREMENTS

roofing/waterproofing systems, curtain-wall, mechanical, electrical, or fire alarm systems **must obtain and maintain Professional Liability Insurance**. The policy shall be written with a limit of liability as required in the Prime Contract with a **minimum of \$1,000,000.00 for each claim and aggregate**. Such policy shall continue in force for the applicable State Statute of Limitations and/or Repose in which the Work is located after Substantial Completion of the Work of the entire Project. **Deductibles shall not exceed \$50,000.00**, to be paid by Subcontractor. Higher limits may be required by Contractor on a project-by-project basis. If the Subcontractor subcontracts professional services to an outside firm, the Subcontractor shall also require the outside firm to procure and maintain Professional Liability Insurance in like form and limits, as set forth above or as stated the Prime Contract, **whichever requires the greater coverage or limits of liability, and provide a certificate of insurance evidencing such coverage. The design professional's agreement and insurance shall not include any limitation of liability, except to the extent consequential damages are waived in the Prime Contract.**

2.12. **Pollution Liability Insurance.**

2.12.1. Subcontractor and any of its sub-subcontractors providing work related to environmental services, building enclosure systems, plumbing, heating, ventilation, air conditioning, drywall, insulation, building foundations, or any work which could generate Microbial Matter, Mold, Fungi or Bacteria, and any work involving the use of hazardous materials **must obtain and maintain a separate Pollution Liability Insurance policy**. Such insurance shall include coverage for the Hold-Harmless or Indemnification Clause contained in the agreement the Subcontractor has with the Contractor. The policy shall be written with a limit of liability as required in the Prime Contract with a minimum of **\$1,000,000.00 each occurrence and aggregate. Deductibles shall not exceed \$50,000.00, to be paid by the Subcontractor**. Higher limits may be required by Contractor on a project by project basis. Additionally, the Pollution Liability Insurance policy shall name McCownGordon and all other parties as required under the Prime Contract as Additional Insureds.

2.12.2. Unless otherwise determined acceptable by Contractor, the policy shall cover the liability of the Subcontractor during the process of construction, removal, storage, encapsulation, transport and disposal of hazardous waste and contaminated soil and/or asbestos abatement. The policy shall include coverage for on-site and off-site bodily injury and loss of damage to, or loss of use of property, directly or indirectly arising out of the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gas, waste materials or other irritants, contaminants or pollutants into or upon the land, the atmosphere or any water course or body of water, whether it be gradual or sudden and accidental, including no exclusion for mold or asbestos. The policy shall also include defense and clean-up costs.

2.13. **Equipment Floater.** The Subcontractor shall obtain and maintain coverage for Subcontractor's equipment, tools, and business personal property (whether owned, rented, or borrowed) that are used or are in connection with the Work. Such insurance purchased by the Subcontractor is the only coverage available to the Subcontractor for such equipment. Contractor is not responsible for any equipment, tools, or business personal property of any kind that belongs to Subcontractor. Should the Subcontractor borrow, lease, or rent Contractor's equipment, the policy shall be written to provide coverage against Special Causes of Loss, subject to a **minimum limit of \$50,000.00 per item**, or such amount as Contractor may require and a limit of **\$10,000.00 for Rental Cost**. Coverage shall also include a **minimum limit of**

MSA ATTACHMENT 9

INSURANCE REQUIREMENTS

\$10,000.00 for pollution cleanup costs. Subcontractor shall be responsible for any and all extra expenses including loss of use, arising out of damage to the equipment caused by the operation, maintenance or use of said equipment, including any deductible to which the insurance may be subject.

2.13.1. **AN INSTALLTION FLOATER IS REQUIRED WHEN SUBCONTRACTOR IS SEEKING PAYMENT OF MATERIALS AND/OR EQUIPMENT STORED BY THE SUBCONTRACTOR AWAY FROM THE JOB SITE AND AWAITING DELIVERY.** This insurance must provide coverage against Special Causes of Loss while the materials and/or equipment are being stored or transported. Contractor and Owner must be included as Loss Payees. The limit of liability shall not be less than the total value of all materials and/or equipment for all projects with Contractor for which payment has been requested.

2.14. Unmanned Aerial Systems Liability Insurance (“Drone” Insurance). If Subcontractor operates any “Unmanned Aerial System” or “UAS,” or hires any such operations through a vendor or sub-subcontractor, Subcontractor shall obtain and maintain liability insurance for operations of the UAS. This liability insurance shall be provided by either a separate aviation policy or an endorsement to the general liability policy required hereunder, provided that the limit of liability shall be **no less than \$1,000,000.00 per occurrence**. Regardless of the form of insurance provided, McCownGordon, Owner, and any other party as required by Contractor shall be included as additional insureds and a waiver of subrogation shall apply in favor of all additional insured parties. Subcontractor shall require compliance with these same terms and conditions of any subcontractor or vendor whom it engages in the use or operation of a UAS.

2.14.1. Subcontractor further acknowledges and agrees that it is solely responsible for the airworthiness of any such aircraft. Subcontractor warrants that, at a minimum, all aircraft will be registered, maintained and operated in accordance with: (a) All applicable manuals inclusive but not limited to the manufacturers and operators maintenance and operations manuals; (b) Federal Aviation Regulations, Mandatory Advisory Circulars or other Airworthiness Directives issued by the FAA; (c) The manufacturer’s airworthiness limitations; (d) Manufacturer or FAA mandated inspection schedules, overhaul schedules, and calendar retirement dates; and (e) Service Bulletins.

2.14.2. For the purposes of this Section, “UAS” includes all elements required for flight including but not limited to ground control stations, data links, dashboards, applications, survey equipment and the unmanned aerial vehicle (“UAV” or “Drone”) of the subject unmanned system. UAS, UAV, and Drone are used interchangeably herein.

2.15. Leased Employee Liability. If Subcontractor leases one or more employees through the use of a payroll, employee management or other company, and workers compensation/employer’s liability coverage is not provided by the payroll, employee, management or other company, then the Subcontractor must directly procure workers’ compensation/employer’s liability insurance. The workers’ compensation and employer’s liability coverage provided to and for the leased employees by the payroll, employee management or other company shall be evidenced and include an Alternate Employer/Leased Employee Endorsement, naming Subcontractor as the alternate employer. The employer’s liability must be scheduled under applicable umbrella (except in state where employer’s liability is unlimited).

2.16. Builders Risk. **It is the responsibility of the Subcontractor to inquire about Builders’ Risk coverage.**

2.16.1. If required by the Prime Contract: McCownGordon and Subcontractor waive all rights against (1) each other and any of their Vendors, agents and employees, each of the other, and (2) the Owner,

MSA ATTACHMENT 9

INSURANCE REQUIREMENTS

the Architect, the Architect's consultants, separate contractors, and any of their subcontractors, sub-subcontractors, agents and employees for damages caused by fire or other perils to the extent covered by property insurance provided under the Prime Contract or other property insurance applicable to the Work, except such rights as they may have to proceeds of such insurance held by the Owner as fiduciary. Subcontractor shall require of Subcontractor's agents and employees, by appropriate agreements, written where legally required for validity, similar waivers in favor of other parties enumerated herein. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

2.17. Waiver of Subrogation. To the extent permitted by law, all insurance policies shall include a waiver of any right of subrogation of the insurers thereunder against McCownGordon, the Project Owner, and their assigns, subsidiaries, affiliates, employees, insurers and underwriters. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity has an insurable interest in the property damaged.

2.18. Special Provisions.

2.18.1. Notice of Cancellation. The Subcontractor's insurance policies shall be endorsed to provide Contractor with a **30-day Notice of Cancellation** for reasons other than nonpayment of premium, and a **10-day Notice of Cancellation** for the reason of nonpayment of premium. If any insurer does not make available such endorsement(s), as an alternative, Subcontractor's insurance agent or broker shall provide a written statement that the agent or broker will endeavor to provide the required Notices of Cancellation. Acceptance of such alternative notice is subject to Contractor's sole discretion.

2.18.2. Insurance Primary. All policies of insurance, excluding Professional Liability, required herein shall be written as primary policies, and not in excess of the coverage of the Additional Insured parties outlined in 2.1.4.

2.18.3. No liability policies shall contain a Self-Insured Retention (SIR) or Deductible greater than \$50,000.00 per claim/occurrence, or \$50,000.00 in aggregate. The Subcontractor's General Liability policy shall be amended to exempt the Additional Insured coverage from the SIR or Deductible requirements, or expressly allow payments by the Additional Insured to satisfy the named insured's SIR or Deductible amount.

2.18.4. No Limitation of Liability. The required coverages referred to and set forth herein shall in no way affect, nor are they intended as a limitation on, Subcontractor's liability with respect to its performance of the Work.

2.18.5. All policies shall be maintained for the statute of repose.

2.18.6. The Subcontractor shall be responsible for procuring all policies of insurance consistent with the insurance requirements provided herein. All coverage as required herein may be met through the use of primary and excess policies so long as the total amount of insurance coverage provided is equal to or greater than the amount specified herein.

2.18.7. Approval, disapproval or failure to act by Contractor or their agents regarding any insurance required of Subcontractor shall not relieve Subcontractor of full responsibility for its obligations hereunder, and the bankruptcy, insolvency or denial of coverage by the insurance company shall

MSA ATTACHMENT 9

INSURANCE REQUIREMENTS

not exonerate the Subcontractor from liability. In the event any Insurer issues a reservation of rights for Contractor as an Additional Insured, Contractor shall be entitled to employ independent counsel at Subcontractor's expense.

2.18.8. No special payments shall be made by Contractor for any insurance that the Subcontractor may be required to carry; Subcontractor agrees that all costs of insurance are included in the Subcontract price and unit prices.

2.18.9. If Subcontractor fails to procure and maintain in force the insurance required herein, Contractor shall have the right, but not the obligation, to obtain such insurance and the Subcontractor shall pay the cost thereof, or the cost thereof may be deducted from amounts otherwise due Subcontractor

2.18.10. Failure to procure and maintain the insurance set forth herein this will constitute a breach of this Agreement, and Subcontractor shall be liable to Contractor for all damages, losses, costs, attorneys' fees and other expenses incurred by Contractor resulting from such breach.

2.18.11. **Sub-Subcontractors' Insurance.** Subcontractor shall require all sub-subcontractors providing equipment, materials or services directly to Subcontractor in connection with Subcontractor's scope of work to obtain, maintain and keep in force coverages in accordance with the requirements set forth herein during the time they are involved in performance of services or other work hereunder. But for Parties as required under 2.1.4 being listed as additional insured under such sub-subcontractor's applicable insurance, the types and limits of insurance required of the sub-subcontractor may vary based on the work to be performed by sub-subcontractor. The insurance carried by the sub-subcontractor shall not reduce or eliminate any of the Subcontractor's contractual responsibilities for the work or negligence of sub-subcontractor hired by Subcontractor. Subcontractor shall obtain certificates of insurance and additional insured endorsements evidencing such coverage and provide Contractor with such certificates and endorsements, if requested. Subcontractor shall not be excused from its obligations to cause such sub-subcontractors to meet the insurance coverage requirements set forth herein unless Contractor waives such requirement in writing. Such waiver shall be effective only as to such requirements and for such sub-subcontractor specifically identified in such writing.

2.19. **Suppliers.** Material Suppliers making direct deliveries to the Project Site must meet the below requirements and submit a Certificate of Insurance with Contractor, Owner (and other parties, if and as required by the Prime Contract) included as Additional Insureds. If utilizing a third-party carrier please submit a blanket copy of their standard Certificate of Insurance for our records.

Automobile coverage of the standard 1,000,000

State Statutory workers' compensation coverage

General Liability of 1,000,000 as listed above. (Modification of limits may be necessary)

The Certificate you provide MUST comply with these requirements. The Certificate of Insurance shall be provided to McCownGordon Construction with the executed agreement. NO SUBCONTRACTOR SHALL BE ALLOWED TO ENTER A MCCOWNGORDON JOBSITE WITHOUT A COMPLIANT CERTIFICATE OF INSURANCE.

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 10

PERFORMANCE BOND

SUBCONTRACT PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that _____ (herein called the "Principal"), as Principal, and _____, a corporation organized and existing under the laws of the State of _____ (hereinafter called the "Surety"), as Surety, are held and firmly bound unto McCownGordon Construction LLC (hereinafter called the "Obligee"), as Obligee, in the sum of _____ Dollars (\$ _____) for the payment of which sum well and truly to be made, the said Principal and Surety bind themselves, and their respective heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Obligee has entered into a written contract (hereinafter called the "Prime Contract") with _____ (hereinafter called the "Owner") for _____ which Prime Contract is hereby referred to and made a part hereof; and

WHEREAS, the Principal has entered into a written Subcontract Agreement with the Obligee, dated _____ to perform, as subcontractor, certain portions of the work in connection with said Prime Contract, consisting of _____, which Subcontract Agreement is hereby referred to and made a part hereof.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH that if the said Principal shall well and truly perform and keep all the undertakings, covenants, terms, conditions and agreements of said Subcontract Agreement within the time period provided therein and any extensions thereof that may be granted by the Obligee and during the life of any guaranty required under said Subcontract Agreement, and perform all obligations and guarantees of the Obligee relating to such work under the Prime Contract with the Owner, and shall also well and truly perform the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Subcontract Agreement that may hereafter be made, and shall defend, indemnify and save harmless said Obligee of and from any and all claims, losses, damages, penalties, and expenses, including interest, costs and attorney's fees, which the said Obligee may sustain by reason of said Principal's failure so to do, then this obligation shall be null and void; otherwise it shall remain in full force and effect. Surety shall assume and commence performance of its obligations within 30 days' written notice of Subcontractor's default.

The said Surety agrees that no change, extension of time, alteration, addition, omission, or other modification of the terms of said Subcontract Agreement or Prime Contract, or both, or in the scope of the work to be performed or in the method of performance, or in the manner, time or amount of payments as provided therein, assented to by Obligee, whether made under expressed agreement or not, shall in anywise affect the said Surety's obligation on this Bond, and it does hereby waive notice and consents to any such change, alteration, modification or amendment.

IN WITNESS WHEREOF, the said Principal and Surety have hereunder set their hands and seals, this _____ day of _____, _____.

(Principal)

(Surety)

(Business Address)

(Business Address)

By: _____
(Signature and Title)

By: _____
(Signature and Title)

Witness: _____

Witness: _____

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 11

SUBCONTRACT PAYMENT BOND

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that _____ (hereinafter called the "Principal"), as Principal, and _____, a corporation organized and existing under the laws of the State of _____ (hereinafter called the "Surety"), as Surety, are held and firmly bound unto McCownGordon Construction LLC (hereinafter called the "Obligee"), as Obligee, in the sum of _____ Dollars (\$ _____) for the payment of which sum well and truly to be made, the said Principal and Surety bind themselves, and their respective heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Obligee has entered into a written contract (hereinafter called the "Prime Contract") with _____ (hereinafter called the "Owner") for _____ which Prime Contract is hereby referred to and made a part hereof; and

WHEREAS, the Principal has entered into a written Subcontract Agreement with the Obligee, dated _____ to perform, as subcontractor, certain portions of the work in connection with said Prime Contract, consisting of _____, which Subcontract Agreement is hereby referred to and made a part hereof.

NOW, THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH that if the said Principal shall pay promptly and in full the claims of all persons performing labor or furnishing materials, supplies and equipment in the prosecution of the work provided for in said Subcontract Agreement and any and all modifications of said Subcontract Agreement that may hereafter be made, and shall defend, indemnify and save harmless the Obligee from any and all claims, costs, damages, penalties, including attorney's fees and expenses, for all taxes, insurance premiums, any and all contributions, allowances, deductions or other payments, however termed, required by statute or union labor agreements, including voluntary payments made thereof by the Obligee to insure the orderly prosecution of work, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The said Surety agrees that no change, extension of time, alteration, addition, omission, or other modification of the terms of said Subcontract Agreement or Prime Contract, or both, or in the scope of the work to be performed or in the method of performance, or in the manner, time or amount of payments as provided therein, assented to by Obligee, whether made under expressed agreement or not, shall in anywise affect the said Surety's obligation on this Bond, and it does hereby waive notice and consents to any such change, alteration, modification or amendment.

Subject to the benefit of the Obligee, the Principal and Surety agree that this Bond shall insure to the benefit of all persons performing labor or furnishing materials, supplies and equipment in the prosecution of the work provided for in said Subcontract Agreement, as well as to the Obligee, and that such persons may maintain independent actions upon this Bond in their own names.

IN WITNESS WHEREOF, the said Principal and Surety have hereunder set their hands and seals, this _____ day of _____, _____.

(Principal)

(Surety)

(Business Address)

(Business Address)

By: _____
(Signature and Title)

By: _____
(Signature and Title)

Witness: _____

Witness: _____

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 12

EEO REQUIREMENTS AND EEO COMPLIANCE

Trade Partner shall comply with all laws protecting the rights of its employees and potential employees, including Equal Employment Opportunity laws (specifically, Executive Order 11246 September 24, 1965) and to K.S.A. 44-1030. Unless exempted by rules, regulations, or orders of the Secretary of Labor, issued pursuant to Section 204 of the Executive Order, Trade Partner specifically agrees as follows:

(1) Trade Partner will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. Trade Partner will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates or pay or other forms of compensation; and selection for training, including apprenticeship. Trade Partner agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth its provisions of this nondiscrimination clause.

(2) Trade Partner will, in all solicitations or advertisements for employees placed by or on behalf of Trade Partner, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

(3) Trade Partner will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of Trade Partner's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) Trade Partner will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

Pursuant to K.S.A. 44-1030, Trade Partner specifically agrees as follows:

(1) Trade Partner shall observe the provisions of the Kansas Act Against Discrimination and shall not discriminate against any person in the performance of work under the Subcontract because of race, religion, color, sex, disability, national origin or ancestry;

(2) in all solicitations or advertisements for employees, Trade Partner shall include the phrase, "equal opportunity employer," or a similar phrase to be approved by the Kansas human rights commission;

(3) if Trade Partner fails to comply with the manner in which Trade Partner reports to the Kansas human rights commission in accordance with the provisions of K.S.A. 44-1031 and amendments thereto, Trade Partner shall be deemed to have breached the Subcontract and it may be canceled, terminated or suspended, in whole or in part, by MGCC or the contracting agency; and

(4) if Trade Partner is found guilty of a violation of the Kansas act against discrimination under a decision or order of the commission which has become final, Trade Partner shall be deemed to have breached the Subcontract and it may be canceled, terminated or suspended, in whole or in part, by McCownGordon or the contracting agency.

EEO COMPLIANCE CERTIFICATE

Trade Partner certifies to McCownGordon Construction LLC ("Contractor") that throughout the period covered Trade Partner will comply with all applicable provisions of Executive Order 11246 as revised from time to time and as implemented by Title 41 of the Code of Federal Regulations, particularly Chapters 1, 50 and 60, as the same may be amended from time to time.

Trade Partner further certifies and agrees that each of the following provisions is made a part of each subcontract between Trade Partner and Contractor, entered, unless, and to the extent that, because of dollar amount or otherwise, the subcontract is not required to contain the provision:

I. NON-DISCRIMINATION IN EMPLOYMENT

(a) The Trade Partner will recruit and hire employees who are disabled veterans, Vietnam era veterans, and individuals with handicaps and will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Trade Partner will take affirmative action to ensure that applicants are employed, and that employees are treated during employment

MASTER SUBCONTRACT AGREEMENT

ATTACHMENT 13

EEO REQUIREMENTS AND EEO COMPLIANCE

without regard to status such as disabled veterans, Vietnam era veterans, handicapped individuals or because of race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following employment, upgrading demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Trade Partner agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this non-discrimination clause.

(b) The Trade Partner will, in all solicitations or advertisements for employees placed by or on behalf of the Trade Partner, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

(c) The Trade Partner will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract of understanding, a notice to be provided by the agency contracting officer, advising the labor union or worker's representative if the Trade Partner's commitments under Equal Opportunity Clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Trade Partner will comply with all provisions of Executive Order 11246 of September 24, 1965, and the rules, regulations and relevant orders of the Secretary of Labor.

(e) The Trade Partner will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

(f) In the event of the Trade Partner's noncompliance with the Equal Opportunity Clause of this subcontract or with any part of such rules, regulations or orders, this subcontract may be canceled, terminated or suspended in whole or in part and the Trade Partner may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rules, regulations or orders of the Secretary of Labor, or as otherwise provided by law.

(g) The Trade Partner will include the provisions of paragraphs (a) through (g) in every subcontract unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provision will be binding upon each Trade Partner or vendor. The Trade Partner will take such action with respect to any subcontract as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event the Trade Partner becomes involved in, or is threatened with litigation with a Trade Partner or vendor as a result of such direction by the contracting agency, the Trade Partner may request the United States to enter into such litigation to protect the interests of the United States.

II. CERTIFICATION OF NONSEGREGATED FACILITIES

Trade Partner does not, and during the performance of each subcontract with Contractor, will not maintain or provide for his employees and segregated facilities at any of his establishments, and does not and will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. Trade Partner agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this certificate. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color or national origin, because of habit, local custom or otherwise. He further agrees that (except where he has obtained identical certifications from proposed Trade Partners for specific time periods) he will obtain identical certifications from proposed Trade Partners prior to the award of subcontracts exceeding

MASTER SUBCONTRACT AGREEMENT

ATTACHMENT 13

EEO REQUIREMENTS AND EEO COMPLIANCE

\$10,000 which are not exempt from the provisions of the Equal Opportunity Clause; that he will retain such certifications in his files, and that he will forward the following to such proposed Trade Partners (except where the proposed Trade Partners have submitted identical certifications for specific time periods): NOTICE TO PROSPECTIVE TRADE PARTNERS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES. A Certification of

Nonsegregated Facilities, as required by Chapter 60-1.8 of Title 41 of the Code of Federal Regulations must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semi-annually or annually).

NOTE: Whoever knowingly or willfully makes any false, fictitious or fraudulent representations may be liable for criminal prosecutions under 18 U.S.C. 1001.

III. FILING CERTIFICATE

Trade Partner has failed or will file the necessary compliance reports, including Standard Form 100 (EEO-1) where and when required by law and applicable regulations, including, without limitation, the Civil Rights Act of 1964 as amended by the Equal Employment Opportunity Act of 1972 and regulations in 41 CFR 60-1.7. Trade Partner has required and will require similar certification and filing from its non-exempt suppliers.

IV. AFFIRMATIVE ACTION CERTIFICATE

Trade Partner has developed, is maintaining and will continue to maintain the written affirmative action compliance program to guarantee equal employment opportunity to minority groups required by applicable law and regulations, including, without limitation, those appearing in 41 CFR 60-1.40. Trade Partner has required and will require similar certification from each of its non-exempt suppliers.

V. UTILIZATION OF SMALL BUSINESS CONCERNS AND DISADVANTAGED SMALL BUSINESS CONCERNS

If Contractor is required to utilize small business concerns or disadvantaged small business concerns by law or by contract, Trade Partner agrees to provide any information requested by Contractor that would be relevant to the issue of whether or not Trade Partner meets the criteria for these small business concerns. If required by an applicable Prime Contract, Trade Partner further agrees to comply with the obligations imposed by 13 CFR §125.9 and FAR §52.219-8, which clauses are incorporated herein by reference.

Executed this _____ day of _____, 20____ by:

Firm/Company Name: _____

Name of Authorized Representative: _____

Signature of Authorized Representative: _____

Title of Authorized Representative: _____

All inquiries regarding this matter should be directed to Nancy Whitworth, Equal Employment Opportunity/Affirmative Action Representative, McCown Gordon Construction, LLC, 850 Main St. Kansas City, Missouri 64105. Telephone: 816-960-1111.

MASTER SUBCONTRACT AGREEMENT

ATTACHMENT 13

SAFETY TRAINING REQUIREMENTS

SAFETY REQUIREMENTS / SAFETY AND HOW IT PERTAINS TO THE TRADE PARTNER

McCownGordon Construction, LLC has established several practices involving our Trade Partners. These safety Practices are listed below. If you are a new Trade Partner, this information will be enlightening; if you are an Established Trade Partner, this information will be a review. Also, this safety attachment is by no means all encompassing as it relates to the OSHA 1926 Standards; it is merely a tool used to inform the Trade Partner and its employees of our company practices, and to avoid any misunderstanding prior or during construction as it relates to safety.

HEAD PROTECTION (HARD HATS)

It is the policy of McCownGordon that all personnel will wear OSHA Approved head protection while on our projects. The only exceptions to this policy are operators inside equipment that has adequate overhead protection, and tenant finish work deemed acceptable by the McCownGordon Safety representative. In most cases, if there is an overhead or side impact exposure to the individual's head, our Supervisor will require hard hats. It is a requirement that this information is conveyed to your Supervisors and employees prior to project mobilization.

WORK ATTIRE

All Trade Partners' employees are required to wear the appropriate work attire consisting of long pants, shirts, and work boots. Short pants, tank tops, or tennis shoes are not permissible to be worn by anyone entering the project work zone. We will also require safety glasses or the appropriate personnel protective equipment in accordance with the 1926 Standards.

MONTHLY MEETINGS

Each McCownGordon Project Supervisor will chair a monthly Project Specific Safety Meeting. Your Foreman and /or designated Safety Representative is required to attend these meetings.

FALL PROTECTION

Pursuant to the 1926 OSHA-Subpart M for fall protection, MCCOWNGORDON strongly advises all crafts working above 6' to review the performance of their work in accordance with the above standard, to plan accordingly, to enact, to establish, or to construct the proper fall protection system necessary for your scope of work. This planning should take place prior to the beginning of work. If you are not familiar with Subpart M of the 1926 Standards contact our Safety Director for assistance. This standard involves several aspects of employee training that are imperative to your business.

Steel erectors will be required to follow OSHA 1926 subpart M in lieu of subpart R when related to fall protection requirements. All workers will be tied off 100% of the time when there is a change in elevation of 6 feet or more.

Contractors using Self Retracting Lifelines (SRL) will be required to have it mounted/anchored according to manufacturing specifications. Only leading edge SRL's can be placed on the same walking/working surface as the employee. For example, setting steel with no structure above the worker or laying decking. All non-leading edge retractable's cannot be used for fall arrest unless mounted overhead per manufacturers specifications.

NON COMPLIANCE PROCEDURES

A practice has been established by McCownGordon concerning Trade Partners and noncompliance of the 1926 Safety Standards, as we interpret or have knowledge of them. On each project, during or after a safety inspection conducted by the Company's safety department or their designate, your supervisor or employee will be notified of any items, situations, or work practices found in noncompliance. We will request corrective action with a reasonable time frame for the compliance; said time frame will be dependent on the severity of the situation. Any severe or life threatening items or actions must be corrected immediately. In the event that the Trade Partner field supervision does not produce satisfactory results, we will contact the Trade Partner's main office and request assistance.

MASTER SUBCONTRACT AGREEMENT

ATTACHMENT 13

SAFETY TRAINING REQUIREMENTS

In the event that both notifications fail to correct the situation, we reserve the right to remove any employee(s) involved and/or correct the situation at the expense of the noncompliant Trade Partners.

HAZARD COMMUNICATION STANDARD

Part of the Hazardous Communication Standard (Hazcom) requires employers on multi-employer project sites to disseminate Hazardous material information that each craft may be using to everyone on the project. This could be large a large task to accomplish; therefore, we suggest to all Trade Partners that they place a copy of their company's Hazcom program with MSDS information in our project trailer. By placing their program in our possession, we can establish a common information center; but it is each company's responsibility to inform their employees of the location of the various Hazcom programs. By accepting their program, we will not take responsibility for updating, changing, reviewing, or training your employees as it relates to Hazardous materials.

OSHA INSPECTIONS

In the event of an OSHA inspection, McCownGordon's policy does not require a warrant to enter the project site. Since 1994 the general contractor, in most instances, has been viewed as the responsible party on the project site, as far as OSHA is concerned. This theory is applied under the multi-employer worksite ruling, which means we can be fined for hazards that are created by Trade Partners even though we physically do not have employees exposed to the hazard. Therefore, we find it necessary to inform Trade Partners that if any violations are found during an OSHA inspection in which MCCOWNGORDON is cited under the multi-employer worksite ruling, we will seek financial restitution against the Trade Partner. If cooperation is received from all Trade Partners during the process of the job, then only minor citations should be found during an inspection by OSHA.

CRANE REQUIREMENTS

Contractors will be required to comply with 1926 OSHA- Subpart CC.

Contractors utilizing cranes on McCownGordon site must submit the following documentation prior to crane mobilization: operator's CCO, operator's rigging and signal person certification, operator's crane specific evaluations, crane's annual inspection, crane's lift plan.

DOCUMENTATION REQUIREMENTS

Prior to start of work, each trade partner must submit: site specific safety program, hazard communication program, inventory of chemicals used on jobsite, copies of safety data sheets, silica program, documentation of training specific to task / work, project orientation form, and competent person form.

Throughout the start of work, each trade partner must submit on a weekly basis: toolbox talk specific to scope of work and trade partner safety inspections.

For all high hazard work / unusual operations, a Method of Procedures form (or equivalent) must be completed and reviewed by McCownGordon.

SAFETY GUIDELINES / REQUIREMENTS

Contractors will be required to comply with jobsite specific safety requirements and any safety rules outlined by the owner.

Contractors must conduct at least weekly site safety inspections and crew safety meetings. These items must be documented, and copies made available to McCownGordon Construction upon request.

MASTER SUBCONTRACT AGREEMENT ATTACHMENT 13

SAFETY TRAINING REQUIREMENTS

THE ULTIMATE GOAL

The ultimate goal we are all trying to accomplish is to prevent injuries. Second, we are trying to limit all sources of the potential liability. We believe this can be accomplished by pre-planning, enacting a good safety program, empowering the employees to enforce the program, and communicating as a collective group of companies who are trying to construct a quality project in the safest, most efficient manner.

McCownGordon Construction, LLC has a Safety Department that any Trade Partner can contract at their convenience for assistance. The advice given by our Safety Department is as we interpret the standards or as we view the loss control issues; nevertheless, we can provide a service that might avoid employee injuries and does not cost your company money. Please take advantage of it.

Thank you for your cooperation.

EMERGENCY CONTACT INFORMATION SHEET

The following names and telephone numbers are required in the event of emergency and MUST be provided to the Contractor prior to the Trade Partner starting work on site.

Trade Partner Name: _____
Office Contact #: _____

Owner / Managing Partner: _____

Home #: _____
Mobile #: _____
E-Mail: _____

Project Manager: _____

Home #: _____
Mobile #: _____
E-Mail: _____

Project Foreman: _____

Home #: _____
Mobile #: _____
E-Mail: _____

Please provide the name and telephone number of an individual in your firm that can be contacted in an emergency if any of the individuals listed above cannot be contacted:

Name: _____
Title: _____
Home #: _____
Mobile #: _____
E-Mail: _____

Please initial to indicate receipt and acceptance

Trade Partner

Date

ATTACHMENT 15 FORM I-9

OMB No. 1615-0047; Expires 06/30/08

Department of Homeland Security
U.S. Citizenship and Immigration Services

Form I-9, Employment Eligibility Verification

Please read instructions carefully before completing this form. The instructions must be available during completion of this form.

ANTI-DISCRIMINATION NOTICE: It is illegal to discriminate against work eligible individuals. Employers CANNOT specify which document(s) they will accept from an employee. The refusal to hire an individual because the documents have a future expiration date may also constitute illegal discrimination.

Section 1. Employee Information and Verification. To be completed and signed by employee at the time employment begins.

Print Name - Last	First	Middle Initial	Maiden Name
Address (Street Name and Number)		Apt. #	Date of Birth (month/day/year)
City	State	Zip Code	Social Security #
I am aware that federal law provides for imprisonment and/or fines for false statements or use of false documents in connection with the completion of this form.		I attest, under penalty of perjury, that I am (check one of the following): <input type="checkbox"/> A citizen or national of the United States <input type="checkbox"/> A lawful permanent resident (Alien #) A _____ <input type="checkbox"/> An alien authorized to work until _____ (Alien # or Admission #)	
		Employee's Signature _____ Date (month/day/year) _____	

Preparer and/or Translator Certification. (To be completed and signed if Section 1 is prepared by a person other than the employee.) I attest, under penalty of perjury, that I have assisted in the completion of this form and that to the best of my knowledge the information is true and correct.

Preparer's/Translator's Signature _____	Print Name _____
Address (Street Name and Number, City, State, Zip Code) _____	Date (month/day/year) _____

Section 2. Employer Review and Verification. To be completed and signed by employer. Examine one document from List A OR examine one document from List B and one from List C, as listed on the reverse of this form, and record the title, number and expiration date, if any, of the document(s).

List A	OR	List B	AND	List C
Document title _____		_____		_____
Issuing authority: _____		_____		_____
Document #: _____		_____		_____
Expiration Date (if any): _____		_____		_____
Document #: _____		_____		_____
Expiration Date (if any): _____		_____		_____

CERTIFICATION - I attest, under penalty of perjury, that I have examined the document(s) presented by the above-named employee, that the above-listed document(s) appear to be genuine and to relate to the employee named, that the employee began employment on (month/day/year) _____ and that to the best of my knowledge the employee is eligible to work in the United States. (State employment agencies may omit the date the employee began employment.)

Signature of Employer or Authorized Representative _____	Print Name _____	Title _____
Business or Organization Name and Address (Street Name and Number, City, State, Zip Code) _____		Date (month/day/year) _____

Section 3. Updating and Reverification. To be completed and signed by employer.

A. New Name (if applicable) _____	B. Date of Rehire (month/day/year) (if applicable) _____	
C. If employee's previous grant of work authorization has expired, provide the information below for the document that establishes current employment eligibility.		
Document Title: _____	Document #: _____	Expiration Date (if any): _____
I attest, under penalty of perjury, that to the best of my knowledge, this employee is eligible to work in the United States, and if the employee presented document(s), the document(s) I have examined appear to be genuine and to relate to the individual.		
Signature of Employer or Authorized Representative _____		Date (month/day/year) _____

Form I-9 (Rev. 06/05/07) N

AIA® Document A133™ – 2019

Standard Form of Agreement Between Owner and Construction Manager as Constructor where the basis of payment is the Cost of the Work Plus a Fee with a Guaranteed Maximum Price

AGREEMENT made as of the _____ day of August in the year Two Thousand Twenty
(In words, indicate day, month, and year.)

BETWEEN the Owner:
(Name, legal status, address, and other information)

Lee's Summit R-7 School District
502 SE Transport Drive
Lee's Summit, MO 64081

and the Construction Manager:
(Name, legal status, address, and other information)

McCownGordon Construction, LLC
850 Main Street
Kansas City, MO 64105

for the following Project:
(Name, location, and detailed description)

New Middle School and High School Athletic Fields
SE Bailey Rd.
Lee's Summit, MO 64081

The Architect:
(Name, legal status, address, and other information)

DLR Group
7290 W. 133rd Street
Overland Park, KS 66213

The Owner and Construction Manager agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

AIA Document A201™–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

TABLE OF ARTICLES

1	INITIAL INFORMATION
2	GENERAL PROVISIONS
3	CONSTRUCTION MANAGER'S RESPONSIBILITIES
4	OWNER'S RESPONSIBILITIES
5	COMPENSATION AND PAYMENTS FOR PRECONSTRUCTION PHASE SERVICES
6	COMPENSATION FOR CONSTRUCTION PHASE SERVICES
7	COST OF THE WORK FOR CONSTRUCTION PHASE
8	DISCOUNTS, REBATES, AND REFUNDS
9	SUBCONTRACTS AND OTHER AGREEMENTS
10	ACCOUNTING RECORDS
11	PAYMENTS FOR CONSTRUCTION PHASE SERVICES
12	DISPUTE RESOLUTION
13	TERMINATION OR SUSPENSION
14	MISCELLANEOUS PROVISIONS
15	SCOPE OF THE AGREEMENT
	EXHIBIT A GUARANTEED MAXIMUM PRICE AMENDMENT
	EXHIBIT B CONSTRUCTION MANAGER'S HOURLY RATES
	EXHIBIT C E-VERIFY
	EXHIBIT D CERTIFICATE OF INSURANCE

ARTICLE 1 INITIAL INFORMATION

§ 1.1 This Agreement is based on the Initial Information set forth in this Section 1.1.

(Paragraph deleted)

§ 1.1.1 The Owner's anticipated Sustainable Objective for the Project:

(Identify and describe the Owner's Sustainable Objective for the Project, if any.)

The Architect shall design the Project to a LEED Certified level of design. Prior to beginning design, the Architect shall review the requirements for design to LEED Certified with the Owner to determine what standards will be required for and incorporated into the Project. The Project is not to be submitted to LEED for certification.

§ 1.1.2 The Owner identifies the following representative in accordance with Section 4.2:

(List name, address, and other contact information.)

Kyle Gorrell
 Director of Facilities and Operations
 502 SE Transportation Drive
 Lee's Summit, MO 64081

Init.

§ 1.1.3 The persons or entities, in addition to the Owner's representative, who are required to review the Construction Manager's submittals (or a portion of the Construction Manager's submittals as necessary) to the Owner are as follows:
(List name, address and other contact information.)

- .1 Lee's Summit R7 Deputy Superintendent of Operations
- .2 Masonry Consultant listed in Section 1.1.4
- .3 Roofing Consultant listed in Section 1.1.4

§ 1.1.4 The Owner shall retain the following consultants and contractors:
(List name, legal status, address, and other contact information.)

.1 Masonry Consultant:

DGM Consultants
10251 Goddard Street
Overland Park, KS 66214-2619
Phone: (913) 894-2048

.2 Roofing Consultant:

Benchmark, Inc.
6065 Huntington Court NE
Cedar Rapids, IA 52402
Phone: (319) 393-9100

.3 Other, if any:

(List any other consultants retained by the Owner, such as a Project or Program Manager.)

TBD

§ 1.1.5 The Architect's representative:
(List name, address, and other contact information.)

Scott Pashia
Principal
DLR Group
7290 W. 133rd Street
Overland Park, KS 66213
Telephone: (913) 897-7811
Email: SPashia@DLRGroup.com

§ 1.1.6 The Construction Manager identifies the following representative in accordance with Article 3:
(List name, address, and other contact information.)

Chris Hess
Project Executive
McCownGordon Construction, LLC
850 Main Street
Kansas City, MO 64105
Telephone: (816) 365-4774
Email: Chess@McCownGordon.com

(Paragraph deleted)

§ 1.1.7 The Owner's requirements for the Construction Manager's staffing plan for Preconstruction Services, as required under Section 3.1.9:

(List any Owner-specific requirements to be included in the staffing plan.)

Init.

To Be Determined

§ 1.1.8 The Owner's requirements for subcontractor procurement for the performance of the Work:
(List any Owner-specific requirements for subcontractor procurement.)

To Be Determined

(Paragraphs deleted)

§ 1.2 The Owner and Construction Manager may rely on the Initial Information. Both parties, however, recognize that such information may materially change and, in that event, the Owner and the Construction Manager shall appropriately adjust the Project schedule, the Construction Manager's services, and the Construction Manager's compensation. The Owner shall adjust the Owner's budget for the Guaranteed Maximum Price and the Owner's anticipated design and construction milestones, as necessary, to accommodate material changes in the Initial Information.

§ 1.3 Neither the Owner's nor the Construction Manager's representative shall be changed without ten days' prior notice to the other party.

ARTICLE 2 GENERAL PROVISIONS

§ 2.1 The Contract Documents

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract and are as fully a part of the Contract as if attached to this Agreement or repeated herein. Upon the Owner's acceptance of the Construction Manager's Guaranteed Maximum Price proposal, the Contract Documents will also include the documents described in Section 3.2.3 and identified in the Guaranteed Maximum Price Amendment and revisions prepared by the Architect and furnished by the Owner as described in Section 3.2.8. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. If anything in the other Contract Documents, other than a Modification, is inconsistent with this Agreement, this Agreement shall govern. An enumeration of the Contract Documents, other than a Modification, appears in Article 15.

§ 2.2 Relationship of the Parties

The Construction Manager accepts the relationship of trust and confidence established by this Agreement and covenants with the Owner to cooperate with the Architect and exercise the Construction Manager's skill and judgment in furthering the interests of the Owner to furnish efficient construction administration, management services, and supervision; to furnish at all times an adequate supply of workers and materials; and to perform the Work in an expeditious and economical manner consistent with the Owner's interests. The Owner agrees to furnish or approve, in a timely manner, information required by the Construction Manager and to make payments to the Construction Manager in accordance with the requirements of the Contract Documents.

§ 2.3 General Conditions

§ 2.3.1 For the Preconstruction Phase, AIA Document A201™-2017, General Conditions of the Contract for Construction, in the form attached hereto, shall apply as follows: Section 1.5, Ownership and Use of Documents; Section 1.7, Digital Data Use and Transmission; Section 1.8, Building Information Model Use and Reliance; Section 2.2.4, Confidential Information; Section 3.12.10, Professional Services; Section 10.3, Hazardous Materials; Section 13.1, Governing Law. The term "Contractor" as used in A201-2017 shall mean the Construction Manager.

§ 2.3.2 For the Construction Phase, the general conditions of the contract shall be as set forth in A201-2017, as amended, which document is incorporated herein by reference. The term "Contractor" as used in A201-2017 shall mean the Construction Manager.

ARTICLE 3 CONSTRUCTION MANAGER'S RESPONSIBILITIES

The Construction Manager's Preconstruction Phase responsibilities are set forth in Sections 3.1 and 3.2, and in the applicable provisions of A201-2017 referenced in Section 2.3.1. The Construction Manager's Construction Phase responsibilities are set forth in Section 3.3. The Owner and Construction Manager may agree, in consultation with the Architect, for the Construction Phase to commence prior to completion of the Preconstruction Phase, in which case, both

Init.

phases will proceed concurrently. The Construction Manager shall identify a representative authorized to act on behalf of the Construction Manager with respect to the Project.

§ 3.1 Preconstruction Phase

§ 3.1.1 Extent of Responsibility

The Construction Manager shall exercise reasonable care in performing its Preconstruction Services. The Owner and Architect shall be entitled to rely on, and shall not be responsible for, the accuracy, completeness, and timeliness of services and information furnished by the Construction Manager. The Construction Manager, however, does not warrant or guarantee estimates and schedules except as may be included as part of the Guaranteed Maximum Price. The Construction Manager is not required to ascertain that the Drawings and Specifications are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Construction Manager shall promptly report to the Architect and Owner any nonconformity discovered by or made known to the Construction Manager as a request for information in **written form**.

§ 3.1.2 The Construction Manager shall provide a preliminary evaluation of the Owner's program, schedule and construction budget requirements, each in terms of the other.

§ 3.1.3 Consultation

§ 3.1.3.1 The Construction Manager shall schedule and conduct meetings with the Architect and Owner to discuss such matters as procedures, progress, coordination, and scheduling of the Work.

§ 3.1.3.2 The Construction Manager shall advise the Owner and Architect on proposed site use and improvements, selection of materials, building systems, and equipment. The Construction Manager shall also provide recommendations to the Owner and Architect, consistent with the Project requirements, on constructability; availability of materials and labor; time requirements for procurement, installation and construction; prefabrication; and factors related to construction cost including, but not limited to, costs of alternative designs or materials, preliminary budgets, life-cycle data, and possible cost reductions. The Construction Manager shall consult with the Architect regarding professional services to be provided by the Construction Manager during the Construction Phase.

§ 3.1.3.3 The Construction Manager shall assist the Owner and Architect in establishing building information modeling and digital data protocols for the Project, using 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.

§ 3.1.3.4 The Construction Manager shall review the program furnished by the Owner, and any evaluation of the Owner's program provided by the Architect, to ascertain the requirements of the Project, and shall arrive at a mutual understanding of such requirements with the Owner and Architect.

§ 3.1.4 Project Schedule

When Project requirements in Section 4.1.1 have been sufficiently identified, the Construction Manager shall prepare and periodically update a Project schedule for the Architect's review and the Owner's acceptance. The Construction Manager shall obtain the Architect's approval for the portion of the Project schedule relating to the performance of the Architect's services. The Project schedule shall coordinate and integrate the Construction Manager's services, the Architect's services, other Owner consultants' services, and the Owner's responsibilities; and identify items that affect the Project's timely completion. The updated Project schedule shall include the following: submission of the Guaranteed Maximum Price proposal; components of the Work; times of commencement and completion required of each Subcontractor; ordering and delivery of products, including those that must be ordered in advance of construction; and the occupancy requirements of the Owner. In the event of any delay, the Construction Manager agrees to meet with the Owner, Architect and/or contractors, and Owner's Consultants that are on the Project, as and when requested by the Owner, to discuss the duration of the delay, and identify responses and alternatives which may reduce or eliminate the impact of the delay, and shall modify the Project schedule accordingly.

§ 3.1.4.1 Project schedules shall include the critical path of construction through the affected trades for the duration of the Project.

§ 3.1.4.2 Project schedules shall be maintained current with the status of the Work, and the Contractor shall provide weekly updates to the Owner and Architect throughout the Project. If the Work becomes two or more weeks behind

schedule, the Contractor shall provide a recovery schedule, including the critical path, within one week to bring the project back to the latest Owner approved completion date.

§ 3.1.5 Phased Construction

The Construction Manager, in consultation with the Architect, shall provide recommendations with regard to accelerated or fast-track scheduling, procurement, and sequencing for phased construction. The Construction Manager shall take into consideration cost reductions, cost information, constructability, provisions for temporary facilities, and procurement and construction scheduling issues.

§ 3.1.6 Cost Estimates

§ 3.1.6.1 Based on the preliminary design and other design criteria prepared by the Architect, the Construction Manager shall prepare, for the Architect's review and the Owner's approval, preliminary estimates of the Cost of the Work or the cost of program requirements using area, volume, or similar conceptual estimating techniques. If the Architect or Construction Manager suggests alternative materials and systems, the Construction Manager shall provide cost evaluations of those alternative materials and systems.

§ 3.1.6.2 As the Architect progresses with the preparation of the Schematic Design, Design Development and Construction Documents, the Construction Manager shall prepare and update, at appropriate intervals agreed to by the Owner, Construction Manager and Architect, estimates of the Cost of the Work with increasing detail and refinement. The Construction Manager shall include in the estimates those costs to allow for the further development of the design, price escalation, and market conditions, until such time as the Owner and Construction Manager agree on a Guaranteed Maximum Price for the Work. The estimates shall be provided for the Architect's review and the Owner's approval. The Construction Manager shall inform the Owner and Architect in the event that the estimates of the Cost of the Work exceeds the latest approved Project budget, and make recommendations for corrective action.

§ 3.1.6.3 If the Architect is providing cost estimating services as a Supplemental Service, and a discrepancy exists between the Construction Manager's cost estimates and the Architect's cost estimates, the Construction Manager and the Architect shall work together to reconcile the cost estimates.

§ 3.1.7 As the Architect progresses with the preparation of the Schematic Design, Design Development and Construction Documents, the Construction Manager shall consult with the Owner and Architect and make recommendations regarding constructability and schedules, for the Architect's review and the Owner's approval.

§ 3.1.8 The Construction Manager shall provide recommendations and information to the Owner and Architect regarding equipment, materials, services, and temporary Project facilities.

§ 3.1.9 The Construction Manager shall provide a staffing plan for Preconstruction Phase services for the Owner's review and approval.

§ 3.1.10 If the Owner identified a Sustainable Objective in Article 1, the Construction Manager shall fulfill its Preconstruction Phase responsibilities as required in AIA Document E234™-2019, Sustainable Projects Exhibit, Construction Manager as Constructor Edition, attached to this Agreement.

§ 3.1.11 Subcontractors and Suppliers

§ 3.1.11.1 If the Owner has provided requirements for subcontractor procurement in section 1.1.14, the Construction Manager shall provide a subcontracting plan, addressing the Owner's requirements, for the Owner's review and approval.

§ 3.1.11.2 The Construction Manager shall develop bidders' interest in the Project.

§ 3.1.11.3 The processes described in Article 9 shall apply if bid packages will be issued during the Preconstruction Phase.

§ 3.1.12 Procurement

The Construction Manager shall prepare, for the Architect's review and the Owner's acceptance, a procurement schedule for items that must be ordered in advance of construction. The Construction Manager shall expedite and coordinate the ordering and delivery of materials that must be ordered in advance of construction. If the Owner agrees to procure any items prior to the establishment of the Guaranteed Maximum Price, the Owner shall procure the items on terms and conditions acceptable to the Construction Manager. Upon the establishment of the Guaranteed Maximum Price, the

Init.

Owner shall assign all contracts for these items to the Construction Manager and the Construction Manager shall thereafter accept responsibility for them.

§ 3.1.13 Compliance with Laws

The Construction Manager shall comply with applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to its performance under this Contract, and with equal employment opportunity programs, and other programs as may be required by governmental and quasi-governmental authorities.

§ 3.1.14

(Paragraphs deleted)

The Construction Manager shall identify and recommend to Owner any testing, analysis or investigation of the Project site which the Construction Manager believes is reasonably necessary in its judgement, in connection with the Project and shall assist and advise the Owner in selecting, retaining and coordinating the professional services of surveyors, special consultants and testing laboratories required for the Project.

§ 3.2 Guaranteed Maximum Price Proposal

§ 3.2.1 At a time to be mutually agreed upon by the Owner and the Construction Manager, but no later than thirty (30) days after the completion of the Construction Documents, the Construction Manager shall prepare a Guaranteed Maximum Price proposal for the Owner's and Architect's review, and the Owner's acceptance. The Guaranteed Maximum Price in the proposal shall be the sum of the Construction Manager's estimate of the Cost of the Work, the Construction Manager's contingency described in Section 3.2.4, and the Construction Manager's Fee described in Section 6.1.2.

§ 3.2.2 To the extent that the Contract Documents are anticipated to require further development, the Guaranteed Maximum Price includes the costs attributable to such further development consistent with the Contract Documents and reasonably inferable therefrom. Such further development does not include changes in scope, systems, kinds and quality of materials, finishes, or equipment, all of which, if required, shall be incorporated by Change Order.

§ 3.2.3 The Construction Manager shall include with the Guaranteed Maximum Price proposal a written statement of its basis, which shall include the following:

- .1 A list of the Drawings and Specifications, including all Addenda thereto, and the Conditions of the Contract;
- .2 A list of the clarifications and assumptions made by the Construction Manager in the preparation of the Guaranteed Maximum Price proposal;
- .3 A statement of the proposed Guaranteed Maximum Price, including a statement of the estimated Cost of the Work organized by trade categories or systems, including allowances approved by the Owner in advance, and broken down in sufficient detail required by the Owner; the Construction Manager's contingency set forth in Section 3.2.4; and the Construction Manager's Fee;
- .4 The date of Substantial Completion upon which the proposed Guaranteed Maximum Price is based; and
- .5 A date by which the Owner must accept the Guaranteed Maximum Price to be not less than thirty (30) days after delivery of the Guaranteed Maximum Price to the Owner.

§ 3.2.4 The Guaranteed Maximum Price shall include both an Owner's Contingency and a Construction Manager's Contingency. The Owner's Contingency can be used at the Owner's discretion for any purpose including, but not limited to, Change Orders. In preparing the Construction Manager's Guaranteed Maximum Price proposal, the Construction Manager shall include its Construction Manager's Contingency to cover those costs that are included in the Guaranteed Maximum Price but not otherwise allocated to another line item. Such items may include, but are not necessarily limited to, overtime, repair of damaged work not caused by the Construction Manager's or its Subcontractors' negligence, and scope gaps. Any expenditure of the Construction Manager's Contingency greater than [REDACTED] will require the Owner's prior approval. The Construction Manager shall provide the Owner with a contingency log that tracks all uses of the Construction Manager's Contingency. The Owner retains the right to withhold payment for any contingency amount that it reasonably deems inappropriate. The parties shall use their best efforts to resolve any disagreement over contingency expenditures.

§ 3.2.5 The Construction Manager shall meet with the Owner and Architect to review the Guaranteed Maximum Price proposal. In the event that the Owner or Architect discover any inconsistencies or inaccuracies in the information

Init.

presented, they shall promptly notify the Construction Manager, who shall make appropriate adjustments to the Guaranteed Maximum Price proposal, its basis, or both.

§ 3.2.6 If the Owner notifies the Construction Manager that the Owner has accepted the Guaranteed Maximum Price proposal in writing before the date specified in the Guaranteed Maximum Price proposal, the Guaranteed Maximum Price proposal shall be deemed effective without further acceptance from the Construction Manager. Following acceptance of a Guaranteed Maximum Price, the Owner and Construction Manager shall execute the Guaranteed Maximum Price Amendment amending this Agreement, a copy of which the Owner shall provide to the Architect. The Guaranteed Maximum Price Amendment shall set forth the agreed upon Guaranteed Maximum Price with the information and assumptions upon which it is based.

§ 3.2.7 The Construction Manager shall not incur any cost to be reimbursed as part of the Cost of the Work prior to the execution of the Guaranteed Maximum Price Amendment, unless the Owner provides prior written authorization for such costs.

§ 3.2.8 Deleted.

§ 3.2.9 The Construction Manager shall include in the Guaranteed Maximum Price all sales, consumer, use and similar taxes for the Work provided by the Construction Manager that are legally enacted, whether or not yet effective, at the time the Guaranteed Maximum Price Amendment is executed unless the Owner has provided the Construction Manager with a sales tax exemption certificate. The Owner will furnish to the Construction Manager a sales and compensating tax exemption certificate number from the State of Missouri for the Construction of this Project, which must be provided by the Construction Manager to all Subcontractors and material suppliers. Upon completion of the Project, the Construction Manager must supply a Project Completion Certificate to the Owner and the State of Missouri as required. All invoices must be retained by the Construction Manager and Subcontractors for a period of five (5) years, or longer as required by the State of Missouri.

§ 3.3 Construction Phase

§ 3.3.1 General

§ 3.3.1.1 For purposes of Section 8.1.2 of A201–2017, the date of commencement of the Work shall mean the date of commencement of the Construction Phase.

§ 3.3.1.2 The Construction Phase shall commence upon the Owner’s execution of the Guaranteed Maximum Price Amendment or, prior to acceptance of the Guaranteed Maximum Price proposal, by written agreement of the parties, or by Owner’s issuance of a written Notice To Proceed, whichever comes first. The written agreement shall set forth a description of the Work to be performed by the Construction Manager, and any insurance and bond requirements for Work performed prior to execution of the Guaranteed Maximum Price Amendment. Work shall not commence until the Owner has received all required Bonds and Insurance for the Project and the Construction Manager has received all necessary governmental permits and approvals.

§ 3.3.2 Administration

§ 3.3.2.1 The Construction Manager shall schedule and conduct weekly meetings to discuss such matters as procedures, progress, coordination, scheduling, and status of the Work. The Construction Manager shall prepare and promptly distribute minutes of the meetings to the Owner and Architect.

§ 3.3.2.2 Upon the execution of the Guaranteed Maximum Price Amendment, the Construction Manager shall prepare and submit to the Owner and Architect a construction schedule for the Work and a submittal schedule in accordance with Section 3.10 of A201–2017.

§ 3.3.2.3 The Construction Manager shall provide administration, management and related services to coordinate scheduled activities and responsibilities of the Subcontractors with each other and with those of the Construction Manager, the Owner, the Owner’s Consultants, the Owner’s Contractors, and the Architect. The Construction Manager shall coordinate the activities of the Subcontractors in accordance with the latest approved Project Budget, Project Schedule, and the Contract Documents.

§ 3.3.2.4 The Construction Manager shall update the Project Schedule, incorporating the activities of the Owner, Architect, and Subcontractors on the Project, including activity sequences and durations, allocation of labor and materials,

Init.

processing of Shop Drawings, Product Data and Samples, and delivery and procurement of products, including those that must be ordered well in advance of construction. The Project schedule shall include the Owner's occupancy requirements showing portions of the Project having occupancy priority. The Construction Manager shall update and reissue the Project Schedule as required to show current conditions. If an update indicates that the previously approved Project Schedule may not be met, the Construction Manager shall recommend corrective action to the Owner and Architect. The Construction Manager shall make available to the Owner a daily log containing a record of Work in progress, the number of workers, Work accomplished, problems encountered monthly, and other similar relevant data as the Owner may require.

§ 3.3.2.5 The Construction Manager shall schedule and conduct meetings to discuss such matters as procedures, progress, field conflicts or problems (including, without limitation, interpretations of drawings and specifications), coordination, and scheduling of the Work. The Construction Manager shall prepare and promptly distribute minutes to the Owner, Owner's Consultants and Contractors, Architect, and Subcontractors.

§ 3.3.2.3 Monthly Report

The Construction Manager shall record the progress of the Project. On a monthly basis, or otherwise as agreed to by the Owner, the Construction Manager shall submit written progress reports to the Owner and Architect, showing percentages of completion and other information required by the Owner.

§ 3.3.2.4 Daily Logs

The Construction Manager shall keep, and make available to the Owner and Architect, a daily log containing a record for each day of weather, portions of the Work in progress, number of workers on site of each subcontractor, identification of equipment on site, problems that might affect progress of the work, accidents, injuries, and other information required by the Owner.

§ 3.3.2.5 Cost Control

The Construction Manager shall develop a system of cost control for the Work, including regular monitoring of actual costs for activities in progress and estimates for uncompleted tasks and proposed changes. The Construction Manager shall identify variances between actual and estimated costs and report the variances to the Owner and Architect, and shall provide this information in its monthly reports to the Owner and Architect, in accordance with Section 3.3.2.3 above.

§ 3.3.2.6 Project Submittal Schedule

The Construction Manager shall prepare and revise as necessary, a Project submittal schedule incorporating information from the Owner, Subcontractors, Owner's Consultants, contractors and vendors, governmental agencies, and all other participants in the Project under the management of the Project Manager. The Project Submittal Schedule and any revisions shall be submitted to the Architect for approval. The Construction Manager shall promptly review all Shop Drawings, Product Data, Samples and other submittals for compliance with the submittal requirements of the Contract, coordinate submittals with information contained in related documents, and transmit to the Architect and Owner those that the Construction Manager recommends for approval. The Construction Manager's actions shall be taken in accordance with such reasonable promptness as to cause no delay in the Work or in the activities of the Construction Manager, Subcontractors, Owner, Owner's Consultants, Owner's Contractors, or the Architect. The Construction Manager shall maintain and submit with each delivery a comprehensive log of submittals showing all transmittal dates.

§ 3.3.2.7 Requests for Information

The Construction Manager shall transmit to the Architect, in writing, with a copy to the Owner, Requests for Interpretation and Requests for Information of the meaning and intent of the Drawings and Specifications, with the Construction Managers written recommendation, and assist in the resolution of questions that may arise.

§ 3.3.2.8 The Construction Manager shall arrange and coordinate for the delivery, storage, protection, and security of Owner-Purchased materials, systems, and equipment that are a part of the Project until such items are incorporated in the Work.

§ 3.3.2.9 With the Architect and Owner's maintenance personnel, the Construction Manager shall coordinate and manage the final start-up of utilities, operational systems and equipment, and any commissioning as required by the Contract Documents. The Construction Manager shall provide qualifications reports, and shall coordinate and schedule any adjustments, corrections or balancing required by the Contract Documents.

§ 3.3.2.10 When the Construction Manager considers a designated portion of the Work substantially complete, the Construction Manager shall, jointly with each subcontractor, prepare for the Architect, a list of incomplete or unsatisfactory items and a schedule for their completion. The Construction Manager shall assist the Architect in conducting inspections to determine whether the Work or designated portion thereof is substantially complete.

§ 3.3.2.11 The Construction Manager shall secure and transmit to the Architect warranties and similar submittals required by the Contract Documents for delivery to the Owner, deliver all keys, manuals, record drawings, shop drawings, and maintenance stock to the Owner. The Construction Manager shall forward to the Architect a final Project Application for Payment or final Application for Payment upon compliance with the requirements of the Contract Documents. The Application for Payment requesting final payment shall be accompanied by a current closeout matrix prepared and tracked by the Construction Manager showing delivery of all contractually required Contract Documents.

§ 3.3.2.12 Warranty and Correction Period

During the one year warranty and correction period following the date of Substantial Completion, the Construction Manager shall schedule and manage to completion, the remedial work of the Subcontractors, included but not limited to making certain that all respective Subcontractors are notified of the extent and nature of the remedial work which needs to be done and inform the Subcontractors that such work must be completed within a timeframe agreed upon by the Owner, and in a satisfactory manner.

ARTICLE 4 OWNER'S RESPONSIBILITIES

§ 4.1 Information and Services Required of the Owner

§ 4.1.1 The Owner shall provide information with reasonable promptness, regarding requirements for and limitations on the Project, including a written program which shall set forth the Owner's objectives, constraints, and criteria, including schedule, space requirements and relationships, flexibility and expandability, special equipment, systems, sustainability and site requirements.

§ 4.1.2 Prior to the execution of the Guaranteed Maximum Price Amendment, the Construction Manager may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. After execution of the Guaranteed Maximum Price Amendment, the Construction Manager may request such information as set forth in A201-2017 Section 2.2.

§ 4.1.3 The Owner shall establish and periodically update the Owner's budget for the Project, including (1) the budget for the Cost of the Work as defined in Article 7, (2) the Owner's other costs, and (3) reasonable contingencies related to all of these costs. If the Owner significantly increases or decreases the Owner's budget for the Cost of the Work, the Owner shall notify the Construction Manager and Architect. The Owner and the Architect, in consultation with the Construction Manager, shall thereafter agree to a corresponding change in the Project's scope and quality.

§ 4.1.4 **Structural and Environmental Tests, Surveys and Reports.** During the Preconstruction Phase, the Owner shall furnish the following information or services with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Construction Manager's performance of the Work with reasonable promptness after receiving the Construction Manager's written request for such information or services. The Construction Manager shall be entitled to rely on the accuracy of information and services furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 4.1.4.1 The Owner shall furnish tests, inspections, and reports, required by law and as otherwise agreed to by the parties, such as structural, mechanical, and chemical tests, tests for air and water pollution, and tests for hazardous materials.

§ 4.1.4.2 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a written legal description of the site. The surveys and legal information shall include, as applicable, grades and lines of streets, alleys, pavements and adjoining property and structures; designated wetlands; adjacent drainage; rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and contours of the site; locations, dimensions and other necessary data with respect to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths. All the information on the survey shall be referenced to a Project benchmark.

§ 4.1.4.3 The Owner, when such services are requested, shall furnish services of geotechnical engineers, which may include test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials,

Init.

seismic evaluation, ground corrosion tests and resistivity tests, including necessary operations for anticipating subsoil conditions, with written reports and appropriate recommendations.

§ 4.1.5 During the Construction Phase, 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 Construction Manager's performance of the Work with reasonable promptness after receiving the Construction Manager's written request for such information or services.

§ 4.1.6 If the Owner identified a Sustainable Objective in Article 1, the Owner shall fulfill its responsibilities as required in AIA Document E234™-2019, Sustainable Projects Exhibit, Construction Manager as Constructor Edition, attached to this Agreement.

§ 4.1.7 The Owner reserves the right to perform construction and operations related to the Project with the Owner's own forces, and to award contracts in connection with the Project which are not part of the Construction Manager's responsibilities under this Agreement. The Construction Manager shall notify the Owner if any such independent action will interfere with the Construction Manager's ability to perform the Construction Manager's responsibilities under this Agreement.

§ 4.2 Owner's Designated Representative

The Owner shall identify a representative authorized to act on behalf of the Owner with respect to the Project. The Owner's representative shall render decisions promptly and furnish information expeditiously, so as to avoid unreasonable delay in the services or Work of the Construction Manager. Except as otherwise provided in Section 4.2.1 of A201-2017, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 4.2.1 Legal Requirements. The Owner shall furnish all legal, insurance and accounting services, including auditing services, that may be reasonably necessary at any time for the Project to meet the Owner's needs and interests.

§ 4.3 Architect

The Owner shall retain an Architect to provide services, duties and responsibilities as described in AIA Document B133™-2019, Standard Form of Agreement Between Owner and Architect, Construction Manager as Constructor Edition, including any additional services requested by the Construction Manager that are necessary for the Preconstruction and Construction Phase services under this Agreement. The Owner shall provide the Construction Manager with a copy of the scope of services in the executed agreement between the Owner and the Architect, and any further modifications to the Architect's scope of services in the agreement.

ARTICLE 5 COMPENSATION AND PAYMENTS FOR PRECONSTRUCTION PHASE SERVICES

§ 5.1 Compensation

§ 5.1.1 For the Construction Manager's Preconstruction Phase services described in Sections 3.1 and 3.2, the Owner shall compensate the Construction Manager as follows:

(Insert amount of, or basis for, compensation and include a list of reimbursable cost items, as applicable.)



§ 5.1.2

(Paragraphs deleted)

Deleted.

(Table deleted)

(Paragraph deleted)

§ 5.1.3 Preconstruction Phase Services are included through November 19, 2020 (the anticipated date of final GMP Amendment approval by the Board of Education). If, at no fault of the Construction Manager, Preconstruction Phase Services are extended beyond November 19, 2020, compensation for additional services shall be submitted to the Owner for review and approval. If an agreed upon cost cannot be reached, than compensation for Preconstruction Phase Services shall be tracked and billed on an hourly basis and submitted bi-weekly for approval.

Init.

§ 5.2 Payments

§ 5.2.1 Unless otherwise agreed, payments for services shall be made monthly in proportion to services performed and the percentage of Work completed.

§ 5.2.2 Payments are due and payable upon presentation of the Construction Manager's invoice. Amounts unpaid thirty (30) days after the invoice date shall bear interest at the rate

(Paragraphs deleted)

set forth in Missouri Revised Statute Section 34.057.

ARTICLE 6 COMPENSATION FOR CONSTRUCTION PHASE SERVICES

§ 6.1 Contract Sum

§ 6.1.1 The Owner shall pay the Construction Manager the Contract Sum in current funds for the Construction Manager's performance of the Contract after execution of the Guaranteed Maximum Price Amendment. The Contract Sum is the Cost of the Work as defined in Article 7 plus the Construction Manager's Fee.

§ 6.1.2 The Construction Manager's Fee:

(State a lump sum, percentage of Cost of the Work or other provision for determining the Construction Manager's Fee.)

§ 6.1.3 The method of adjustment of the Construction Manager's Fee for changes in the Work:

§ 6.1.4 Limitations, if any, on a Subcontractor's overhead and profit for increases in the cost of its portion of the Work:

For work performed by a Subcontractor or sub-subcontractor, the fee to the Contractor shall not exceed five percent (5%) of the Actual Cost of the Work, and the fee to the Subcontractor shall not exceed ten percent (10%) of the Actual Cost of the Work, as defined below, and such fee shall include and be on account of all other direct and indirect costs, including but not limited to Project overhead, profit, bonds, insurance, superintendent compensation, project manager compensation, and all other overhead expenses.

In no event shall the total combined fee exceed fifteen percent (15%) of the actual cost of the work.

The term 'Actual Cost of the Work' shall mean and include all direct costs of labor and materials, and equipment that is rented or purchased that is exclusively used for the scope of Work change.

§ 6.1.5 Rental rates for Construction Manager-owned equipment shall not exceed One Hundred percent (100 %) of the standard rental rate paid at the place of the Project.

§ 6.1.6 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

If the Construction Manager shall fail to substantially complete the Work by the date set forth above, or within any extended time allowed by Change Order, the Construction Manager shall pay, or allow the Owner to withhold, the sum of Two Thousand No/100 Dollars (\$2,000) per day as liquidated damages for every day beyond said agreed Substantial Completion date. The parties agree that liquidated damages shall be deducted first from any retainage withheld and the Construction Manager and its surety, if any, shall be responsible for liquidated damages which exceed the retainage. The parties stipulate and agree that the above amount is a reasonable forecast of the Owner's anticipated actual damages which are presently impossible to ascertain, and that the same shall be payable as liquidated damages and not as a penalty.

(Paragraphs deleted)

§ 6.2 Guaranteed Maximum Price

The Construction Manager guarantees that the Contract Sum shall not exceed the Guaranteed Maximum Price set forth in the Guaranteed Maximum Price Amendment, subject to additions and deductions by Change Order as provided in the Contract Documents. Costs which would cause the Guaranteed Maximum Price to be exceeded shall be paid by the Construction Manager without reimbursement by the Owner. **All savings shall be returned to the Owner.**

§ 6.3 Changes in the Work

§ 6.3.1 The Owner may, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions. The Owner shall issue such changes in writing. The Construction Manager may be entitled to an equitable adjustment in the Contract Time as a result of changes in the Work.

§ 6.3.1.1 The Architect may order minor changes in the Work as provided in Article 7 of AIA Document A201–2017, General Conditions of the Contract for Construction.

§ 6.3.2 Adjustments to the Guaranteed Maximum Price on account of changes in the Work subsequent to the execution of the Guaranteed Maximum Price Amendment may be determined by any of the methods listed in Article 7 of AIA Document A201–2017, General Conditions of the Contract for Construction.

§ 6.3.3 Adjustments to subcontracts awarded on the basis of a stipulated sum shall be determined in accordance with Article 7 of A201–2017, as they refer to "cost" and "fee," and not by Articles 6 and 7 of this Agreement. Adjustments to subcontracts awarded with the Owner's prior written consent on the basis of cost plus a fee shall be calculated in accordance with the terms of those subcontracts.

§ 6.3.4 In calculating adjustments to the Guaranteed Maximum Price, the terms "cost" and "costs" as used in Article 7 of AIA Document A201–2017 shall mean the Cost of the Work as defined in Article 7 of this Agreement and the term "fee" shall mean the Construction Manager's Fee as defined in Section 6.1.2 of this Agreement.

§ 6.3.5 If no specific provision is made in Section 6.1.3 for adjustment of the Construction Manager's Fee in the case of changes in the Work, or if the extent of such changes is such, in the aggregate, that application of the adjustment provisions of Section 6.1.3 will cause substantial inequity to the Owner or Construction Manager, the Construction Manager's Fee shall be equitably adjusted on the same basis that was used to establish the Fee for the original Work, and the Guaranteed Maximum Price shall be adjusted accordingly.

ARTICLE 7 COST OF THE WORK FOR CONSTRUCTION PHASE

§ 7.1 Costs to Be Reimbursed

§ 7.1.1 The term Cost of the Work shall mean costs necessarily incurred by the Construction Manager in the proper performance of the Work. The Cost of the Work shall include only the items set forth in Sections 7.1 through 7.7.

§ 7.1.2 Where, pursuant to the Contract Documents, any cost is subject to the Owner's prior approval, the Construction Manager shall obtain such approval in writing prior to incurring the cost.

§ 7.1.3 Costs shall be at rates not higher than the standard rates paid at the place of the Project, except with prior approval of the Owner.

§ 7.2 Labor Costs

§ 7.2.1 Wages or salaries of construction workers directly employed by the Construction Manager to perform the construction of the Work at the site or, with the Owner's prior approval, at off-site workshops, **at the hourly rates set forth in Exhibit B.**

§ 7.2.2 Wages or salaries of the Construction Manager's supervisory and administrative personnel when stationed at the site and performing Work, with the Owner's prior approval, at the hourly rates set forth in in Exhibit B.

§ 7.2.2.1 Wages or salaries of the Construction Manager's supervisory and administrative personnel when performing Work and stationed at a location other than the site, but only for that portion of time required for the *(Paragraphs deleted)* Work.

§ 7.2.3 Wages and salaries of the Construction Manager's supervisory or administrative personnel engaged at factories, workshops or while traveling, in expediting the production or transportation of materials or equipment required for the Work, but only for that portion of their time required for the Work, at the hourly rates set forth in Exhibit B.

§ 7.2.4 Costs paid or incurred by the Construction Manager, as required by law or collective bargaining agreements, for taxes, insurance, contributions, assessments and benefits and, for personnel not covered by collective bargaining

Init.

agreements, customary benefits such as sick leave, medical and health benefits, holidays, vacations and pensions, provided such costs are based on wages and salaries included in the Cost of the Work under Sections 7.2.1 through 7.2.3.

§ 7.2.5 If agreed rates for labor costs, in lieu of actual costs, are provided in this Agreement, the rates shall remain unchanged throughout the duration of this Agreement, unless the parties execute a Modification.

§ 7.3 Subcontract Costs

Payments made by the Construction Manager to Subcontractors in accordance with the requirements of the subcontracts and this Agreement.

§ 7.4 Costs of Materials and Equipment Incorporated in the Completed Construction

§ 7.4.1 Costs, including transportation and storage at the site, of materials and equipment incorporated, or to be incorporated, in the completed construction.

§ 7.4.2 Costs of materials described in the preceding Section 7.4.1 in excess of those actually installed to allow for reasonable waste and spoilage. Unused excess materials, if any, shall become the Owner's property at the completion of the Work or, at the Owner's option, shall be sold by the Construction Manager. Any amounts realized from such sales shall be credited to the Owner as a deduction from the Cost of the Work.

§ 7.5 Costs of Other Materials and Equipment, Temporary Facilities and Related Items

§ 7.5.1 Costs of transportation, storage, installation, dismantling, maintenance, and removal of materials, supplies, temporary facilities, machinery, equipment and hand tools not owned by construction workers that are provided by the Construction Manager at the site and fully consumed in the performance of the Work. Costs of materials, supplies, temporary facilities, machinery, equipment, and tools, that are not fully consumed, shall be based on the cost or value of the item at the time it is first used on the Project site less the value of the item when it is no longer used at the Project site. Costs for items not fully consumed by the Construction Manager shall mean fair market value.

§ 7.5.2 Rental charges for temporary facilities, machinery, equipment, and hand tools not owned by construction workers that are provided by the Construction Manager at the site, and the costs of transportation, installation, dismantling, minor repairs, and removal of such temporary facilities, machinery, equipment, and hand tools. Rates and quantities of equipment owned by the Construction Manager, or a related party as defined in Section 7.8, shall be subject to the Owner's prior approval. The total rental cost of any such equipment may not exceed the purchase price of any comparable item.

§ 7.5.3 Costs of removal of debris from the site of the Work and its proper and legal disposal.

§ 7.5.4 Costs of the Construction Manager's site office, including general office equipment and supplies.

§ 7.5.5 Costs of materials and equipment suitably stored off the site at a mutually acceptable location, subject to the Owner's prior approval.

§ 7.6 Miscellaneous Costs

§ 7.6.1 Premiums for that portion of insurance and bonds required by the Contract Documents that can be directly attributed to this Contract.

§ 7.6.1.1 Costs for self-insurance, for either full or partial amounts of the coverages required by the Contract Documents, with the Owner's prior approval.

§ 7.6.1.2 Deleted.

§ 7.6.2 Sales, use, or similar taxes, imposed by a governmental authority, that are related to the Work and for which the Construction Manager is liable.

§ 7.6.3 Fees and assessments for the building permit, and for other permits, licenses, and inspections, for which the Construction Manager is required by the Contract Documents to pay.

§ 7.6.4 Fees of laboratories for tests required by the Contract Documents; except those related to defective or nonconforming Work for which reimbursement is excluded under Article 13 of AIA Document A201-2017 or by other provisions of the Contract Documents, and which do not fall within the scope of Section 7.7.3.

§ 7.6.5 Royalties and license fees paid for the use of a particular design, process, or product, required by the Contract Documents.

§ 7.6.5.1 The cost of defending suits or claims for infringement of patent rights arising from requirements of the Contract Documents, payments made in accordance with legal judgments against the Construction Manager resulting from such suits or claims, and payments of settlements made with the Owner's consent, unless the Construction Manager had reason to believe that the required design, process, or product was an infringement of a copyright or a patent, and the Construction Manager failed to promptly furnish such information to the Architect as required by Article 3 of AIA Document A201-2017. The costs of legal defenses, judgments, and settlements shall not be included in the Cost of the Work used to calculate the Construction Manager's Fee or subject to the Guaranteed Maximum Price.

§ 7.6.6 Costs for communications services, electronic equipment, and software, directly related to the Work and located at the site, with the Owner's prior approval.

§ 7.6.7 Costs of document reproductions and delivery charges.

That portion of the reasonable expenses of the Construction Manager's supervisory or administrative personnel incurred while traveling in discharge of duties connected with the Work as previously approved by the Owner.

[REDACTED]

(Paragraphs deleted)

§ 7.7 Other Costs and Emergencies

§ 7.7.1 Other costs incurred in the performance of the Work, with the Owner's prior written approval.

§ 7.7.2 Costs incurred in taking action to prevent threatened damage, injury, or loss, in case of an emergency affecting the safety of persons and property, as provided in Article 10 of AIA Document A201-2017.

§ 7.7.3 Costs of repairing or correcting damaged Work executed by the Construction Manager, Subcontractors, or suppliers, provided that such damaged or nonconforming Work was not caused by the negligence of, or failure to fulfill a specific responsibility by, the Construction Manager, and only to the extent that the cost of repair or correction is not recovered by the Construction Manager from insurance, sureties, Subcontractors, suppliers, or others.

§ 7.7.4 The costs described in Sections 7.1 through 7.7 shall be included in the Cost of the Work, notwithstanding any provision of AIA Document A201-2017 or other Conditions of the Contract which may require the Construction Manager to pay such costs, unless such costs are excluded by the provisions of Section 7.9.

§ 7.8 Related Party Transactions

§ 7.8.1 For purposes of this Section 7.8, the term "related party" shall mean (1) a parent, subsidiary, affiliate, or other entity having common ownership of, or sharing common management with, the Construction Manager; (2) any entity in which any stockholder in, or management employee of, the Construction Manager holds an equity interest in excess of ten percent in the aggregate; (3) any entity which has the right to control the business or affairs of the Construction Manager; or (4) any person, or any member of the immediate family of any person, who has the right to control the business or affairs of the Construction Manager.

§ 7.8.2 If any of the costs to be reimbursed arise from a transaction between the Construction Manager and a related party, the Construction Manager shall notify the Owner of the specific nature of the contemplated transaction, including the identity of the related party and the anticipated cost to be incurred, before any such transaction is consummated or cost incurred. If the Owner, after such notification, authorizes the proposed transaction in writing, then the cost incurred shall be included as a cost to be reimbursed, and the Construction Manager shall procure the Work, equipment, goods, or service, from the related party, as a Subcontractor, according to the terms of Article 9. If the Owner fails to authorize the

transaction in writing, the Construction Manager shall procure the Work, equipment, goods, or service from some person or entity other than a related party according to the terms of Article 9. Notwithstanding the foregoing, the Construction Manager shall comply with all provisions of applicable law concerning self-performing Work.

§ 7.9 Costs Not To Be Reimbursed

§ 7.9.1 The Cost of the Work shall not include the items listed below:

- .1 Salaries and other compensation of the Construction Manager's personnel stationed at the Construction Manager's principal office or offices other than the site office, except as specifically provided in Section 7.2, or as may be provided in Article 14;
- .2 Bonuses, profit sharing, incentive compensation, and any other discretionary payments, paid to anyone hired by the Construction Manager or paid to any Subcontractor or vendor, unless the Owner has provided prior approval;
- .3 Expenses of the Construction Manager's principal office and offices other than the site office;
- .4 Overhead and general expenses, except as may be expressly included in Sections 7.1 to 7.7;
- .5 The Construction Manager's capital expenses, including interest on the Construction Manager's capital employed for the Work;
- .6 Costs due to the negligence of, or failure to fulfill a specific responsibility of the Contract by, the Construction Manager, Subcontractors, and suppliers, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable;
- .7 Any cost not specifically and expressly described in Sections 7.1 to 7.7;
- .8 Costs, other than costs included in Change Orders approved by the Owner, that would cause the Guaranteed Maximum Price to be exceeded; and
- .9 Costs for services incurred during the Preconstruction Phase.

ARTICLE 8 DISCOUNTS, REBATES, AND REFUNDS

§ 8.1 Cash discounts obtained on payments made by the Construction Manager shall accrue to the Owner. Trade discounts, rebates, refunds, and amounts received from sales of surplus materials and equipment shall accrue to the Owner, and the Construction Manager shall make provisions so that they can be obtained.

§ 8.2 Amounts that accrue to the Owner in accordance with the provisions of Section 8.1 shall be credited to the Owner as a deduction from the Cost of the Work.

ARTICLE 9 SUBCONTRACTS AND OTHER AGREEMENTS

§ 9.1 Those portions of the Work that the Construction Manager does not customarily perform with the Construction Manager's own personnel shall be performed under subcontracts or other appropriate agreements with the Construction Manager. The Owner may designate specific persons from whom, or entities from which, the Construction Manager shall obtain bids. The Construction Manager shall obtain bids from Subcontractors, and from suppliers of materials or equipment fabricated especially for the Work, who are qualified to perform that portion of the Work in accordance with the requirements of the Contract Documents. The Construction Manager shall deliver such bids to the Architect and Owner with an indication as to which bids the Construction Manager intends to accept. The Owner then has the right to review the Construction Manager's list of proposed subcontractors and suppliers in consultation with the Architect and, subject to Section 9.1.1, to object to any subcontractor or supplier. Any advice of the Architect, or approval or objection by the Owner, shall not relieve the Construction Manager of its responsibility to perform the Work in accordance with the Contract Documents. The Construction Manager shall not be required to contract with anyone to whom the Construction Manager has reasonable objection.

§ 9.1.1 When a specific subcontractor or supplier (1) is recommended to the Owner by the Construction Manager; (2) is qualified to perform that portion of the Work; and (3) has submitted a bid that conforms to the requirements of the Contract Documents without reservations or exceptions, but the Owner requires that another bid be accepted, then the Construction Manager may require that a Change Order be issued to adjust the Guaranteed Maximum Price by the difference between the bid of the person or entity recommended to the Owner by the Construction Manager and the amount of the subcontract or other agreement actually signed with the person or entity designated by the Owner.

(Paragraph deleted)

ARTICLE 10 ACCOUNTING RECORDS

The Construction Manager shall keep full and detailed records and accounts related to the Cost of the Work, and exercise such controls, as may be necessary for proper financial management under this Contract and to substantiate all costs

Init.

incurred. The accounting and control systems shall be satisfactory to the Owner. The Owner and the Owner's auditors shall, during regular business hours and upon reasonable notice, be afforded access to, and shall be permitted to audit and copy, the Construction Manager's records and accounts, including complete documentation supporting accounting entries, books, job cost reports, correspondence, instructions, drawings, receipts, subcontracts, Subcontractor's proposals, Subcontractor's invoices, purchase orders, vouchers, memoranda, and other data relating to this Contract. The Construction Manager shall preserve these records for a period of three years after final payment, or for such longer period as may be required by law.

ARTICLE 11 PAYMENTS FOR CONSTRUCTION PHASE SERVICES

§ 11.1 Progress Payments

§ 11.1.1 Based upon Applications for Payment submitted to the Architect by the Construction Manager, and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum, to the Construction Manager, as provided below and elsewhere in the Contract Documents.

§ 11.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the *(Paragraphs deleted)* month.

§ 11.1.3 Provided that an Application for Payment is received by the Architect not later than the 10th day of a month, the Owner shall make payment of the amount certified to the Construction Manager not later than the 20th day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than thirty (30) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 11.1.4 With each Application for Payment, the Construction Manager shall submit payrolls, petty cash accounts, receipted invoices or invoices with check vouchers attached, and any other evidence required by the Owner or Architect to demonstrate that payments already made by the Construction Manager on account of the Cost of the Work equal or exceed progress payments already received by the Construction Manager, plus payrolls for the period covered by the present Application for Payment, less that portion of the progress payments attributable to the Construction Manager's Fee.

§ 11.1.5 Each Application for Payment shall be based on the most recent schedule of values submitted by the Construction Manager in accordance with the Contract Documents. The schedule of values shall allocate the entire Guaranteed Maximum Price among: (1) the various portions of the Work; (2) any contingency for costs that are included in the Guaranteed Maximum Price but not otherwise allocated to another line item or included in a Change Order; and (3) the Construction Manager's Fee.

§ 11.1.5.1 The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. The schedule of values shall be used as a basis for reviewing the Construction Manager's Applications for Payment.

§ 11.1.5.2 The allocation of the Guaranteed Maximum Price under this Section 11.1.5 shall not constitute a separate guaranteed maximum price for the Cost of the Work of each individual line item in the schedule of values.

§ 11.1.5.3 When the Construction Manager allocates costs from a contingency to another line item in the schedule of values, the Construction Manager shall submit supporting documentation to the Owner and Architect, for review and acceptance by the Owner and Architect.

§ 11.1.6 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment. The percentage of completion shall be the lesser of (1) the percentage of that portion of the Work which has actually been completed, or (2) the percentage obtained by dividing (a) the expense that has actually been incurred by the Construction Manager on account of that portion of the Work and for which the Construction Manager has made payment or intends to make payment prior to the next Application for Payment, by (b) the share of the Guaranteed Maximum Price allocated to that portion of the Work in the schedule of values.

§ 11.1.7 In accordance with AIA Document A201-2017 and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

Init.

§ 11.1.7.1 The amount of each progress payment shall first include:

- 1 That portion of the Guaranteed Maximum Price properly allocable to completed Work as determined by multiplying the percentage of completion of each portion of the Work by the share of the Guaranteed Maximum Price allocated to that portion of the Work in the most recent schedule of values;
- 2 That portion of the Guaranteed Maximum Price properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction or, if approved in writing in advance by the Owner, suitably stored off the site at a location agreed upon in writing;
- 3 That portion of Construction Change Directives that the Owner, with the Architect's input, determines is reasonably justified; and
- 4 The Construction Manager's Fee, computed upon the Cost of the Work described in the preceding Sections 11.1.7.1.1 and 11.1.7.1.2 at the rate stated in Section 6.1.2 or, if the Construction Manager's Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum fee as the Cost of the Work included in Sections 11.1.7.1.1 and 11.1.7.1.2 bears to a reasonable estimate of the probable Cost of the Work upon its completion.

§ 11.1.7.2 The amount of each progress payment shall then be reduced by:

- 1 The aggregate of any amounts previously paid by the Owner;
- 2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201-2017;
- 3 Any amount for which the Construction Manager does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Construction Manager intends to pay;
- 4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201-2017;
- 5 The shortfall, if any, indicated by the Construction Manager in the documentation required by Section 11.1.4 to substantiate prior Applications for Payment, or resulting from errors subsequently discovered by the Owner's auditors in such documentation; and
- 6 Retainage withheld pursuant to Section 11.1.8.

§ 11.1.8 Retainage

§ 11.1.8.1 For each progress payment made prior to Substantial Completion of the Work, the Owner will withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

Five Percent (5%)

§ 11.1.8.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

N/A

§ 11.1.8.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 11.1.8.1 is to be modified prior to Substantial Completion of the entire Work, insert provisions for such modification.)

Retainage may be released for certain early completion Subcontractors upon the approval of the Owner.

§ 11.1.8.3 Except as set forth in this Section 11.1.8.3, upon Substantial Completion of the Work, the Construction Manager may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 11.1.8. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

(Insert any other conditions for release of retainage, such as upon completion of the Owner's audit and reconciliation, upon Substantial Completion.)

Requests for payment of retainage included in Applications for Payment, submitted upon or after Substantial Completion, may only be included for work completed prior to the date of the Application for Payment. Retainage will

Init.

continue to be held and not paid for by the Owner, for incomplete items, at a cost of two hundred percent (200%) of the value of the incomplete work. Request for payment of retainage held for incomplete work may be included in subsequent Applications for Payment once the work is completed.

§ 11.1.9 If final completion of the Work is materially delayed through no fault of the Construction Manager, the Owner shall pay the Construction Manager any additional amounts in accordance with Article 9 of AIA Document A201-2017.

§ 11.1.10 Except with the Owner's prior written approval, the Construction Manager shall not make advance payments to suppliers for materials or equipment which have not been delivered and suitably stored at the site.

§ 11.1.11 The Owner and the Construction Manager shall agree upon a mutually acceptable procedure for review and approval of payments to Subcontractors, and the percentage of retainage held on Subcontracts, and the Construction Manager shall execute subcontracts in accordance with those agreements.

§ 11.1.12 In taking action on the Construction Manager's Applications for Payment the Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Construction Manager, and such action shall not be deemed to be a representation that (1) the Architect has made a detailed examination, audit, or arithmetic verification, of the documentation submitted in accordance with Section 11.1.4 or other supporting data; (2) that the Architect has made exhaustive or continuous on-site inspections; or (3) that the Architect has made examinations to ascertain how or for what purposes the Construction Manager has used amounts previously paid on account of the Contract. Such examinations, audits, and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner.

§ 11.1.13 The Construction Manager's invoices shall be itemized and provide a description of the charges in such detail as the Owner may require, including but not limited to a description of the nature of the charge, the identity of the person incurring the charge or working on the Project, a detailed description of the services performed and the applicable rates to be used in calculating the requested payment, a detailed listing of the materials with quantity and unit price costs. If requested by the Owner, as a condition to payment to the Construction Manager, the Construction Manager shall produce documents (such as time sheets, payroll data, telephone logs, bills receipts, invoices, accounting records and similar documents), which substantiate the Construction Manager's right to payment. At the time any payment is requested by the Construction Manager, the Construction Manager shall provide the Owner with a waiver of lien rights against the Project from the Construction Manager, contingent only upon the receipt of payment for such work by the Construction Manager and such additional affidavits and supporting documentation as may be requested by the Owner. With its next payment request, the Construction Manager shall provide the Owner with an unconditional lien waiver in the amount of all payments then made to the Construction Manager with lien waivers from any Subcontractors as requested by Owner, in the full amount of all previous payments made to the Construction Manager on behalf of such person or entity.

§ 11.1.13.1 Detail listed in Paragraph 11.1.13 shall be provided for all reimbursable expenses submitted for payment.

§ 11.1.14 Notwithstanding any contrary term, the Owner shall have the right to withhold from payments due to the Construction Manager, such sums as may be necessary to protect Owner against any loss or damage which may result from negligence or breach of services by the Construction Manager to perform its obligations in accordance with this Agreement or claims against the Owner relating to the Construction Manager's services. In addition, Owner may withhold payments from the Construction Manager for damages by the Construction Manager to others not adjusted and the failure of the Construction Manager to make or ensure proper payments to its consultants. When the reasons for withholding payment are removed, payment shall be made during the next payment cycle for amounts withheld because of such reasons.

§ 11.1.15 The Construction Manager shall permit the Owner to audit its books and records and shall require all of its consultants to permit Owner to audit their books and records for the purpose of determining the correctness and allowability of charges made pursuant to this contract, whether the charges relate to Basic Services and/or Additional services.

§ 11.2 Final Payment

§ 11.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Construction Manager when

Init.

- 1 the Construction Manager has fully performed the Contract, except for the Construction Manager's responsibility to correct Work as provided in Article 12 of AIA Document A201-2017, and to satisfy other requirements, if any, which extend beyond final payment;
- 2 the Construction Manager has submitted a final accounting for the Cost of the Work and a final Application for Payment; and
- 3 a final Certificate for Payment has been issued by the Architect in accordance with Section 11.2.2.2.

§ 11.2.2 Within 30 days of the Owner's receipt of the Construction Manager's final accounting for the Cost of the Work, the Owner shall conduct an audit of the Cost of the Work or notify the Architect that it will not conduct an audit.

§ 11.2.2.1 If the Owner conducts an audit of the Cost of the Work, the Owner shall, within 10 days after completion of the audit, submit a written report based upon the auditors' findings to the Architect.

§ 11.2.2.2 Within seven days after receipt of the written report described in Section 11.2.2.1, or receipt of notice that the Owner will not conduct an audit, and provided that the other conditions of Section 11.2.1 have been met, the Architect will either issue to the Owner a final Certificate for Payment with a copy to the Construction Manager, or notify the Construction Manager and Owner in writing of the Architect's reasons for withholding a certificate as provided in Article 9 of AIA Document A201-2017. The time periods stated in this Section 11.2.2 supersede those stated in Article 9 of AIA Document A201-2017. The Architect is not responsible for verifying the accuracy of the Construction Manager's final accounting.

§ 11.2.2.3 If the Owner's auditors' report concludes that the Cost of the Work, as substantiated by the Construction Manager's final accounting, is less than claimed by the Construction Manager, the Construction Manager shall be entitled to request mediation of the disputed amount without seeking an initial decision pursuant to Article 15 of AIA Document A201-2017. A request for mediation shall be made by the Construction Manager within 30 days after the Construction Manager's receipt of a copy of the Architect's final Certificate for Payment. Failure to request mediation within this 30-day period shall result in the substantiated amount reported by the Owner's auditors becoming binding on the Construction Manager. Pending a final resolution of the disputed amount, the Owner shall pay the Construction Manager the amount certified in the Architect's final Certificate for Payment.

§ 11.2.2.3 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (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 and will not be canceled or allowed to expire until 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial 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 and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, 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. If such lien 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 such lien, including all costs and reasonable attorney's fees, (6) Prevailing Wage Affidavit, and (7) Close-out requirements as required in the Project Manual.

§ 11.2.3 The Owner's final payment to the Construction Manager shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment.

§ 11.2.4 If, subsequent to final payment, and at the Owner's request, the Construction Manager incurs costs, described in Sections 7.1 through 7.7, and not excluded by Section 7.9, to correct defective or nonconforming Work, the Owner shall reimburse the Construction Manager for such costs, and the Construction Manager's Fee applicable thereto, on the same basis as if such costs had been incurred prior to final payment, but not in excess of the Guaranteed Maximum Price. If adjustments to the Contract Sum are provided for in Section 6.1.7, the amount of those adjustments shall be recalculated, taking into account any reimbursements made pursuant to this Section 11.2.4 in determining the net amount to be paid by the Owner to the Construction Manager.

Init.

§ 11.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate
(Paragraphs deleted)
set forth in Missouri Revised Statute Section 34.057.

ARTICLE 12 DISPUTE RESOLUTION

§ 12.1 Initial Decision Maker

§ 12.1.1 Any Claim between the Owner and Construction Manager shall be resolved in accordance with the provisions set forth in this Article 12 and Article 15 of A201–2017. However, for Claims arising from or relating to the Construction Manager’s Preconstruction Phase services, no decision by the Initial Decision Maker shall be required as a condition precedent to mediation or binding dispute resolution, and Section 12.1.2 of this Agreement shall not apply.

§ 12.1.2 The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017 for Claims arising from or relating to the Construction Manager’s Construction Phase services, unless the parties appoint below another individual, not a party to the Agreement, to serve as the Initial Decision Maker.
(Paragraphs deleted)

§ 12.2 Binding Dispute Resolution

For any Claim, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

Litigation in a court of competent jurisdiction

(Paragraphs deleted)

If the Owner and Construction Manager do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

§ 12.3 Waiver of Jury Trial. EACH OF THE PARTIES HERETO HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATED TO THIS AGREEMENT OR THE PROJECT CONTEMPLATED HEREBY.

ARTICLE 13 TERMINATION OR SUSPENSION

§ 13.1 Termination Prior to Execution of the Guaranteed Maximum Price Amendment

§ 13.1.1 If the Owner and the Construction Manager do not reach an agreement on the Guaranteed Maximum Price, the Owner may terminate this Agreement upon not less than seven days’ written notice to the Construction Manager, and the Construction Manager may terminate this Agreement, upon not less than seven days’ written notice to the Owner.

§ 13.1.2 In the event of termination of this Agreement pursuant to Section 13.1.1, the Construction Manager shall be compensated for Preconstruction Phase services and Work performed prior to receipt of a notice of termination, in accordance with the terms of this Agreement. In no event shall the Construction Manager’s compensation under this Section exceed the compensation set forth in Section 5.1.

§ 13.1.3 Prior to the execution of the Guaranteed Maximum Price Amendment, the Owner may terminate this Agreement upon not less than seven days’ written notice to the Construction Manager for the Owner’s convenience and without cause, and the Construction Manager may terminate this Agreement, upon not less than seven days’ written notice to the Owner, for the reasons set forth in Article 14 of A201–2017.

§ 13.1.4 In the event of termination of this Agreement pursuant to Section 13.1.3, the Construction Manager shall be equitably compensated for Preconstruction Phase services and Work performed prior to receipt of a notice of termination. In no event shall the Construction Manager’s compensation under this Section exceed the compensation set forth in Section 5.1.

§ 13.1.5 If the Owner terminates the Contract pursuant to Section 13.1.3 after the commencement of the Construction Phase but prior to the execution of the Guaranteed Maximum Price Amendment, the Owner shall pay to the Construction

Manager an amount calculated as follows, which amount shall be in addition to any compensation paid to the Construction Manager under Section 13.1.4:

- .1 Take the Cost of the Work incurred by the Construction Manager to the date of termination;
- .2 Add the Construction Manager's Fee computed upon the Cost of the Work to the date of termination at the rate stated in Section 6.1 or, if the Construction Manager's Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum Fee as the Cost of the Work at the time of termination bears to a reasonable estimate of the probable Cost of the Work upon its completion; and
- .3 Subtract the aggregate of previous payments made by the Owner for Construction Phase services.

§ 13.1.6 The Owner shall also pay the Construction Manager fair compensation, either by purchase or rental at the election of the Owner, for any equipment owned by the Construction Manager that the Owner elects to retain and that is not otherwise included in the Cost of the Work under Section 13.1.5.1. To the extent that the Owner elects to take legal assignment of subcontracts and purchase orders (including rental agreements), the Construction Manager shall, as a condition of receiving the payments referred to in this Article 13, execute and deliver all such papers and take all such steps, including the legal assignment of such subcontracts and other contractual rights of the Construction Manager, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Construction Manager under such subcontracts or purchase orders. All Subcontracts, purchase orders and rental agreements entered into by the Construction Manager will contain provisions allowing for assignment to the Owner as described above.

§ 13.1.6.1 If the Owner accepts assignment of subcontracts, purchase orders or rental agreements as described above, the Owner will reimburse or indemnify the Construction Manager for all costs arising under the subcontract, purchase order or rental agreement, if those costs would have been reimbursable as Cost of the Work if the contract had not been terminated. If the Owner chooses not to accept assignment of any subcontract, purchase order or rental agreement that would have constituted a Cost of the Work had this agreement not been terminated, the Construction Manager will terminate the subcontract, purchase order or rental agreement and the Owner will pay the Construction Manager the costs necessarily incurred by the Construction Manager because of such termination.

§ 13.2 Termination or Suspension Following Execution of the Guaranteed Maximum Price Amendment

§ 13.2.1 Termination

The Contract may be terminated by the Owner or the Construction Manager as provided in Article 14 of AIA Document A201–2017.

§ 13.2.2 Termination by the Owner for Cause

§ 13.2.2.1 If the Owner terminates the Contract for cause as provided in Article 14 of AIA Document A201–2017, the amount, if any, to be paid to the Construction Manager under Article 14 of AIA Document A201–2017 shall not cause the Guaranteed Maximum Price to be exceeded, nor shall it exceed an amount calculated as follows:

- .1 Take the Cost of the Work incurred by the Construction Manager to the date of termination;
- .2 Add the Construction Manager's Fee, computed upon the Cost of the Work to the date of termination at the rate stated in Section 6.1 or, if the Construction Manager's Fee is stated as a fixed sum in that Section, an amount that bears the same ratio to that fixed-sum Fee as the Cost of the Work at the time of termination bears to a reasonable estimate of the probable Cost of the Work upon its completion;
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract the costs and damages incurred, or to be incurred, by the Owner under Article 14 of AIA Document A201–2017.

§ 13.2.2.2 The Owner shall also pay the Construction Manager fair compensation, either by purchase or rental at the election of the Owner, for any equipment owned by the Construction Manager that the Owner elects to retain and that is not otherwise included in the Cost of the Work under Section 13.2.2.1.1. To the extent that the Owner elects to take legal assignment of subcontracts and purchase orders (including rental agreements), the Construction Manager shall, as a condition of receiving the payments referred to in this Article 13, execute and deliver all such papers and take all such steps, including the legal assignment of such subcontracts and other contractual rights of the Construction Manager, as the Owner may require for the purpose of fully vesting in the Owner the rights and benefits of the Construction Manager under such subcontracts or purchase orders.

§ 13.2.3 Deleted.

Init.

§ 13.2.4 In the event of termination not the cause of the Construction Manager, the Construction Manager shall be compensated for services performed prior to termination, together with Reimbursable Expenses then due, and all Termination Expenses then due as defined in Section 13.2.5.

§ 13.2.5 Termination Expenses are in addition to compensation for the Construction Manager's services and include expenses directly attributable to termination for which the Construction Manager is not otherwise compensated. In no event shall Termination Expenses include Construction Manager's loss of anticipated profits or revenues or expenses caused by harm to Construction Manager's reputation.

§ 13.3 Suspension

The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-2017; in such case, the Guaranteed Maximum Price and Contract Time shall be increased as provided in Article 14 of AIA Document A201-2017, except that the term "profit" shall be understood to mean the Construction Manager's Fee as described in Sections 6.1 and 6.3.5 of this Agreement.

ARTICLE 14 MISCELLANEOUS PROVISIONS

§ 14.1 Terms in this Agreement shall have the same meaning as those in A201-2017. Where reference is made in this Agreement to a provision of AIA Document A201-2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 14.2 Successors and Assigns

§ 14.2.1 The Owner and Construction Manager, 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 14.2.2 of this Agreement, and in Section 13.2.2 of A201-2017, neither party to the Contract shall assign the Contract as a whole 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.

§ 14.2.2 The Owner may, without consent of the Construction Manager, 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 Construction Manager shall execute all consents reasonably required to facilitate the assignment.

§ 14.3 Insurance and Bonds

§ 14.3.1 Preconstruction Phase

The Construction Manager shall maintain the following insurance for the duration of the Preconstruction Services performed under this Agreement. If any of the requirements set forth below exceed the types and limits the Construction Manager normally maintains, the Owner shall reimburse the Construction Manager for any additional cost.

§ 14.3.1.1 Commercial General Liability with policy limits of not less than One Million Dollars (\$ 1,000,000.00) for each occurrence and Three Million Dollars (\$ 3,000,000.00) in the aggregate for bodily injury and property damage.

§ 14.3.1.2 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Construction Manager with policy limits of not less than One Million Dollars (\$ 1,000,000.00) per accident for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles, along with any other statutorily required automobile coverage.

§ 14.3.1.3 The Construction Manager may achieve the required limits and coverage for Commercial General Liability and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided that such primary and excess or umbrella liability insurance policies result in the same or greater coverage as the coverages required under Sections 14.3.1.1 and 14.3.1.2, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers.

§ 14.3.1.4 Workers' Compensation at statutory limits and Employers Liability with policy limits not less than Five Hundred Dollars (\$ 500,000.00).

§ 14.3.1.5 Professional Liability covering negligent acts, errors and omissions in the performance of professional services, with policy limits of not less than One Million Dollars (\$ 1,000,000.00) per claim and Three Million Dollars (\$ 3,000,000.00) in the aggregate.

§ 14.3.1.6

(Paragraphs deleted)

Deleted.

(Table deleted)

§ 14.3.1.7 **Additional Insured Obligations.** To the fullest extent permitted by law, the Construction Manager shall cause the primary and excess or umbrella policies for Commercial General Liability and Automobile Liability to include the Owner as an additional insured for claims caused in whole or in part by the Construction Manager's negligent acts or omissions. The additional insured coverage shall be primary and non-contributory to any of the Owner's insurance policies and shall apply to both ongoing and completed operations.

§ 14.3.1.8 The Construction Manager shall provide certificates of insurance to the Owner that evidence compliance with the requirements in this Section 14.3.1.

§ 14.3.1.9 The Owner shall provide Builders Risk and Property Insurance coverage for the full value of the Project including the new Work, existing facilities and their contents, and which is sufficient to protect the interest of the Owner and Construction Manager. To the extent damages are covered by property insurance, the Owner and Construction Manager waive all rights against each other and against the contractors, subcontractors, consultants, agents, and employees of the other for damages, except such rights as they may have to the proceeds of such insurance as forth in AIA Document A201-2017, General Conditions of the Contract for Construction, as amended. The Owner or the Construction Manager, as appropriate, shall require of the subcontractors, consultants, agents and employees of any of them similar waivers in favor of the other parties enumerated herein.

§ 14.3.2 **Construction Phase**

After execution of the Guaranteed Maximum Price Amendment, the Owner and the Construction Manager shall purchase and maintain insurance as set forth in AIA Document A133™-2019, Standard Form of Agreement Between Owner and Construction Manager as Constructor where the basis of payment is the Cost of the Work Plus a Fee with a Guaranteed Maximum Price, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 14.3.2.1 Deleted.

§ 14.4

(Paragraphs deleted)

Deleted.

§ 14.5 Other provisions:

§ 14.5.1 **COPYRIGHTS AND LICENSES**

The Construction Manager and the Construction Manager's consultants, if any, shall not own or claim a copyright in the Instruments of Service. The Construction Manager, the Construction Manager's consultants, if any, and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project. If the Owner and Construction Manager intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions. All drawings, plans, specifications, rendering, models, special artwork and other work and services provided as part of the Architect's (and its consultants) services shall be the sole property of the Owner, whether the project is executed or not, and shall not be used by any person other than the Owner on projects other than this project unless expressly authorized in writing by the Owner.

§ 14.5.2 **Use of Employment Verification System.** Prior to the commencement of the Work, Construction Manager shall provide to Owner a sworn affidavit and other sufficient documentation to affirm its enrollment and participation in the federal Work authorization program. Federal Work authorization program means the employment verification program maintained and operated by the United States Department of Homeland Security and the Social Security Administration,

Init.

or any successor program. Construction Manager shall also provide Owner a sworn affidavit that does not knowingly employ any other person who is an unauthorized alien in connection with the contracted services. See Exhibit C.

§ 14.5.3 OSHA Training.

All of the Construction Manager's and Subcontractor's onsite employees must complete the program within 60 days of beginning work on the Project.

§ 14.5.3.1 Any employee found on the work site subject to this requirement without documentation of the successful completion of the Program will be given 20 days to produce such documentation before being subject to removal from the Project.

§ 14.5.3.2 Construction Manager's or Subcontractor's failure to comply with these requirements will subject it to penalties. Construction Manager or Subcontractor shall forfeit as a penalty to the Owner \$2500.00 plus \$100.00 per each employee employed by Construction Manager or Subcontractor, for each calendar day, or portion thereof, such employee is employed to do work pursuant to this Contract without the required training. Said penalty shall not begin to accrue until the time periods in 14.5.3 have elapsed. Contractor will be subject to said penalties notwithstanding any other provision to the contrary in this Contract.

§ 14.5.3.3 Construction Manager shall require its contract with all Subcontractors to contain these provisions. Construction Manager shall be responsible for penalties to Owner due to any employees' or Subcontractor's employees' failure to be able to produce documentary evidence of training in the required Program. Construction Manager may withhold all sums necessary to cover any penalty Owner has withheld or been paid. Construction Manager may recover any penalties from Subcontractor by filing a lawsuit in the circuit court of the County in which the Project is located. Contractor shall have no right of recovery against Owner.

§ 14.5.4 Lead Paint

Beginning in April 2010, any renovation work involving at least 6 square feet of painted surfaces in a room for interior projects; or more than 20 square feet for exterior projects; performed in a "Child-Occupied Facility" built before 1978; must be done by a properly certified firm or employee.

Child-Occupied Facility Defined: A building or portion of a building constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least 2 different days within any week (Sunday through Saturday); Each day's visit must last at least 3 hours, combined weekly at least 6 hours, and combined annually at least 60 hours; Rules apply to common areas routinely used by children under 6, such as restrooms and cafeterias.

Renovation Work Broadly Defined: Any activity that disturbs painted surfaces and includes most repair, remodeling and maintenance activities; Window replacement will always be a covered activity regardless of size of painted surface disturbed.

§ 14.5.5 HAZARDOUS MATERIALS

If Construction Manager or Subcontractor encounters a 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 Construction Manager or Subcontractor, Construction Manager or Subcontractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner in writing. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Construction Manager.

§ 14.5.6 Prevailing Wage

Comply with the current Prevailing Wage Order in effect in the State of Missouri, at the time of the Contract.

§ 14.5.7 Lee's Summit R7 Policy Compliance

All work performed on the Project under this Contract must be in compliance with all School District and Board of Education policies applicable to the Work.

ARTICLE 15 SCOPE OF THE AGREEMENT

§ 15.1 This Agreement represents the entire and integrated agreement between the Owner and the Construction Manager and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner and Construction Manager.

§ 15.2 The following documents comprise the Agreement:

- 1 AIA Document A133™-2019, Standard Form of Agreement Between Owner and Construction Manager as Constructor where the basis of payment is the Cost of the Work Plus a Fee with a Guaranteed Maximum Price
- 2 AIA Document A133™-2019, Exhibit A, Guaranteed Maximum Price Amendment, if executed
- 3

(Paragraphs deleted)

Other Exhibits:

- Exhibit B – Construction Manager’s Hourly Rates
- Exhibit C – E-Verify Affidavit

(Paragraphs deleted)

Exhibit D – Insurance Certificate of Insurance

This Agreement is entered into as of the day and year first written above.

Lee’s Summit R-7 School District

DocuSigned by:
 By: Emily Miller 8/25/2020 | 3:02 PM CDT
 OWNER (Signature)
 By: Emily Miller Asst Sup Op
 (Printed name and title)

McCownGordon Construction, LLC

DocuSigned by:
 By: Jeff Placek 8/24/2020 | 3:27 PM CDT
 CONSTRUCTION MANAGER (Signature)
 By: Jeff Placek CFO
 (Printed name and title)

DS
 CH

DS
 LD

DS
 RM

Init.



AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

New Middle School and High School Athletic Fields
SE Bailey Rd.
Lee's Summit, MO 64081
[REDACTED]

THE OWNER:

(Name, legal status and address)

Lee's Summit R-7 School District
502 SE Transport Drive
Lee's Summit, MO 64081

THE ARCHITECT:

(Name, legal status and address)

DLR Group
7290 W. 133rd Street
Overland Park, KS 66213

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
3	CONTRACTOR
4	ARCHITECT
5	SUBCONTRACTORS
6	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7	CHANGES IN THE WORK
8	TIME
9	PAYMENTS AND COMPLETION
10	PROTECTION OF PERSONS AND PROPERTY
11	INSURANCE AND BONDS
12	UNCOVERING AND CORRECTION OF WORK

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

Init.

INDEX

(Topics and numbers in bold are Section headings.)

Acceptance of Nonconforming Work9.6.6, 9.9.3, **12.3**

Acceptance of Work

9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, **12.3****Access to Work****3.16**, 6.2.1, 12.1

Accident Prevention

10

Acts and Omissions

3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5,

10.2.8, 13.3.2, 14.1, 15.1.2, 15.2

Addenda

1.1.1

Additional Costs, Claims for

3.7.4, 3.7.5, 10.3.2, 15.1.5

Additional Inspections and Testing9.4.2, 9.8.3, 12.2.1, **13.4****Additional Time, Claims for**3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, **15.1.6****Administration of the Contract**3.1.3, **4.2**, 9.4, 9.5

Advertisement or Invitation to Bid

1.1.1

Aesthetic Effect

4.2.13

Allowances**3.8****Applications for Payment**4.2.5, 7.3.9, 9.2, **9.3**, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10

Approvals

2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9,

3.12.10.1, 4.2.7, 9.3.2, 13.4.1

Arbitration8.3.1, 15.3.2, **15.4****ARCHITECT****4**

Architect, Definition of

4.1.1

Architect, Extent of Authority

2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2,
9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1,
13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1

Architect, Limitations of Authority and Responsibility

2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3,
4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2,
9.5.4, 9.6.4, 15.1.4, 15.2

Architect's Additional Services and Expenses

2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4

Architect's Administration of the Contract

3.1.3, 3.7.4, 15.2, 9.4.1, 9.5

Architect's Approvals

2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work

3.5, 4.2.6, 12.1.2, 12.2.1

Architect's Copyright

1.1.7, 1.5

Architect's Decisions

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3,
7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1,
13.4.2, 15.2

Architect's Inspections

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4

Architect's Instructions

3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2

Architect's Interpretations

4.2.11, 4.2.12

Architect's Project Representative

4.2.10

Architect's Relationship with Contractor

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2,
3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16,
3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5,
9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2

Architect's Relationship with Subcontractors

1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3

Architect's Representations

9.4.2, 9.5.1, 9.10.1

Architect's Site Visits

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

Asbestos

10.3.1

Attorneys' Fees

3.18.1, 9.6.8, 9.10.2, 10.3.3

Award of Separate Contracts

6.1.1, 6.1.2

Award of Subcontracts and Other Contracts for Portions of the Work**5.2****Basic Definitions****1.1**

Bidding Requirements

1.1.1

Binding Dispute Resolution

8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5,
15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1

Bonds, Lien

7.3.4.4, 9.6.8, 9.10.2, 9.10.3

Bonds, Performance, and Payment7.3.4.4, 9.6.7, 9.10.3, **11.1.2**, 11.1.3, **11.5****Building Information Models Use and Reliance****1.8**

Building Permit

3.7.1

Capitalization**1.3**

Certificate of Substantial Completion

9.8.3, 9.8.4, 9.8.5

Certificates for Payment

4.2.1, 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4

Certificates of Inspection, Testing or Approval
13.4.4Certificates of Insurance
9.10.2**Change Orders**

1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, 7.2, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2

Change Orders, Definition of
7.2.1**CHANGES IN THE WORK**

2.2.2, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1, 11.5

Claims, Definition of
15.1.1Claims, Notice of
1.6.2, 15.1.3**CLAIMS AND DISPUTES**3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, 15, 15.4
Claims and Timely Assertion of Claims
15.4.1**Claims for Additional Cost**

3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, 15.1.5

Claims for Additional Time

3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, 15.1.6

Concealed or Unknown Conditions, Claims for
3.7.4**Claims for Damages**

3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3, 11.3.2, 14.2.4, 15.1.7

Claims Subject to Arbitration
15.4.1Cleaning Up
3.15, 6.3Commencement of the Work, Conditions Relating to
2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, 15.1.5Commencement of the Work, Definition of
8.1.2Communications
3.9.1, 4.2.4**Completion, Conditions Relating to**

3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1, 9.10, 12.2, 14.1.2, 15.1.2

COMPLETION, PAYMENTS AND 9**Completion, Substantial**

3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2

Compliance with Laws

2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions

3.7.4, 4.2.8, 8.3.1, 10.3

Conditions of the Contract

1.1.1, 6.1.1, 6.1.4

Consent, Written

3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2, 15.4.4.2

Consolidation or Joinder**15.4.4****CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

1.1.4, 6

Construction Change Directive, Definition of
7.3.1**Construction Change Directives**

1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, 7.3, 9.3.1.1

Construction Schedules, Contractor's

3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Contingent Assignment of Subcontracts
5.4, 14.2.2.2Continuing Contract Performance
15.1.4Contract, Definition of
1.1.2**CONTRACT, TERMINATION OR SUSPENSION OF THE**

5.4.1.1, 5.4.2, 11.5, 14

Contract Administration

3.1.3, 4, 9.4, 9.5

Contract Award and Execution, Conditions Relating to
3.7.1, 3.10, 5.2, 6.1Contract Documents, Copies Furnished and Use of
1.5.2, 2.3.6, 5.3Contract Documents, Definition of
1.1.1**Contract Sum**

2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4, 9.1, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2, 12.3, 14.2.4, 14.3.2, 15.1.4.2, 15.1.5, 15.2.5

Contract Sum, Definition of

9.1**Contract Time**

1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5, 7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2, 14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5

Contract Time, Definition of

8.1.1**CONTRACTOR****3**

Contractor, Definition of

3.1, 6.1.2

Contractor's Construction and Submittal Schedules

3.10, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2

Init.

Contractor's Employees

2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.3, 14.1, 14.2.1.1

Contractor's Liability Insurance**11.1****Contractor's Relationship with Separate Contractors and Owner's Forces**

3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4

Contractor's Relationship with Subcontractors

1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2, 9.6.7, 9.10.2, 11.2, 11.3, 11.4

Contractor's Relationship with the Architect

1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.4, 15.1.3, 15.2.1

Contractor's Representations

3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2

Contractor's Responsibility for Those Performing the Work

3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8

Contractor's Review of Contract Documents

3.2

Contractor's Right to Stop the Work

2.2.2, 9.7

Contractor's Right to Terminate the Contract

14.1

Contractor's Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3

Contractor's Superintendent

3.9, 10.2.6

Contractor's Supervision and Construction**Procedures**

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4

Coordination and Correlation

1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1

Copies Furnished of Drawings and Specifications

1.5, 2.3.6, 3.11

Copyrights

1.5, 3.17

Correction of Work

2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, 12.2, 12.3, 15.1.3.1, 15.1.3.2, 15.2.1

Correlation and Intent of the Contract Documents

1.2

Cost, Definition of

7.3.4

Costs

2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.2, 12.1.2, 12.2.1, 12.2.4, 13.4, 14

Cutting and Patching

3.14, 6.2.5

Damage to Construction of Owner or Separate Contractors

3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4

Damage to the Work

3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4

Damages, Claims for

3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2, 11.3, 14.2.4, 15.1.7

Damages for Delay

6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2

Date of Commencement of the Work, Definition of

8.1.2

Date of Substantial Completion, Definition of

8.1.3

Day, Definition of

8.1.4

Decisions of the Architect

3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2, 14.2.2, 14.2.4, 15.1, 15.2

Decisions to Withhold Certification

9.4.1, 9.5, 9.7, 14.1.1.3

Defective or Nonconforming Work, Acceptance, Rejection and Correction of

2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1

Definitions

1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1

Delays and Extensions of Time

3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

Digital Data Use and Transmission

1.7

Disputes

6.3, 7.3.9, 15.1, 15.2

Documents and Samples at the Site

3.11

Drawings, Definition of

1.1.5

Drawings and Specifications, Use and Ownership of

3.11

Effective Date of Insurance

8.2.2

Emergencies

10.4, 14.1.1.2, 15.1.5

Employees, Contractor's

3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.3, 14.1, 14.2.1.1

Equipment, Labor, or Materials

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Execution and Progress of the Work

1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4

Init.

Extensions of Time

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2, 10.4, 14.3, 15.1.6, 15.2.5

Failure of Payment

9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Faulty Work

(See Defective or Nonconforming Work)

Final Completion and Final Payment

4.2.1, 4.2.9, 9.8.2, 9.10, 12.3, 14.2.4, 14.4.3

Financial Arrangements, Owner's

2.2.1, 13.2.2, 14.1.1.4

GENERAL PROVISIONS**1****Governing Law****13.1**

Guarantees (See Warranty)

Hazardous Materials and Substances

10.2.4, 10.3

Identification of Subcontractors and Suppliers

5.2.1

Indemnification

3.17, 3.18, 9.6.8, 9.10.2, 10.3.3, 11.3

Information and Services Required of the Owner

2.1.2, 2.2, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5, 9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4

Initial Decision**15.2****Initial Decision Maker, Definition of**

1.1.8

Initial Decision Maker, Decisions

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Initial Decision Maker, Extent of Authority

14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5

Injury or Damage to Person or Property

10.2.8, 10.4

Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 12.2.1, 13.4

Instructions to Bidders

1.1.1

Instructions to the Contractor

3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2

Instruments of Service, Definition of

1.1.7

Insurance

6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5, 11

Insurance, Notice of Cancellation or Expiration

11.1.4, 11.2.3

Insurance, Contractor's Liability**11.1**

Insurance, Effective Date of

8.2.2, 14.4.2

Insurance, Owner's Liability**11.2****Insurance, Property**

10.2.5, 11.2, 11.4, 11.5

Insurance, Stored Materials

9.3.2

INSURANCE AND BONDS**11**

Insurance Companies, Consent to Partial Occupancy

9.9.1

Insured loss, Adjustment and Settlement of

11.5

Intent of the Contract Documents

1.2.1, 4.2.7, 4.2.12, 4.2.13

Interest**13.5****Interpretation**

1.1.8, 1.2.3, 1.4, 4.1.1, 5.1, 6.1.2, 15.1.1

Interpretations, Written

4.2.11, 4.2.12

Judgment on Final Award

15.4.2

Labor and Materials, Equipment

1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2

Labor Disputes

8.3.1

Laws and Regulations

1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8, 15.4

Liens

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Limitations, Statutes of

12.2.5, 15.1.2, 15.4.1.1

Limitations of Liability

3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6, 4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3, 11.3, 12.2.5, 13.3.1

Limitations of Time

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7, 5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15, 15.1.2, 15.1.3, 15.1.5

Materials, Hazardous

10.2.4, 10.3

Materials, Labor, Equipment and

1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2

Means, Methods, Techniques, Sequences and Procedures of Construction

3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2

Mechanic's Lien

2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8

Mediation

8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, 15.3, 15.4.1, 15.4.1.1

Minor Changes in the Work

1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, 7.4

Init.

MISCELLANEOUS PROVISIONS**13****Modifications, Definition of****1.1.1****Modifications to the Contract**

1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2

Mutual Responsibility**6.2****Nonconforming Work, Acceptance of**

9.6.6, 9.9.3, 12.3

Nonconforming Work, Rejection and Correction of
2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2**Notice**

1.6, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4, 3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4, 8.2.2, 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1, 13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5, 15.1.6, 15.4.1

Notice of Cancellation or Expiration of Insurance

11.1.4, 11.2.3

Notice of Claims

1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, 15.1.3, 15.1.5, 15.1.6, 15.2.8, 15.3.2, 15.4.1

Notice of Testing and Inspections

13.4.1, 13.4.2

Observations, Contractor's

3.2, 3.7.4

Occupancy

2.3.1, 9.6.6, 9.8

Orders, Written

1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2, 14.3.1

OWNER**2****Owner, Definition of****2.1.1****Owner, Evidence of Financial Arrangements**

2.2, 13.2.2, 14.1.1.4

Owner, Information and Services Required of the

2.1.2, 2.2, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4

Owner's Authority

1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7

Owner's Insurance**11.2****Owner's Relationship with Subcontractors**

1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2

Owner's Right to Carry Out the Work

2.5, 14.2.2

Owner's Right to Clean Up**6.3****Owner's Right to Perform Construction and to Award Separate Contracts****6.1****Owner's Right to Stop the Work****2.4****Owner's Right to Suspend the Work****14.3****Owner's Right to Terminate the Contract**

14.2, 14.4

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

1.1.1, 1.1.6, 1.1.7, 1.5, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12, 5.3

Partial Occupancy or Use

9.6.6, 9.9

Patching, Cutting and

3.14, 6.2.5

Patents

3.17

Payment, Applications for

4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3

Payment, Certificates for

4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4

Payment, Failure of

9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2

Payment, Final

4.2.1, 4.2.9, 9.10, 12.3, 14.2.4, 14.4.3

Payment Bond, Performance Bond and

7.3.4.4, 9.6.7, 9.10.3, 11.1.2

Payments, Progress

9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4

PAYMENTS AND COMPLETION**9****Payments to Subcontractors**5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2
PCB

10.3.1

Performance Bond and Payment Bond

7.3.4.4, 9.6.7, 9.10.3, 11.1.2

Permits, Fees, Notices and Compliance with Laws

2.3.1, 3.7, 3.13, 7.3.4.4, 10.2.2

PERSONS AND PROPERTY, PROTECTION OF**10****Polychlorinated Biphenyl**

10.3.1

Product Data, Definition of**3.12.2****Product Data and Samples, Shop Drawings**

3.11, 3.12, 4.2.7

Progress and Completion

4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.4

Progress Payments

9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4

Init.

Project, Definition of**1.1.4****Project Representatives****4.2.10****Property Insurance****10.2.5, 11.2****Proposal Requirements****1.1.1****PROTECTION OF PERSONS AND PROPERTY****10****Regulations and Laws**

1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8, 15.4

Rejection of Work**4.2.6, 12.2.1****Releases and Waivers of Liens****9.3.1, 9.10.2****Representations**

3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1

Representatives

2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1

Responsibility for Those Performing the Work

3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10

Retainage

9.3.1, 9.6.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3

Review of Contract Documents and Field**Conditions by Contractor**

3.2, 3.12.7, 6.1.3

Review of Contractor's Submittals by Owner and Architect

3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2

Review of Shop Drawings, Product Data and Samples by Contractor

3.12

Rights and Remedies

1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2, 12.2.4, 13.3, 14, 15.4

Royalties, Patents and Copyrights

3.17

Rules and Notices for Arbitration

15.4.1

Safety of Persons and Property

10.2, 10.4

Safety Precautions and Programs

3.3.1, 4.2.2, 4.2.7, 5.3, 10.1, 10.2, 10.4

Samples, Definition of

3.12.3

Samples, Shop Drawings, Product Data and

3.11, 3.12, 4.2.7

Samples at the Site, Documents and

3.11

Schedule of Values

9.2, 9.3.1

Schedules, Construction

3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Separate Contracts and Contractors

1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2

Separate Contractors, Definition of

6.1.1

Shop Drawings, Definition of

3.12.1

Shop Drawings, Product Data and Samples

3.11, 3.12, 4.2.7

Site, Use of

3.13, 6.1.1, 6.2.1

Site Inspections

3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4

Site Visits, Architect's

3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4

Special Inspections and Testing

4.2.6, 12.2.1, 13.4

Specifications, Definition of

1.1.6

Specifications

1.1.1, 1.1.6, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14

Statute of Limitations

15.1.2, 15.4.1.1

Stopping the Work

2.2.2, 2.4, 9.7, 10.3, 14.1

Stored Materials

6.2.1, 9.3.2, 10.2.1.2, 10.2.4

Subcontractor, Definition of

5.1.1

SUBCONTRACTORS

5

Subcontractors, Work by

1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7

Subcontractual Relations

5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1

Submittals

3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3

Submittal Schedule

3.10.2, 3.12.5, 4.2.7

Subrogation, Waivers of

6.1.1, 11.3

Substances, Hazardous

10.3

Substantial Completion

4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2

Substantial Completion, Definition of

9.8.1

Substitution of Subcontractors

5.2.3, 5.2.4

Substitution of Architect

2.3.3

Substitutions of Materials

3.4.2, 3.5, 7.3.8

Sub-subcontractor, Definition of

5.1.2

Init.

Subsurface Conditions

3.7.4

Successors and Assigns

13.2

Superintendent

3.9, 10.2.6

Supervision and Construction Procedures

1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4

Suppliers

1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6, 9.10.5, 14.2.1

Surety

5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2, 15.2.7

Surety, Consent of

9.8.5, 9.10.2, 9.10.3

Surveys

1.1.7, 2.3.4

Suspension by the Owner for Convenience

14.3

Suspension of the Work

3.7.5, 5.4.2, 14.3

Suspension or Termination of the Contract

5.4.1.1, 14

Taxes

3.6, 3.8.2.1, 7.3.4.4

Termination by the Contractor

14.1, 15.1.7

Termination by the Owner for Cause

5.4.1.1, 14.2, 15.1.7

Termination by the Owner for Convenience

14.4

Termination of the Architect

2.3.3

Termination of the Contractor Employment

14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT

14

Tests and Inspections

3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, 13.4

TIME

8

Time, Delays and Extensions of

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

Time Limits

2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2, 15.1.3, 15.4

Time Limits on Claims

3.7.4, 10.2.8, 15.1.2, 15.1.3

Title to Work

9.3.2, 9.3.3

UNCOVERING AND CORRECTION OF WORK

12

Uncovering of Work

12.1

Unforeseen Conditions, Concealed or Unknown

3.7.4, 8.3.1, 10.3

Unit Prices

7.3.3.2, 9.1.2

Use of Documents

1.1.1, 1.5, 2.3.6, 3.12.6, 5.3

Use of Site

3.13, 6.1.1, 6.2.1

Values, Schedule of

9.2, 9.3.1

Waiver of Claims by the Architect

13.3.2

Waiver of Claims by the Contractor

9.10.5, 13.3.2, 15.1.7

Waiver of Claims by the Owner

9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, 15.1.7

Waiver of Consequential Damages

14.2.4, 15.1.7

Waiver of Liens

9.3, 9.10.2, 9.10.4

Waivers of Subrogation

6.1.1, 11.3

Warranty

3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2, 15.1.2

Weather Delays

8.3, 15.1.6.2

Work, Definition of

1.1.3

Written Consent

1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3, 13.2, 13.3.2, 15.4.4.2

Written Interpretations

4.2.11, 4.2.12

Written Orders

1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1

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) 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 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, 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 a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's 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. The Work may constitute the whole or a part of the Project. The Work referred to in these documents includes, but is not limited to, delivery, unloading, uncrating, assembling, setting in place, leveling, adjustment, completely installing, and cleaning up of all debris.

§ 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 the Owner and by Separate Contractors.

§ 1.1.4.1 The Project Manual

The Project Manual is that portion of the Contract Documents that consists of general requirements of the Contract including, but not limited to, bidding, Contract requirements, Project administration and execution, sample forms, conditions of the contract, and specifications.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents, **whenever issued, and wherever located**, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 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.

§ 1.1.7 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.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. 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.

§ 1.2 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. In the case of an inconsistency between, or within, the Drawings and Project Manual, not clarified by addendum, the Contractor in accordance with Architect's interpretation, shall provide the better quality or greater quantity of work.

§ 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 in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade. The limitations of any Subcontractor's Work shall rest solely upon the agreement between the Contractor and the Subcontractor, regardless of where the Work is called for in the Contract Documents. Reference to standard specifications of any technical society, organization, or association, or to Codes of local or State authorities, shall mean the latest standard, code, specification, or tentative specification adopted and published at the date of taking bids, unless specifically stated in otherwise in the Contract Documents.

§ 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.

§ 1.2.4 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents. Execution of the Contract by the Contractor is a representation that the appropriate expertise, certifications, and licenses to address issues arising during the course of the Work from any laws or regulation that protect the environment or human health and safety. The Contractor represents and agrees that it has carefully examined and understands this Contract, has investigated the nature, locality, and site of the work and the conditions and difficulties under which the Work is to be performed and that it enters into this Agreement on the basis off it's own examination, investigation, and evaluation of all such matters and not in reliance upon any opinions or representations of the Architect or Owner, or of any of their respective officers, agents, servants, or employees.

§ 1.2.5 The Contractor shall notify the Architect in writing of any inconsistency found between the Specifications and Drawings. The Architect will then advise the Contractor on whether the Specifications will control. Scope paragraphs placed at the beginning of the Specification Sections present a brief indication of the principal Work included in that Section, but do not limit the Work to subject mentioned nor purported to itemize Work that may be included.

§ 1.2.6 The relation of the Project Manual and Drawings shall be equal authority and priority. Should they disagree in themselves, or with each other, bids shall be based on the most expensive combination of quantity and quality and work indicated. The appropriate Work in the event of the above-mentioned disagreements, shall be determined by the Architect.

§ 1.2.7 The Specifications may be partially 'streamlined' and some words and phrases have been intentionally omitted. Missing portions shall be supplied by inference as with notes on drawings.

§ 1.2.8 A colon following a material or item shall be used in place of the words 'shall be.'

§ 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 of their respective Instruments of Service, including the Drawings and Specifications. All Instruments of Service shall be the sole property of the Owner. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project as approved by the Owner is not to be construed as publication in derogation of the Owner's, Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and 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, 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 suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 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 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 party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form.

§ 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 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.

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 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 Architect and Construction Manager 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.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to 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. 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 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.

§ 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.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' 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 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 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, as defined in the Cost Assignment Detail, Responsibility Matrix Exhibit to the Contract.

§ 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 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 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.

§ 2.3.5 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.

§ 2.3.6 Unless otherwise provided in the Contract Documents or the Cost Assignment Detail, Responsibility Matrix Exhibit to the Contract, the Owner shall furnish to the Contractor electronic files of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

Init.

§ 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, 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.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work, in any respect, including labor disputes, in accordance with the Contract Documents and fails within a seven-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. The Architect 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 the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's 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 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.

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 Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 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 site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 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 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, shall take field measurements of any existing conditions related to that portion of the Work and shall observe any conditions at the site affecting it. Notwithstanding the dimensions on the Plans, in the Specifications, and in other Contract Documents, it shall be the Contractor's obligation and responsibility to take such field measurements as will insure the proper matching, alignment, and fitting of the Work covered by this Agreement with the contiguous work. 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 Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the 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.

§ 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, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

Init.

§ 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.

§ 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 notice to the Owner and 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. Unless the Architect 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 and their 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.

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

§ 3.3.4 The Contractor shall be responsible for compliance, during the course of the Work, with any laws and regulations that are protective of the environment or human health and safety.

§ 3.3.3 Compliance with Board of Education Policies: The Contractor, all subcontractors, and delivery personnel associated with performing the Work of the Contract shall conduct themselves in accordance with all applicable Lee's Summit R-7 School District Board of Education Policies while on the job or any District property. Applicable policies include, but are not limited to Tobacco, Vaping, Drugs, Language, Weapons, and Sexual Harassment. Failure for a person to comply will be cause for his or her immediate dismissal from the Project. Noncompliance shall be considered a substantial breach of Contract, as stated in paragraph 14.2.1 of the General Conditions.

§ 3.3.6 The Contractor shall be responsible to investigate their own employees for Sex Offender Registration and assure that any employee with such record shall not visit or perform work at any Lee's Summit School District job sites or District property. Noncompliance shall be considered a substantial breach of Contract. The Owner reserves the right to have any such Sexual Offender removed from the site.

§ 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.

§ 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 in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect 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.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner 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 Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 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.

§ 3.5.3 All manufacturer's warranties required by the Contract Documents shall commence on the date of Substantial Completion. Such warranties shall commence on the date of Substantial Completion unless a later warranty commencement date is established elsewhere in the Contract Document for a specific product or scope of work. The Contractor shall be required to secure any extended warranties or special riders to standard warranties that are required to comply with these requirements.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work 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.

§ 3.6.1 The Owner will furnish the Contractor with a sales and compensating tax exemption certificate from the State of Missouri for the construction of this Project which must be provided to all subcontractors and material suppliers. The Owner will not pay taxes resulting from the Contractor's failure to provide tax exemption verification information for materials or services that are allowed to be tax exempt by the State of Missouri.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, through the Contractor, shall secure and pay for the building permit as well as 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.

§ 3.7.3 If the Contractor performs Work knowing or having reason to know it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the 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 notice to the Owner and the Architect before conditions are disturbed and in no event later than **seven** days after first observance of the conditions. The Architect and Contractor will promptly investigate such conditions and, if the Architect determines 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 determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified,

Init.

the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 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 the Owner 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 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 site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the 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.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect 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 or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's written consent, which shall not unreasonably be withheld or delayed.

§ 3.9.4 The Contractor's Superintendent shall be experienced in the Scope of Work covered by the Contract.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's 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 or dates 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. A detailed timeline schedule shall be submitted within fifteen (15) days after the award of the Contract. Schedule shall include anticipated labor and crew size, manpower, activity durations, and critical paths. Schedule information shall include shop drawing submittal schedule, material delivery schedule, and construction activities information. Submit update of schedule with each

Init.

Application for Payment, and as otherwise required by the Contract. Requests for payment will not proceed without submittal of updated schedules.

§ 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 Architect's approval. The Architect'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 Architect reasonable time to review submittals. 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 perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.10.4 The Contractor shall keep detailed onsite logs to substantiate the actual weather conditions including wind, temperature, and amount and type of precipitation including snow and ice cover, and similar environmental data; and to document personnel on site, their activities and time periods for those activities; and the specific days and time when adverse weather prevented Work from occurring, and why or how it prevented Work from occurring.

§ 3.11 Documents and Samples at the Site

The Contractor shall maintain and make available, 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 shall be in electronic form or paper copy as agreed to by the Architect and Owner, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 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.

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

§ 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 is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is 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 Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner 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.

Init.

§ 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 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 approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect 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.

§ 3.12.9 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 Architect on previous submittals. In the absence of such 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 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 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 and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the 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.

§ 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 Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by the Owner, applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment in such a manner that the Owner's use of the site is hindered, without prior written consent by the Owner.

§ 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.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The

Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises 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, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner 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 hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for 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 or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall **defend**, indemnify and hold harmless the Owner, Architect, 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 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.

§ 3.18.2 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.

§ 3.19 Contractor shall be responsible for coordination of site visits by the Owner's construction consultants, hired for the Project, if any, and shall cooperate with said consultants' involvement in the Project as an additional Owner's representative for their scope of work.

ARTICLE 4 ARCHITECT

§ 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.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment and will continue to act as the Owner's Representative during the 12-month warranty period after Substantial Completion. The 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, 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. The 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.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor 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 Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect, unless agreed to by the Owner and Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment and corresponding site visits, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect and the Owner's Representatives have authority to reject Work that does not conform to the Contract Documents and will notify each other and the Contractor of such rejections. Whenever the Architect considers it necessary or advisable, the Architect, with consent of the Owner, will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 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. Review of such 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 or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The 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 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 shall not indicate approval of an assembly of which the item is a component.

Init.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as approved by the Owner, and as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 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 Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 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, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final, upon approval by the Owner, if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents upon review of the request for information and the Architect's proposed response by the Owner. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

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 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 a Separate Contractor or the subcontractors of a Separate Contractor.

§ 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 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, within 10 days of the Notice to Proceed, as soon as practicable after award of the Contract, shall notify the Owner and Architect in writing of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design for each principal portion of the Work. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner 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.

Init.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner 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 may 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 or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the 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 Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the 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 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.

§ 5.4 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; 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.

§ 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.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right 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.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

Init.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 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.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate 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 or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify 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 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 Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor 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 a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 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 or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.1.4.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate 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 Architect will allocate the cost among those responsible.

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, by Change Order, Construction Change Directive 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, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner 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.

§ 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.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Contractor and signed by the Owner, Contractor, and Architect 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 Methods used in determining adjustments to the Contract sum may include those listed in 7.3.3

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner 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.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one 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.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the 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. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect 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 of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 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 with the Owner's prior approval;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .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 Architect 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.

§ 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.

Init.

§ 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 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 Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work, **after review by the Owner**, 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 Architect 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 Architect 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.

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.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement. The date shall not be postponed by the failure of the Contractor to act, or of persons, subcontractors, or other entities for whom the Contractor is responsible.

§ 8.1.2.1 The Contractor shall anticipate a delay of up to fourteen (14) days for plan review by the agency having jurisdiction, and include these days in their schedule for completion. No extension of time will be allowed for this period.

§ 8.1.3 The date(s) 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 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 prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.2.4 The Owner may, at its sole discretion, direct the Contractor to work overtime, and if so directed, the Contractor shall work such overtime. Provided that the Contractor is not in default under any of the terms or provisions of this

Init.

Contract, the Owner will pay the Contractor for such additional wages paid, if any, at rates which have been pre-approved by the Owner and the Contractor.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 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 or Architect, of an employee or consultant of either, or of a Separate Contractor not contracted to the Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine. In the event of any occurrences likely to cause a delay, the Contractor shall cooperate in good faith with the Architect and Owner to minimize and mitigate the impact of any such occurrence and do all things reasonable under the circumstances to achieve this goal.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15. In case of claim of extensions of time because of adverse weather, such extensions of time shall be granted only when such adverse weather prevented the execution of major items of Work on normal working days, and such Work is identified on the critical path of construction in the construction schedule most recently submitted prior to the occurrence of the event causing the delay. Additional days will only be granted when the total number of adverse weather days used exceeds the total number of monthly anticipated weather days listed below. Anticipated monthly weather days are to be included in the Contract Schedule. Unused anticipated weather days shall accrue throughout the Project for each critical path activity. By way of example, once dry-in is completed, unused weather days will not carry forward to offset interior activities nor shall unused weather days affect material procurement. The anticipated monthly adverse weather days shall be:

January	8 days,	July	4 days,
February	7 days,	August	4 days,
March	5 days,	September	3 days,
April	5 days,	October	3 days,
May	4 days,	November	4 days,
June	4 days,	December	6 days.

§ 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.

§ 8.3.4 To be eligible for a time extension to the Contract for adverse weather, the Contractor must have been prevented from working for 50% or more of the Contractor's scheduled Work effort for that day, and the Work delayed must be on the critical path of the previously submitted current Contractor's Construction Schedule.

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 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.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect 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 Architect or Owner. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

Init.

§ 9.2.1 With each Application for Payment, add all approved Change Orders to the Schedule of Values. List Change Orders in numerical sequence.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect 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 or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 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 Architect, but not yet included in Change Orders.

§ 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.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the 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 site at a **Bonded** location agreed upon in writing. Payment for materials and equipment stored on or off the 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 site, for such materials and equipment stored off the site.

§ 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 encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work. The Contractor shall provide a partial lien waiver with each Application for Payment. At the time of final payment, Contractor shall execute a final lien waiver and release of claims for all Work performed and materials furnished under this Contract. All lien waivers and releases shall be in the form provided in the Contract Documents.

§ 9.4 Certificates for Payment

§ 9.4.1 Applications for Payment must be submitted by the Contractor to the Architect by the tenth day of each month. The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner 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 Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations 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 Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed 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;

Init.

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 Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .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;
- .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;
- .7 repeated failure to carry out the Work in accordance with the Contract Documents;
- .8 failure of the Contractor or its Subcontractors to comply with any applicable laws and regulations that protect the environment or human health and safety;
- .9 protection of the Owner for loss of any kind caused by or contributed by the Contractor or its Subcontractors, including without limitation, legal fees and disbursements, which may be sustained or incurred by the Owner;
- .10 failure of the Contractor or its Subcontractors to comply with Missouri's Prevailing Wage Law; or
- .11 failure to affirm enrollment and participation in the Federal Work Authorization Program and provide the required sworn affidavit.

§ 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.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, 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 Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a 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 Architect.

§ 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 Architect 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 Architect and Owner on account of portions of the Work done by such Subcontractor.

Init.

§ 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 days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner 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.

§ 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 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.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within thirty (30) days of the date of Owners receipt of the invoice, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner 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 so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 The Contractor shall perform regular detailed reviews of the Work for conformance with the Contract Documents. Any unsatisfactory Work shall be corrected immediately and shall not be allowed to remain and become a part of the punch list. When the Contractor considers that the Work, or a portion thereof as required by the Contract Documents and which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list 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 Contractor's list, the Architect 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 Contractor's list, which is not sufficiently complete in accordance with 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. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare 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 accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 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, including approval for occupancy by the authorities having jurisdiction.

§ 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 shall 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.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, 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.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with 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 Architect's final Certificate for 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 (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 and will not be canceled or allowed to expire until at least 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) if required by the Owner, other data establishing payment or satisfaction of obligations, such as 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

Init.

encumbrance, including all costs and reasonable attorneys' fees, (7) Prevailing Wage Affidavit, and (8) Close-out requirements set forth in the Contract Documents.

§ 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 Architect so confirms, the Owner shall, upon application by the Contractor and certification by the 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 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.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of 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.

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 including without limitation the requirements of laws and regulations that protect the environment and human health and safety. The Contractor is solely responsible for complying with local, state, and federal laws and regulations regarding the Work under construction at the site, including the provisions of the Occupational Safety and Health Act of 1970 (29 CFR 1910 et seq.) and the Consumer Product Safety Act as it related to Building Materials and construction. The Contractor's program shall conform at a minimum to the Safety Program when included by the Owner in the Contract Documents. Notwithstanding any reference to any rule or regulation, neither the Architect, Engineer, nor the Owner shall have any duty to provide supervision of construction methods or processes to enforce compliance with any safety regulations.

§ 10.1.1 The Work shall be free of asbestos and lead. The Contractor shall submit written clarification to the Owner, from the manufacturers, that no materials used on the Project contain asbestos or lead.

§ 10.1.2 The Contractor shall not be required pursuant to Article 7 to perform without consent, any Work relating to asbestos or polychlorinated biphenyl (PCB).

§ 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; and
- .3 other property at the 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;
- .4 construction or operations by the Owner or the Owner's Contractor.

§ 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, 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 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.

§ 10.2.4 When use or storage of hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall give the Owner reasonable advanced notice, and exercise utmost care and carry on such activities under supervision of properly qualified personnel. Explosives are prohibited on the Project.

§ 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 and 10.2.1.3 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 and 10.2.1.3. 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 or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either 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 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.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a 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 Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition **in writing**.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the 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. If requested in writing by the Architect or Contractor, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately if the Critical path on the most recent schedule submitted to the Owner and Architect prior to the discovery of the hazardous material can be shown to have been impacted, and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims,

Init.

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.

§ 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.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances 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.

§ 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 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.

§ 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.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor 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 Contractor 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. The Owner, 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.

§ 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.

§ 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.

§ 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 to the Owner 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 or financial responsibility to provide any required coverage.

§ 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.

Init.

§ 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 the Contractor 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 to the Contractor 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 Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their 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 Architect, Architect's consultants, 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.

§ 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.

§ 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 and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§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. The Owner shall pay the Architect and

Init.

Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the 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.

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 Architect's or Owner's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect or Owner, be uncovered for the Architect's and/or Owner's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect or Owner has not specifically requested to examine prior to its being covered, the Architect or Owner may request 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. 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 Architect or Owner, or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 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 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 correct it promptly after receipt of notice from the Architect or Owner to do so, unless the Architect or Owner has previously given the Contractor a written acceptance of such condition. The Architect or Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Architect or 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. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-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 period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

Init.

§ 12.2.3 The Contractor shall remove from the 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 or Separate 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 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.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, 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. Such adjustment shall be affected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located.

§ 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, neither party to the Contract shall assign the Contract as a whole 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.

§ 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, 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. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to, or Contracted to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals, unless otherwise defined in the Contract Documents or in the attached Cost Assignment Detail Responsibility Matrix. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the 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 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 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 Architect of when and where tests and inspections are to be made so that the 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, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 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 Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the 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

Payments due and unpaid under the Contract Documents shall bear interest at the rate defined in the amended Standard Form of Agreement Between Owner and Construction Manager, AIA A133 – 2019.

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 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;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because 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 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; 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, 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 days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, and costs incurred by reason of such termination.

§ 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 or entities 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' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

Init.

§ 14.2 Termination by the Owner for Cause**§ 14.2.1** The Owner may terminate the Contract if the Contractor

- .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
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, 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 and may, subject to any prior rights of the surety:

- .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.

§ 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 Architect's services and expenses made necessary thereby, and other damages incurred by the Owner 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 be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 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 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 the Contract.

§ 14.3.3 In the event of a Suspension by the Owner for Convenience, the Contractor shall be paid only the value of Work completed and material supplied as of the date of suspension; and the Contractor shall not be entitled to anticipated profit or anticipated overhead resulting from the Owner's suspension.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .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

Init.

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.

§ 14.4.4 In the event of a Termination by the Owner for Convenience, or under the terms of Articles 14.1 and 14.2, the Contractor shall be paid only the value of Work completed and material supplied as of the date of termination; and the Contractor shall not be entitled to anticipated profit or anticipated overhead or any other claims arising out of or resulting from the Owner's termination.

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, 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 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 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.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, shall be initiated by **written** notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later, otherwise the claim is waived.

§ 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.

§ 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.

§ 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.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written 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. 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 Notwithstanding anything to the contrary in Article 8.3, 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

Init.

abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the critical path of 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 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 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 litigation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand 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 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 party making the Claim to authorize retention of such persons at the claimant's expense.

§ 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 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 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.

§ 15.2.6 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.

Init.

MASTER PURCHASE AGREEMENT

This Master Purchase Agreement (this "Agreement") is entered into this _____ day of _____, _____ by and between McCOWNGORDON CONSTRUCTION, LLC ("Contractor") and _____ ("Supplier").

WHEREAS, Contractor desires to purchase, and Supplier desires to supply, materials, as set forth in a Purchase Order issued pursuant to this Agreement. The Purchase Order shall contain a description of the materials and shall identify the specifications, drawings, quantities, prices, and time and place of delivery. The parties agree that the following terms and conditions shall govern and apply to all such Purchase Orders issued by Supplier to Contractor pursuant to this Agreement:

1. **TERMS OF AGREEMENT.** This Agreement, together with any Purchase Order or other document attached hereto or referenced herein shall constitute the entire agreement. Any different or additional terms of Supplier shall be of no force and effect. Supplier's electronic acceptance, acknowledgment of a Purchase Order, or commencement of performance, or delivery of materials shall constitute Supplier's acceptance of a Purchase Order.
2. **PACKING, SHIPPING.** Supplier must take all precautions in packing, crating and preservation of materials prior to shipment to minimize damage in transit and in storage and to ensure safe arrival at the destination, in accordance with the manufacturer's requirements and any further instruction by Contractor. The materials shall be packed and preserved for outdoor shipping and storage, unless otherwise directed. Each item shall be tagged or stenciled legibly and properly identified, including Supplier name and Purchase Order No. A release date will be established. No fabrication is to be started or shipments made until approval is obtained on Supplier's submittal data and Supplier has received Contractor's release. Supplier shall be the "importer of record" with respect to all materials supplied by it. On the date of shipment Supplier shall advise Contractor of: routing number, name of carrier, and estimated time of delivery. Carrier is to notify Contractor at least forty-eight (48) hours prior to delivery to facilitate unloading. Contract and Project Numbers must appear on all invoices, Bill of Lading, correspondence, and on all material packaging applying to any Purchase Order issued pursuant to this Agreement.
3. **DELIVERY. TIME OF DELIVERY IS OF THE ESSENCE.** All materials shall be delivered to Contractor F.O.B. Project Site. Supplier agrees that title to all materials will pass at the earlier of payment made to Supplier or delivery of the materials to the project site. If Supplier fails to deliver on time, Contractor may demand immediate cure, direct expedited routing (with excess costs paid by Supplier), cover at Supplier's expense or terminate the Purchase Order. Contractor shall be entitled to recover from Supplier all losses, costs and expenses incurred as a result of late delivery. If Supplier delivers materials in advance of the schedule, Contractor may, at its option, (i) return the materials at Supplier's expense for proper delivery, (ii) withhold payment until the scheduled date of delivery, or (iii) store the materials at Supplier's expense until the scheduled delivery date.
4. **SAMPLES, SHOP DRAWINGS.** Supplier shall submit all samples, shop drawings, test and other data if required and within the time set forth under each Purchase Order. In the absence of a time for submission set forth in a Purchase Order, submissions should be made by Supplier so as not to cause delay to Contractor. Nothing shall relieve Supplier from responsibility for errors therein. Contractor's approval of any such submissions shall not relieve Supplier of its obligation to furnish materials in strict accordance with this Agreement or a Purchase Order.
5. **INSPECTION.** Contractor may inspect materials at any time prior to shipment. All materials shall be subject to inspection and test prior to acceptance by Contractor at all reasonable times and places including the place of manufacture if prior to delivery. Materials shall be subject to final inspection and acceptance after delivery. Neither delivery nor inspection shall constitute acceptance thereof.
6. **INVOICING AND PAYMENT; LIEN WAIVERS.**
 - a. **For Material Purchases Above \$100,000:** Unless otherwise specified on a Purchase Order, Contractor shall pay Supplier within seven (7) days after Contractor receives payment from Owner. **TO THE FULLEST EXTENT PERMITTED BY LAW, SUPPLIER UNDERSTANDS AND AGREES THAT PAYMENT FROM OWNER TO CONTRACTOR IS AN EXPRESS CONDITION PRECEDENT TO CONTRACTOR'S OBLIGATION TO PAY SUPPLIER.** Invoices must be received by the twentieth (20th) day of each month. Provided an invoice is timely received, Contractor shall incorporate the amount approved by Contractor into Contractor's next application for payment to Owner. If Supplier's invoice (and all supporting documentation as required by Contractor) is received after the date fixed by this Section or the Purchase Order, Contractor shall incorporate the amount approved by Contractor into Contractor's next application for payment to Owner. All invoices must be submitted as outlined in the attached Accounting Requirements.
 - b. **For Material Purchases Below \$100,000:** Unless otherwise specified on a Purchase Order, Contractor shall pay Supplier 100% net forty-five (45) days from the date of Contractor's receipt of Supplier's approved and undisputed invoice, and all supporting documentation as required by Contractor, which must be submitted as outlined in Contractor's "Accounting Requirements." Payment may be delayed if Supplier does not submit invoices as outlined in Contractor's Invoicing Requirements.

Freight and sales tax must be separately itemized. Contractor may require proof of payment of Supplier's obligations. Prices are firm and not subject to increase except by a fully executed change order. All payments are contingent upon Supplier's compliance with all terms and are subject to project retainage. Contractor may offset against sums due hereunder or any other sum Supplier owes to Contractor, whether arising out of this Agreement or otherwise, including liquidated or actual damages Contractor incurs due to the fault of Supplier. **Supplier shall provide one (1) electronic copy of operation and maintenance manuals and parts lists prior to payment in excess of 50% of the purchase order price. Failure to comply with this requirement will be considered just cause for withholding payment of invoice.** Supplier shall furnish all necessary lien waivers as required to keep the Owner's premises free from liens or claims for liens arising out of the furnishing of materials on the form provided by Contractor. Contractor must be in receipt of all required documentation prior to payment of Supplier's invoice, including lien waivers.

7. **CHANGES.** Contractor may make changes to a Purchase Order at any time. If such change results in an increase or decrease in the cost of or the time required for performance, an equitable adjustment shall be made in the sole discretion of Contractor. Supplier must submit written claims for an equitable adjustment within five (5) days from Supplier's receipt of such change. No changes shall be binding on Contractor unless issued in writing by an authorized representative of Contractor and signed by both parties. Supplier shall not proceed with changes without written authorization from Contractor.
8. **WARRANTY.** In addition to any warranty in fact or implied by law, Supplier hereby expressly warrants, for one (1) year from the date of delivery, or such longer period as may be set forth in a Purchase Order or covered by the manufacturer's warranty, whichever is greater, (the "Warranty Period") that all

materials provided will be free from defects in design, materials and workmanship, of good quality, fit for their intended purposes and in strict accordance with all specifications. If, during the warranty period, materials are found to be defective or non-conforming, Contractor may, in Contractor's sole discretion, (1) reject and return the materials to Supplier at Supplier's expense, or (2) direct Supplier to immediately repair or replace the materials at Supplier's expense upon written demand by Contractor. Supplier's one (1) year warranty shall be extended by corrective work performed or replacement materials provided pursuant to this Section. If Supplier fails to promptly repair or replace defective or non-conforming materials within three (3) days of Contractor's written notice, Contractor may repair or replace the materials at Supplier's expense and may deduct the cost of such repair or replacement from payment otherwise due Supplier. Rejected materials shall be at Supplier's risk and expense. Supplier warrants that materials do not infringe of any patent, trademark, copyright, trade secret, or any other intellectual property rights. These warranties shall extend to Contractor, its successors, assigns, customers and users of Supplier's materials and products and Supplier shall provide directly to the ultimate end user, written evidence of these warranties, or manufacturers' warranty, as required.

9. **INSURANCE.** Supplier agrees to procure and carry, at its sole cost, (and as a condition precedent to payment), all insurance, with limits of liability and scope of coverages, as required as set forth below. All insurance policies required herein are to be written by a company duly entered and authorized to transact that class of insurance in the state where the project is located. All policies written by private carriers are to be written by carriers with an A.M. Best rating of "A-VII" or better. Contractor reserves the right to request for review certified copies of any and all insurance policies required herein. Supplier shall furnish an ACORD Form 25 Certificate of Insurance, evidencing insurance with conditions and coverage as required herein. Furnishing certificates of insurance does not obligate Contractor or its agents to approve, evaluate, or notify Supplier of its compliance or non-compliance with the requirements set forth herein. In no way shall receipt of Supplier's certificate of insurance negate, reduce, limit or waive Contractor's right to enforce the requirements herein. Contractor shall have the right to examine any policy for compliance. Supplier shall have the Certificate of Insurance completed with the Certificate Holder listed as:

McCownGordon Construction, LLC
c/o IMA Certificate Compliance
1705 17th Street, Suite 100
Denver, CO 80202

- A. Trade Partner is required to register with IMA Certificate Compliance, Contractor's certificate compliance system. Trade Partner will receive a registration e-mail from certificatecompliance@imacorp.com. Follow the instructions therein to complete registration. Your broker will be required to upload a certificate on your behalf. Certificates not emailed directly from insurance brokers/agents will not be accepted. Certificates received through the mail will not be accepted. If your broker has questions, they may contact IMA directly at 303-615-7994 or at certificatecompliance@imacorp.com.
- B. Blanket Coverage: If you are working on multiple projects for McCownGordon, provide blanket coverage showing maximum limits. Please include in the description box "for any and all projects contracted with McCownGordon Construction, LLC." If your broker cannot provide a blanket certificate, Contractor will accept a certificate referencing the specific project in lieu of "any and all projects."
- C. All Suppliers shall purchase and maintain insurance as listed below:
- Commercial General Liability Insurance with minimum limits of \$1,000,000 each occurrence, \$2,000,000 general aggregate; and \$2,000,000 products and completed operations aggregate. Coverage shall include McCownGordon, the Project Owner, and their assigns, subsidiaries, affiliates, and employees as additional insured parties for both ongoing and completed operations. Coverage shall be primary and noncontributory and include a waiver of subrogation in favor of additional insured parties.
 - Umbrella Liability coverage with minimum limits of \$2,000,000 each occurrence and aggregate.
- D. In the event that Supplier or its employees or agents are required to enter onto a project or worksite of Contractor in connection with the sale of materials or equipment or the rendering of incidental services under a Purchase Order, including delivery of materials, Supplier shall, prior to entrance on the worksite or delivery of materials, purchase and maintain, in addition to insurance as required under 9.A, insurance as listed below:
- State Statutory workers' compensation coverage
 - Employer's Liability with limits not less than \$500,000 each accident/employee/policy limit
 - Automobile coverage with limits not less than \$1,000,000 per accident for bodily injury, death of any person, and property damage covering vehicles owned and non-owned used by Supplier.
- E. Special Provisions
- To the extent permitted by law, all insurance policies shall include a waiver of any right of subrogation of the insurers thereunder against McCownGordon, the Project owner, and their assigns, subsidiaries, affiliates, employees, insurers and underwriters.
 - Supplier's insurance policies shall be endorsed to provide Contractor with a 30-day Notice of Cancellation for reasons other than nonpayment of premium, and a 10-day Notice of Cancellation for the reason of nonpayment of premium. If any insurer does not make available such endorsement(s), as an alternative, Supplier's insurance agent or broker shall provide a written statement that the agent or broker will endeavor to provide the required Notices of Cancellation.
 - Supplier is required to register with IMA Certificate Compliance, Contractor's certificate compliance system. Supplier will receive a registration e-mail from certificatecompliance@imacorp.com. Follow the instructions therein to complete registration. Your broker will be required to upload a certificate on your behalf. Certificates not emailed directly from insurance brokers/agents will not be accepted. Certificates received through the mail will not be accepted. If your broker has questions, they may contact IMA directly at 303-615-7994 or at certificatecompliance@imacorp.com.
10. **INDEMNIFICATION.** Supplier shall indemnify, defend and hold harmless Contractor and Owner from and against any and all claims, damages, losses and expenses (including reasonable attorneys' fees) arising out of or resulting from Supplier's performance of services or supply of materials under this Agreement or Purchase Order or based on any breach of this Agreement or a Purchase Order.
11. **LIMITATION OF LIABILITY. NEITHER PARTY SHALL BE LIABLE FOR ANY INDIRECT, INCIDENTAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES OF ANY NATURE. CONTRACTOR'S AGGREGATE LIABILITY FOR DAMAGES OF ANY KIND ARISING OUT OF OR IN CONNECTION WITH A PURCHASE ORDER SHALL NOT EXCEED THE PURCHASE ORDER PRICE.**
12. **TERMINATION FOR DEFAULT.** Upon written notice to Supplier, Contractor may terminate this Agreement or a Purchase Order upon Supplier's default. Default includes, but is not limited to: (a) Supplier's failure to comply with this Agreement or the terms and conditions of a Purchase Order; (b) the filing of a petition

in bankruptcy, insolvency or a material adverse change in financial condition of Supplier; or (c) failure to deliver material on time. Contractor shall be entitled to recover from Supplier all losses, damages, costs and expenses incurred as a result of such default.

13. **TERMINATION FOR CONVENIENCE.** Contractor may cancel or suspend this Agreement or any Purchase Order for its convenience and without cause, upon three (3) days prior written notice to Supplier. In such event, Contractor shall pay Supplier's direct and actual costs incurred for labor and material expended on the Purchase Order up to the date of termination.
14. **DELAYS.** Supplier shall be responsible to Contractor for all damages caused by Supplier's late delivery or performance. If liquidated damages are applicable, they will be identified on the Purchase Order.
15. **GOVERNING LAW; DISPUTES.** This Agreement and any Purchase Orders issued hereunder shall be governed by the laws of the state of Missouri without regard to its conflicts of laws principles. Any claim or dispute shall be subject to mediation as a condition precedent to binding dispute resolution. The parties shall share the mediator's fee equally. The mediation shall be held in Kansas City, Missouri, unless another location is mutually agreed upon. If the parties do not resolve a claim, dispute or matter in question through mediation, the method of binding dispute resolution shall be arbitration under the Construction Industry Rules of the American Arbitration Association. Each party shall proceed with its obligations pending resolution of any dispute. The prevailing party in any binding dispute resolution shall be entitled to recover from the other party, reasonable attorneys' fees, costs and expenses incurred by the prevailing party in connection with such dispute.
16. **DESIGN RESPONSIBILITY.** If design is inherent in the materials furnished by Supplier, Supplier represents that the design will be prepared by a licensed design professional in the state where the Project is located in accordance with all laws or regulations governing the same. Supplier further agrees that such design shall be prepared in accordance with the highest standard of care for design professionals in the locality where the Project is located.
17. **MISCELLANEOUS.** Supplier shall maintain all records related to the materials supplied under any Purchase Order and any and all expenses related thereto in accordance with generally accepted accounting principles for five (5) years from the date of delivery and shall make such records available to Contractor upon request. In the event of any inconsistency between these terms and any other document, the more stringent requirement shall govern. Supplier shall not assign this Agreement or any Purchase Order without Contractor's prior written consent. All covenants, agreements, indemnities, and warranties made herein shall survive termination or expiration of this Agreement. The rights and remedies provided herein shall be cumulative and in addition to any available at law or in equity. If applicable, Supplier shall provide all MSDS sheets relevant to materials purchased. Supplier warrants that it is in full compliance with all applicable laws, including but not limited to the Fair Labor Standards Act, OSHA and EEOC.
18. **ATTACHMENTS.** the following attachments are incorporated by reference as fully as if reprinted herein and are all integral parts of this Agreement, and shall apply to any and all Purchase Orders entered into by the Parties:
 - i. Attachment 1: Example Purchase Order
 - ii. Attachment 2: Accounting Requirements
 - iii. Attachment 3: Invoicing Requirements
 - iv. Attachment 4: Partial Lien Waiver
 - v. Attachment 5: Final Lien Waiver
 - vi. Attachment 6: Materialmen List (required if Supplier is utilizing sub-suppliers)
 - vii. Attachment 7: Affidavit
 - viii. Attachment 8: EEO Requirements
 - ix. Attachment 9: Safety Requirements

IN WITNESS WHEREOF, the parties have executed this Master Purchase Agreement on the day and year first above written.

McCownGordon Construction, LLC



By: _____

By: Jeff Placek

Title _____

Title: Chief Financial Officer

Date:



Purchase Order 107XXXX-001

Attachment 1- Example Purchase Order

Project Name Here

McCownGordon
850 Main Street
Kansas City, Missouri 64105
Phone: (816) 960-1111

PO - Scope of Supply

DATE CREATED:

BILL TO: McCownGordon Construction, LLC
Attn: Accounting Department
850 Main Street
Kansas City, MO 64105

SHIP TO: Project Site Address

CONTRACT COMPANY:

CREATED BY:

STATUS:

EXECUTED:

PAYMENT TERMS:

ASSIGNEE:

SHIP VIA:

DELIVERY DATE:

DEFAULT RETAINAGE:

BONDS REQUIRED:

OVERHEAD MARKUP:

TAX EXEMPT:

PROFIT MARKUP:

MASTER AGREEMENT DATE:

DESCRIPTION:

EXHIBITS:

ATTACHMENTS:

Supplier is expected to fulfill all the obligations contained in the Master Purchase Agreement (the "MPA"), and, in addition, the following requirements. In the event of any inconsistency between the MPA and this Purchase Order, Supplier shall comply with the more stringent requirement.

McCownGordon
850 Main Street
Kansas City, Missouri 64105

SUPPLIER
Street Address
City, State, Zip Code

SIGNATURE

DATE

SIGNATURE

DATE

MPA ATTACHMENT 2

ACCOUNTING REQUIREMENTS

Invoicing Process:

1. Due: On or before the 20th day of the month forecasting thru the end of the month
2. Required Invoicing Supporting Documentation:
 - a. Partial Lien Waiver and Affidavit
 - b. On Final billing – Final Lien Release or if billed in full a Final is required.
 - c. Materialmen Form (if supplier has sub-suppliers)
3. Submission:
 - a. Invoice submission will be made through Procore
 - b. Refer to McCownGordon Invoicing for instruction located in the Procore Documents tab of this project.
4. Downloadable Accounting Document and Invoicing Instructions:
 - a. Procore > Project > Documents Module
 - b. Select the folder **TRADE PARTNERS**
 - c. Select the folder **001_Accounting Forms**

Questions:

If you have questions related to payment progress, then contact SubPayables@mccowngordon.com

If you have questions related to the location of documents, then contact the Project Coordinator for this project.

NOTE: Submitting all required documents along with the Pay Application will speed up payment

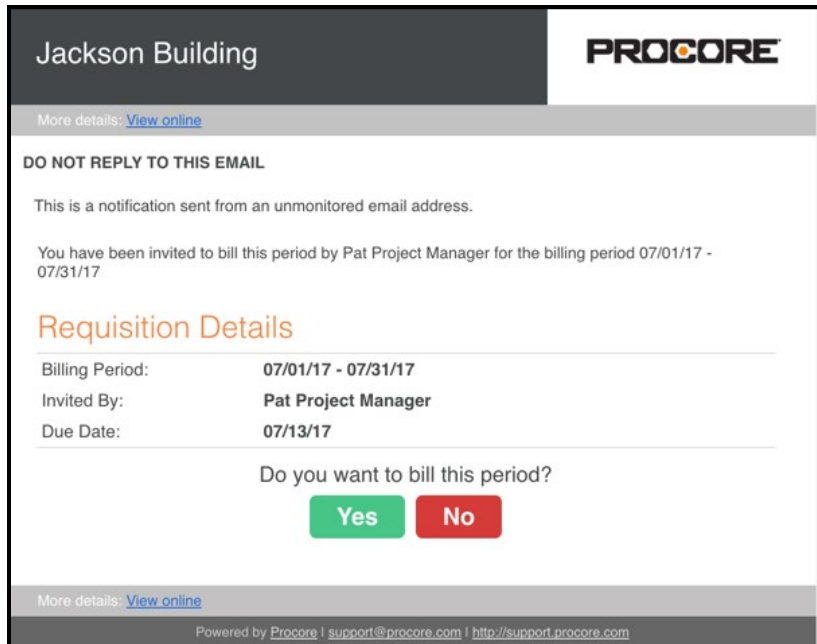
MPA ATTACHMENT 3 INVOICING REQUIREMENTS

UNIT QUANTITY PURCHASE ORDER

Objective: Create an invoice as a Supplier and submit it to Contractor using the project's Commitments tool.

Submit from Email

1. The Contractor will issue you an invitation to submit a bill, you'll receive an email notification like the one shown below.



2. Under the **Do you want to bill this period?** area, choose one of the following:
 - If you want to submit the invoice, click **Yes**. Then click **Post Response** and continue with step 3.
 - OR
 - If you are not ready to submit the invoice, click **No**. Then click **Post Response**.

Note: If you change your mind after posting your response, you can update your response to the invitation if the 'Due Date' has not yet passed and the contractor who sent you the invitation has the 'Billing Period' set to 'Open'. To do this, click **Do you want to bill this period?** again, choose **Yes**, and then click the **Post Response** button.

3. At the Create New Invoice page in Procore, the Period Start, Period End, and Billing Date is pre-filled with what the contractor set. Enter the invoice number, if applicable.
4. In the Detail section, enter your percent complete or amount complete for each line.
5. Enter the materials presently stored amount. This will be added to the percent complete for each line item.
6. In the Approved Commitment Change Orders section, repeat the process for each change order's line items by entering the percent or amount complete for each line item. Any new approved change orders will appear at the bottom of the SOV page. You can add them by selecting each one that is approved.

MPA ATTACHMENT 3

INVOICING REQUIREMENTS

7. Attach any required backup documentation, such as lien waivers.
 - If the contractor requires the Invoice to be signed, complete the following steps:
 - a. Click **Save**.
 - b. Click **Export** and select **PDF**.
 - c. Sign the PDF.
 - d. Return to Procore and select the **Summary** tab.
 - e. Click **Edit**.
 - f. Attach the signed PDF.
8. If you are not ready to submit to the contractor, click **Save**. This will set the status of the invoice to "Draft." If you are ready to submit it to the contractor, click **Submit for Review**. This will set the status of the invoice to "Under Review."
Note: Once you submit the invoice to the contractor, you will not be able to edit it unless the contractor changes the status to Revise & Resubmit.

Submit from Commitment

1. Navigate to the commitment you want to create the invoice for.
2. Click **+ Create Invoice**.
3. Complete steps #2-8 above.

For Commitments Formatted as Unit Quantity

1. Fill out the following fields for each line items that will be paid for by the invoice:
 - **This Period (qty)**: Enter the quantity for each line item for this period and the dollar value will automatically be calculated. If you prefer to enter a percentage value for work completed instead, enter the percent and the quantity for this period and the dollar value will automatically be calculated.
2. If you need to release retainage:
 - a. Complete Steps 6 & 7 above.
 - b. Click **Save**.
 - c. In the Detail subtab, click **Edit**.
 - d. Released this Period (\$): Enter the dollar amount of retainage to be released this period.
 - e. Finish Step 8 above.
3. To save the invoice, click **Save**. To submit it for review, click **Submit for Review**.

MPA ATTACHMENT 4 PARTIAL LIEN WAIVER

PROJECT NAME/NUMBER: _____

PURCHASE ORDER NUMBER: _____

McCownGordon Construction LLC, the Owner of the real estate (the "Realty") identified below, any Lender(s) having any loans secured by the Realty, and other parties, if any, having any interest in (hereinafter "Beneficiaries").

The "Realty" (Owner):

The Supplier:

The Supplier hereby applies for payment, certifies and waives all lien rights, bond rights and all other claims.

Payment Request Amount: \$ _____

Delivery Date of Material covered by payment request: _____

The Supplier, contingent upon the issuance, final clearance and payment of a valuable consideration of the sum stated above, and being familiar with the penalties for false certification, does hereby certify to the Beneficiaries that:

1. The material supplied covered by the payment request reference above, represents the actual value of material delivered under the terms of Supplier's purchase order and all authorized changes thereto .
2. Payment in full, less retainage if any, has been made by Supplier (a) to all of Supplier's sub-suppliers, equipment providers and materialmen, for all materials used or furnished by Supplier in connection with the purchase order. The Supplier warrants that it owes no monies or other things of value to any sub-supplier, materialman, person or entity for material supplied through the date of the most recent payment by McCownGordon Construction.
3. Supplier has complied with Federal, State and Local tax laws insofar as applicable to its performance of the purchase order. The undersigned has paid, or out of the proceeds of this payment will promptly pay, all sales or use tax due and owing.
4. Supplier acknowledges and agrees that it is receiving the funds paid in consideration of this Application as a trustee, and said funds will be held in trust for the benefit of all sub-suppliers and materialmen who supplied materials for which the Beneficiaries or their property might be liable, and that the Supplier shall have no interest in such funds until all these obligations have been satisfied in full.

Partial Waiver and Release of Claims

NOW, THEREFORE, the Supplier , upon receipt of the sum of \$ _____ Check# _____ for all materials supplied through _____ (date) irrevocably and unconditionally releases and waives any and all mechanic's liens or other liens or rights to claim any and all mechanic's liens or other liens against the Realty, except as it pertains to unpaid retainage. The undersigned waives and releases any other claims against the Owner, the property or McCownGordon Construction LLC, its sureties on any bonds, or any other claims of any kind whatsoever in connection with this Purchase Order. The undersigned shall indemnify and hold the Beneficiaries and their respective successors and assigns harmless against any lien, bond, claims or suits in connection with the materials supplied and everything else in connection with this Purchase Order.

MPA ATTACHMENT 4 PARTIAL LIEN WAIVER

Supplier: _____

By: _____

Title: _____

Date: _____

State of _____

County of _____

On this _____ day of _____, 20____, before me, the undersigned, personally appeared _____, _____ of he/she executed _____, known to me to be the person who executed this document and acknowledged to me that the same for the purposes therein stated.

Notary Public in and for said County and State

Commission Expires

MPA ATTACHMENT 5 FINAL LIEN WAIVER

To: McCownGordon Construction LLC, the Owner of the real estate (the "Realty") identified below, any Lender(s) having any loans secured by the Realty, the Applicant's Contractor (if not the General Contractor) and other parties, if any, having any interest in (hereinafter collectively the "Beneficiaries").

The "Realty": _____

The undersigned hereby applies for payment, certifies and waives lien rights, bond rights and all other claims.

Payment Request Amount: \$ _____ by _____
(Supplier Name)

Date of last work covered by payment request: _____
Certificate

The undersigned, contingent upon the issuance, final clearance and payment of a valuable consideration of the amount stated above, and being familiar with the penalties for false certification, does hereby certify to the Beneficiaries that:

1. The amount requested for labor performed and equipment and material supplied on this Project or in connection with the Property reference above, represent the actual value of work accomplished under the terms of the undersigned's agreement and all authorized changes thereto concerning work to be performed on the Realty (hereinafter the "Contract").
2. No labor, equipment or materials have been supplied under contracts or agreements with the undersigned, either verbal or written, or any arrangements of any type whatsoever.
3. Payment in full has been made by the undersigned through the period covered by all prior payments (a) to all of the undersigned's sub-tier contractors, equipment providers, materialmen and laborers, and (b) for all materials and labor used or furnished by the undersigned in connection with the performance of the Contract. The undersigned represents and warrants that it owes no monies or other things of value to any sub-tier contractor, materialman, person or entity for work performed or material supplied through the date of the most recent payment by Owner, and that the payments that have been or will be made out of this final payment to such persons or firms will fully and completely compensate them for all work in connection with the Project.
4. The undersigned has complied with Federal, State and Local tax laws, including, without limitation, Income Tax Withholding, Sales Tax, Fringe Benefits owed pursuant to collective bargaining agreements, Social Security, Unemployment Compensation and Worker's Compensation laws, insofar as applicable to the performance of the contract.
5. The undersigned acknowledges and agrees that it is receiving the funds paid in consideration of this Application as a trustee, and said funds will be held in trust for the benefit of all sub-tier contractors, materialmen, suppliers and laborers who supplied work for which the Beneficiaries or their property might be liable, and that the undersigned shall have no interest in such funds until all these obligations have been satisfied in full.

Final Waiver and Release of Claims

NOW, THEREFORE, the undersigned acknowledges receipt of prior payments in the sum of \$ _____ (Payments to date), and contingent upon receipt of the sum of \$ _____ (final payment) for all work completed through date of waiver for which the undersigned irrevocably and unconditionally releases and waives any and all mechanic's liens or other liens or right to claim any and all mechanic's liens or other liens against the Realty. Additionally, the undersigned waives and releases any other claims against the Owner, the property or McCownGordon Construction LLC, its sureties on any bonds, or any other claims of any kind whatsoever in connection with this Contract and with the Realty.

MPA ATTACHMENT 5 FINAL LIEN WAIVER

The undersigned shall indemnify and hold the Beneficiaries and their respective successors and assigns harmless against any lien, bond, claims or suits in connection with the materials, labor, and everything else in connection with this Contract.

Supplier: _____

By: _____

Title: _____

Date: _____

State of _____

County of _____

On this _____ day of _____, 20____, before me, the undersigned, personally appeared _____ of _____, known to me to be the person who executed this document and acknowledged to me that he/she executed the same for the purposes therein stated.

Notary Public in and for said County and State

Commission Expires

McCownGordon PROJECT NUMBER : _____

McCownGordon PROJECT NAME : _____

Supplier FIRM: _____

850 Main St.
Kansas City, Missouri 64105

McCownGordon Project Name/No: _____
 Subcontractor Name: _____
 Progress Invoice No: _____
 Progress Invoice Date: _____

Check here if you are using Sub-Tier Contractors, Equipment Lessors and / or Materialmen on this project
 The following is a list of all of the Sub-tier, Equipment Lessors and Materialmen which are being utilized on this project with the approximate dollar amount for the purchase. A Partial and /or Final Lien Waiver is required from any Sub-Tiers, Equipment Lessors or Materialmen that have a contract amount \geq \$20,000.00. Failure to provide this required documentation will result in the Payment Application being rejected by McCownGordon.

COMPANY NAME	COMPANY ADDRESS	PHONE	CONTRACT AMOUNT (\$)	PAID TO DATE	REQUISITION AMOUNT THIS APPLICATION	BALANCE

COMPLETE THE SECTION BELOW FOR ALL TEMPORARY EQUIPMENT & SCAFFOLDING BROUGHT TO THE PROJECT SITE.

COMPANY NAME	EQUIPMENT TYPE	MAKE / MODEL	SERIAL NUMBER	RENTED or OWNED If Equip. is Rented please attach a copy of the Lien Waiver from the Rental Company	NAME OF RENTAL COMPANY

PLEASE CONTINUE ON TO A SECOND PAGE IF NEEDED.

To be approved by McCown Gordon Construction prior to payment

Project Manager Approval: _____ Date: _____
 Project Accountant: _____ Date: _____

Note: This Sub-tier, Equipment Lessor and Materialmen list should be attached with all progress invoices irrespective of whether Sub tier contractors and Materialmen are being utilized or not

MPA ATTACHMENT 7 AFFIDAVIT FORM

AFFIDAVIT

STATE OF _____ }

COUNTY OF _____ }

_____ being duly sworn on his oath deposes and says: that he/she _____
(Owner / Officer) (Title)

of the _____, a Supplier of _____
(Company Name) (Materials Provided)

on the _____ located at _____;
(Project Title) (Project Address)

Certifies that he is familiar with the provisions for penalties for false certification; that all bills for material or other things of value including, but not limited to, sales tax, withholding taxes, social security taxes, unemployment taxes and fringe benefits furnished by or through them before the date of _____ under the Purchase Order with McCownGordon Construction, LLC have been fully paid, settled and satisfied; that the companies and parties listed on the Materialmen List are the only material sub-suppliers for this job (if any) for the materials delivered on (insert date) _____; that it understands that McCownGordon Construction, LLC, or anyone on their behalf may and will act and rely upon this instrument in releasing any funds due or owing Supplier.

McCownGordon Construction, LLC relies totally on the accuracy of Supplier with respect to the names of the sub-suppliers and their respective amounts due. If, after final payment has been made in good faith to Supplier, and any additional claims, invoices, bills or liens are presented for unpaid materials or equipment, Supplier agrees to indemnify and release McCownGordon Construction, LLC from any liability associated with said claims, invoices, bills or liens.

Supplier further certifies that it is registered to do business within the State of this project.

Subscribed, and sworn before me, _____ this _____, day of _____.
(Month/Year)

By: _____
(Supplier Representative)

Title: _____

Notary: _____

My Commission Expires: _____

PROJECT NUMBER / NAME: _____

SUPPLIER NAME: _____

PURCHASE ORDER NUMBER: _____

MPA ATTACHMENT 8

EEO REQUIREMENTS

Supplier shall comply with all laws protecting the rights of its employees and potential employees, including Equal Employment Opportunity laws (specifically, Executive Order 11246 September 24, 1965) and to K.S.A. 44-1030. Unless exempted by rules, regulations, or orders of the Secretary of Labor, issued pursuant to Section 204 of the Executive Order, Supplier specifically agrees as follows:

(1) Supplier will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. Supplier will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates or pay or other forms of compensation; and selection for training, including apprenticeship. Supplier agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth its provisions of this nondiscrimination clause.

(2) Supplier will, in all solicitations or advertisements for employees placed by or on behalf of Supplier, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

(3) Supplier will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of Supplier's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(4) Supplier will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.

Pursuant to K.S.A. 44-1030, Supplier specifically agrees as follows:

(1) Supplier shall observe the provisions of the Kansas Act Against Discrimination and shall not discriminate against any person in the performance of work under the Subcontract because of race, religion, color, sex, disability, national origin or ancestry;

(2) in all solicitations or advertisements for employees, Supplier shall include the phrase, "equal opportunity employer," or a similar phrase to be approved by the Kansas human rights commission;

(3) if Supplier fails to comply with the manner in which Supplier reports to the Kansas human rights commission in accordance with the provisions of K.S.A. 44-1031 and amendments thereto, Supplier shall be deemed to have breached the Subcontract and it may be canceled, terminated or suspended, in whole or in part, by MGCC or the contracting agency; and

(4) if Supplier is found guilty of a violation of the Kansas act against discrimination under a decision or order of the commission which has become final, Supplier shall be deemed to have breached the Subcontract and it may be canceled, terminated or suspended, in whole or in part, by McCownGordon or the contracting agency.

EEO COMPLIANCE CERTIFICATE

Supplier certifies to McCownGordon Construction LLC ("Contractor") that throughout the period covered Supplier will comply with all applicable provisions of Executive Order 11246 as revised from time to time and as implemented by Title 41 of the Code of Federal Regulations, particularly Chapters 1, 50 and 60, as the same may be amended from time to time.

Supplier further certifies and agrees that each of the following provisions is made a part of each subcontract between Supplier and Contractor, entered, unless, and to the extent that, because of dollar amount or otherwise, the subcontract is not required to contain the provision:

I. NON-DISCRIMINATION IN EMPLOYMENT

(a) The Supplier will recruit and hire employees who are disabled veterans, Vietnam era veterans, and individuals with handicaps and will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Supplier will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to status such as disabled veterans, Vietnam era veterans, handicapped individuals or because of race, color, religion, sex or national origin. Such action shall include, but not be limited to, the following employment, upgrading demotion, or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Supplier agrees to post in

MPA ATTACHMENT 8

EEO REQUIREMENTS

conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this non-discrimination clause.

(b) The Supplier will, in all solicitations or advertisements for employees placed by or on behalf of the Supplier, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

(c) The Supplier will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract of understanding, a notice to be provided by the agency contracting officer, advising the labor union or worker's representative if the Supplier's commitments under Equal Opportunity Clause, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

(d) The Supplier will comply with all provisions of Executive Order 11246 of September 24, 1965, and the rules, regulations and relevant orders of the Secretary of Labor.

(e) The Supplier will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

(f) In the event of the Supplier's noncompliance with the Equal Opportunity Clause of this subcontract or with any part of such rules, regulations or orders, this subcontract may be canceled, terminated or suspended in whole or in part and the Supplier may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rules, regulations or orders of the Secretary of Labor, or as otherwise provided by law.

(g) The Supplier will include the provisions of paragraphs (a) through (g) in every subcontract unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provision will be binding upon each Supplier or vendor. The Supplier will take such action with respect to any subcontract as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event the Supplier becomes involved in, or is threatened with litigation with a Supplier or vendor as a result of such direction by the contracting agency, the Supplier may request the United States to enter into such litigation to protect the interests of the United States.

II. CERTIFICATION OF NONSEGREGATED FACILITIES

Supplier does not, and during the performance of each subcontract with Contractor, will not maintain or provide for his employees and segregated facilities at any of his establishments, and does not and will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. Supplier agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this certificate. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color or national origin, because of habit, local custom or otherwise. He further agrees that (except where he has obtained identical certifications from proposed Suppliers for specific time periods) he will obtain identical certifications from proposed Suppliers prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause; that he will retain such certifications in his files, and that he will forward the following to such proposed Suppliers (except where the proposed Suppliers have submitted identical certifications for specific time periods): NOTICE TO PROSPECTIVE SUPPLIERS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES. A Certification of Nonsegregated Facilities, as required by Chapter 60-1.8 of Title 41 of the Code of Federal Regulations must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semi-annually or annually).

NOTE: Whoever knowingly or willfully makes any false, fictitious or fraudulent representations may be liable for criminal prosecutions under 18 U.S.C. 1001.

III. FILING CERTIFICATE

Supplier has failed or will file the necessary compliance reports, including Standard Form 100 (EEO-1) where and when required by law and

MPA ATTACHMENT 8

EEO REQUIREMENTS

applicable regulations, including, without limitation, the Civil Rights Act of 1964 as amended by the Equal Employment Opportunity Act of 1972 and regulations in 41 CFR 60-1.7. Supplier has required and will require similar certification and filing from its non-exempt suppliers.

IV. AFFIRMATIVE ACTION CERTIFICATE

Supplier has developed, is maintaining and will continue to maintain the written affirmative action compliance program to guarantee equal employment opportunity to minority groups required by applicable law and regulations, including, without limitation, those appearing in 41 CFR 60-1.40. Supplier has required and will require similar certification from each of its non-exempt suppliers.

V. UTILIZATION OF SMALL BUSINESS CONCERNS AND DISADVANTAGED SMALL BUSINESS CONCERNS

If Contractor is required to utilize small business concerns or disadvantaged small business concerns by law or by contract, Supplier agrees to provide any information requested by Contractor that would be relevant to the issue of whether or not Supplier meets the criteria for these small business concerns. If required by an applicable Prime Contract, Supplier further agrees to comply with the obligations imposed by 13 CFR §125.9 and FAR §52.219-8, which clauses are incorporated herein by reference.

Executed this _____ day of _____, 20____ by:

Firm/Company Name: _____

Name of Authorized Representative: _____

Signature of Authorized Representative: _____

Title of Authorized Representative: _____

All inquiries regarding this matter should be directed to Nancy Whitworth, Equal Employment Opportunity/Affirmative Action Representative, McCown Gordon Construction, LLC, 850 Main St. Kansas City, Missouri 64105. Telephone:816-960-1111.

MPA ATTACHMENT 9

SAFETY REQUIREMENTS

INTRODUCTION

McCownGordon Construction, LLC (“Contractor”) has established several safety practices involving our Subcontractors. These are listed below. If you are a new Subcontractor, this information will be enlightening; if you are an established Subcontractor, this information will be a review. This attachment is not all-encompassing as it relates to the OSHA 1926 Standards. Rather, it is a tool to inform you and your employees of our company policies as they relate to safety, to avoid any misunderstanding prior or during construction.

HEAD PROTECTION (HARD HATS)

Contractor requires that all personnel wear OSHA Approved head protection while on our project sites. The only exceptions to this policy are operators inside equipment that has adequate overhead protection, and tenant finish work deemed acceptable by the McCownGordon Safety representative. In most cases, if there is an overhead or side impact exposure to the individual’s head, our Supervisor will require hard hats. It is a requirement that this information is conveyed to your Supervisors and employees prior to project mobilization.

WORK ATTIRE

Subcontractors’ employees are required to wear appropriate work attire consisting of long pants, shirts, and work boots. Shorts, short pants, tank tops and tennis shoes are not allowed to be worn by anyone entering the project work zone. Safety glasses or the appropriate personnel protective equipment in accordance with the 1926 Standards are also required.

FALL PROTECTION

Pursuant to the 1926 OSHA-Subpart M for fall protection, Contractor strongly advises all crafts working above 6’ to review the performance of their work in accordance with the above standard, to plan accordingly, to enact, establish, or construct the proper fall protection system necessary for your scope of work. This planning should take place prior to starting work. If you are not familiar with Subpart M of the 1926 Standards contact our Safety Director Brian Schrader (bschrader@mccowngordon.com) for assistance. This standard involves several aspects of employee training that are imperative to your work.

Steel erectors are required to follow OSHA 1926 subpart M in lieu of subpart R when related to fall protection requirements. All workers will be tied off 100% of the time when there is a change in elevation of 6 feet or more.

Subcontractors using Self Retracting Lifelines (SRL) are required to mount/anchor according to manufacturing specifications. Only leading edge SRL’s can be placed on the same walking/working surface as the employee. For example, setting steel with no structure above the worker or laying decking. All non-leading edge retractable’ s cannot be used for fall arrest unless mounted overhead per manufacturers specifications.

NON-COMPLIANCE

On each project, during or after a safety inspection conducted by Contractor’s safety department or their designate, your supervisor or employee will be notified of any items, situations, or work practices that fail to comply with the 1926 Safety Standards, as we interpret or have knowledge of them. Upon discovery of such non-compliance, Contractor will request corrective action within a reasonable time, under which Subcontractor must bring the non-compliant item, situation or work practice into compliance, to Contractor’s approval. Such reasonable time will depend on the severity of the situation. Severe or life-threatening situations must be

MPA ATTACHMENT 9

SAFETY REQUIREMENTS

corrected immediately. In the event that the Subcontractor field supervision does not produce satisfactory results, we will contact the Subcontractor's main office and request assistance. In the event that both notifications fail to correct the situation, Contractor reserves the right to remove the employee(s) involved and/or correct the situation at Subcontractor's expense.

HAZARD COMMUNICATION STANDARD

The Hazardous Communication Standard (Hazcom) requires that employers on multi-employer project sites disseminate Hazardous material information that each craft may be using to everyone on the project. Contractor requires that all Subcontractors upload a copy of their company's Hazcom program with SDS information in our project trailer. By doing so, we can establish a common information center; but it each Subcontractor remains responsible for informing their employees of the location of the various Hazcom programs. Contractor does not take any responsibility for updating, changing, reviewing, or training Subcontractor's employees as it relates to such Hazardous material information.

AIR CONTAMINANTS AND MONITORING

When powered equipment, other than electrical, is utilized inside an enclosed area, continuous air monitoring must occur, and documentation of air results must be maintained and submitted to Contractor on a daily basis. This includes the operation of equipment such as diesel-powered welding machines, gas generators, diesel-powered forklifts, chop saws, etc. Each Subcontractor and its sub-tier contractors are responsible for providing such air monitoring.

There shall be NO "dry" cutting, grinding, large bore drilling of concrete, CMU or other silica containing material. All dust containing silica must be collected in accordance with applicable NIOSH, ANSI, OSHA and governing Authorities having jurisdiction.

Subcontractor and its sub-tier contractors are responsible for ensuring any operations generating dust shall use necessary means to control the dust and minimize and/or eliminate exposures. This includes haul roads, grinding, drilling, chipping, hammering, sawing, polishing, cutting operations, etc.

Subcontractors and sub-tier contractors will be responsible for ensuring appropriate PPE for any exposures or supply the Contractor with Negative Exposure Assessments confirming exposure limits are below those established by OSHA, NIOSH, EPA or other governing authorities for the specific exposure. This includes, but is not limited to, nuisance dust and silica from operations, drilling and cutting operations, metal fume and hexavalent chromium from hot work operations, etc.

Nuisance Dust in individual employee work locations; Subcontractors and its subcontractors will be responsible for ensuring that any operations generating dust shall use necessary means to control the dust and minimize or remove exposures. The GC/CM reserves the right to require the employer of an employee to perform additional air monitoring, if the GC/CM determines additional air monitoring is recommended. When applicable, sweeping compound shall be used to control nuisance dust from daily sweeping of working surfaces.

If required by the Prime Contract, all Subcontractors and their sub-tier contractors must be certified for renovation, repair, and painting as required in the EPA RRP Lead Base Paint regulation.

All workers are required to use Lead Safe Methods and be certified (and must provide such certifications to

MPA ATTACHMENT 9

SAFETY REQUIREMENTS

Contractor) when working around painted surfaces that are pre-1973. Adherence to OSHA 29 CFR 1926.16 will be required by all Subcontractors and their sub-tier contractors. All Subcontractors are responsible for training their employees as specified under OSHA 29 CFR 1926.62.

OSHA INSPECTIONS

In the event of an OSHA inspection, Contractor's policy does not require a warrant to enter the project site. Since 1994 the general contractor, in most instances, has been viewed as the responsible party on the project site, as far as OSHA is concerned. This theory is applied under the multi-employer worksite ruling, which means we can be fined for hazards that are created by Subcontractors even though we physically do not have employees exposed to the hazard. Therefore, we find it necessary to inform Subcontractors that if any violations are found during an OSHA inspection in which Contractor is cited under the multi-employer worksite ruling, we will seek financial restitution against the Subcontractor.

CRANE REQUIREMENTS

Contractors will be required to comply with 1926 OSHA- Subpart CC. Contractors utilizing cranes on McCownGordon site must submit the following documentation prior to crane mobilization: operator's CCO, rigging and signal person certifications from all employees performing these job duties, operator's crane specific evaluations, crane's annual inspection, crane lift plan, etc. Contractor reserves the right to ask for additional third-party crane inspection, especially when critical picks are being conducted.

DOCUMENTATION REQUIREMENTS

Prior to start of work, each Subcontractor must submit: a site-specific safety program, a hazard communication program, inventory of chemicals/hazardous materials to be used on jobsite, copies of safety data sheets, a silica program for contractors using or working with silica materials, documentation of training specific to task/work, a project orientation form, and a competent person form. Subcontractor must submit a toolbox talk specific to its scope of work and Subcontractor safety inspections on a weekly basis throughout the duration of its work. For high hazard work and unusual operations, a Method of Procedures form (or equivalent) must be completed by Subcontractor.

MISSOURI SAFETY TRAINING REQUIREMENTS

If the Project is a public works project in the State of Missouri, Subcontractor and its sub-tier contractors must provide a 10-hour OSHA construction safety program or similar program approved by the Missouri Department of Labor and Industrial Relations. Such program must be completed on site by all employees within sixty (60) days of beginning work on the Project, pursuant to Section 292.675, Revised Statutes of Missouri. Subcontractors and its sub-tier contractors that fail to comply with this requirement will pay to the public owner a \$2,500 fine, plus \$100 per day for each day, per employee without training. Owner and Contractor may withhold such penalties from payments due to Subcontractor. To ensure compliance with this requirement, Subcontractor and its sub-tier contractors will be required to provide such training and complete an affidavit attesting to its compliance as required by statute.

SAFETY GUIDELINES/REQUIREMENTS

Subcontractors are required to comply with jobsite specific safety requirements and programs, and any safety rules outlined by the Owner. Subcontractors must conduct site safety inspections and crew safety meetings, at

MPA ATTACHMENT 9 SAFETY REQUIREMENTS

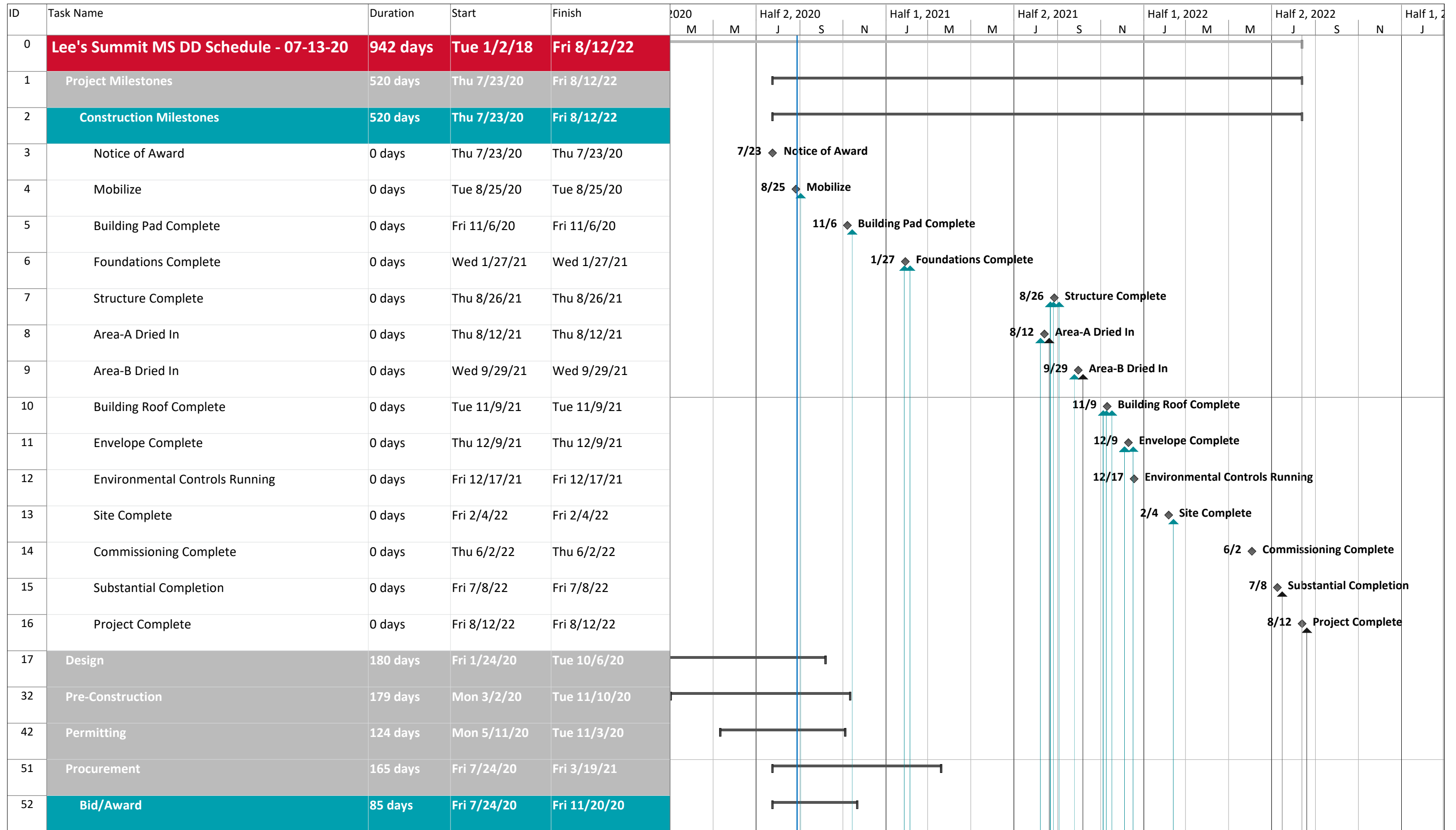
least once per week. These inspections and meetings must be documented, and copies of such documentation must be made available to Contractor upon request.

THE ULTIMATE GOAL

Of utmost importance is injury prevention and to limit sources of potential liability. This can be accomplished by planning ahead, enacting a high caliber safety program, empowering employees to enforce the program, and communicating collaboratively together, so that we can construct a quality project in the safest, most efficient manner.

Subcontractor can contact McCownGordon Construction's Safety Department at its convenience for assistance. The advice given by our Safety Department is as we interpret the standards or as we view the loss control issues. This service is free of cost and exists to help reduce employee injuries. Please feel free to reach out at any time with questions.

We thank you for your cooperation.



Task
 Critical
 Near Critical

ID	Task Name	Duration	Start	Finish	2020		Half 2, 2020			Half 1, 2021			Half 2, 2021			Half 1, 2022			Half 2, 2022			Half 1, 2023
					M	M	J	S	N	J	M	M	J	S	N	J	M	M	J	S	N	J
53	Release 1st Package Trade Partners	1 day	Fri 7/24/20	Fri 7/24/20																		
54	Release 2nd Package Trade Partners	2 days	Wed 9/30/20	Thu 10/1/20																		
55	Release Full Building Package Trade Partners	8 days	Wed 11/11/20	Fri 11/20/20																		
56	Submittals	56 days	Fri 10/2/20	Tue 12/22/20																		
57	Structural Steel Shop Drawings	25 days	Fri 10/2/20	Thu 11/5/20																		
58	Precast Shop Drawings & Coordination	40 days	Fri 10/2/20	Mon 11/30/20																		
59	Footing Rebar Shop Drawings	10 days	Fri 10/2/20	Thu 10/15/20																		
60	Retaining Wall Shop Drawings	15 days	Fri 10/2/20	Thu 10/22/20																		
61	Utility Structures and Shop Drawings	10 days	Fri 10/2/20	Thu 10/15/20																		
62	Masonry Shop Drawings	20 days	Wed 11/11/20	Thu 12/10/20																		
63	Envelope Submittals	15 days	Mon 11/23/20	Tue 12/15/20																		
64	MEP Submittals	20 days	Mon 11/23/20	Tue 12/22/20																		
65	Finish Submittals	15 days	Mon 11/23/20	Tue 12/15/20																		
66	Submittal Review	61 days	Fri 10/16/20	Fri 1/15/21																		
67	Structural Steel Shop Drawings	15 days	Fri 11/6/20	Mon 11/30/20																		
68	Precast Shop Drawings	15 days	Tue 12/1/20	Mon 12/21/20																		
69	Retaining Wall Shop Drawings	15 days	Fri 10/23/20	Thu 11/12/20																		
70	Footing Rebar Shop Drawings	15 days	Fri 10/16/20	Thu 11/5/20																		
71	Utility Structures and Shop Drawings	15 days	Fri 10/16/20	Thu 11/5/20																		
72	Masonry Shop Drawings	15 days	Fri 12/11/20	Tue 1/5/21																		
73	Envelope Submittals	15 days	Wed 12/16/20	Fri 1/8/21																		
74	MEP Submittals	15 days	Wed 12/23/20	Fri 1/15/21																		

Task 
Critical 
Near Critical 

ID	Task Name	Duration	Start	Finish	2020		Half 2, 2020		Half 1, 2021				Half 2, 2021			Half 1, 2022			Half 2, 2022			Half 1, 2023	
					M	M	J	S	N	J	M	M	J	S	N	J	M	M	J	S	N	J	
75	Finish Submittals	15 days	Wed 12/16/20	Fri 1/8/21																			
76	Fabrication/Delivery	91 days	Fri 11/6/20	Fri 3/19/21																			
77	Structural Steel	35 days	Tue 12/1/20	Thu 1/21/21																			
78	Precast	60 days	Tue 12/22/20	Thu 3/18/21																			
79	Footing Rebar	15 days	Fri 11/6/20	Mon 11/30/20																			
80	Modular Retaining Wall Material	30 days	Fri 11/13/20	Wed 12/30/20																			
81	Utility Structures	15 days	Fri 11/6/20	Mon 11/30/20																			
82	Masonry Procurement	25 days	Wed 1/6/21	Tue 2/9/21																			
83	Envelope Procurement	30 days	Mon 1/11/21	Fri 2/19/21																			
84	MEP Procurement	30 days	Mon 1/18/21	Fri 2/26/21																			
85	Finish Procurement	30 days	Mon 1/11/21	Fri 2/19/21																			
86	Mechanical Room Equipment	45 days	Mon 1/18/21	Fri 3/19/21																			
87	Construction	471 days	Fri 1/3/20	Wed 5/18/22																			
88	Quality	1 day	Fri 1/3/20	Fri 1/3/20																			
91	Site	321 days	Tue 8/25/20	Tue 4/26/22																			
92	Earthwork	48 days	Tue 8/25/20	Thu 11/12/20																			
93	Mobilize	1 day	Tue 8/25/20	Tue 8/25/20																			
94	Mass Excavation & Surcharge Building Pad	35 days	Tue 8/25/20	Thu 10/22/20																			
95	Fieldhouse Building Pad LVC	3 days	Fri 10/23/20	Tue 10/27/20																			
96	HOLD for Surcharge Duration of Building Pad	6 days	Fri 10/23/20	Fri 10/30/20																			
97	Remove Surcharge	4 days	Mon 11/2/20	Fri 11/6/20																			
98	Install Building Pad LVC	4 days	Mon 11/9/20	Thu 11/12/20																			

Task 
Critical 
Near Critical 

ID	Task Name	Duration	Start	Finish	2020		Half 2, 2020		Half 1, 2021				Half 2, 2021			Half 1, 2022			Half 2, 2022			Half 1, 2023
					M	M	J	S	N	J	M	M	J	S	N	J	M	M	J	S	N	J
99	Utilities	40 days	Tue 12/1/20	Thu 2/25/21																		
100	Sewer Main Line Extention (2nd crew)	40 days	Tue 12/1/20	Thu 2/25/21																		
101	Site Utilities	40 days	Tue 12/1/20	Thu 2/25/21																		
102	Hardscape	166 days	Tue 12/1/20	Thu 10/7/21																		
103	Cast-in-Place Retaining Wall	15 days	Tue 12/1/20	Thu 12/31/20																		
104	Modular Retaining Wall	45 days	Thu 12/31/20	Thu 4/1/21																		
105	Curb & Gutter	15 days	Mon 8/2/21	Thu 8/26/21																		
106	Sidewalks	25 days	Fri 8/27/21	Thu 10/7/21																		
107	Landscape	110 days	Thu 9/23/21	Tue 4/26/22																		
108	Irrigation	20 days	Thu 9/23/21	Mon 10/25/21																		
109	Sod	30 days	Tue 10/26/21	Tue 12/21/21																		
110	Parking Lots and Drives	30 days	Wed 3/2/22	Tue 4/26/22																		
111	Plantings & Mulch	20 days	Mon 3/21/22	Tue 4/26/22																		
112	Athletic Fields	195 days	Wed 8/26/20	Thu 8/26/21																		
113	HOLD for Soil Stabilization due to weather	105 days	Wed 8/26/20	Fri 3/19/21																		
114	Synthetic Turf Baseball Fields & Accessories	90 days	Tue 3/23/21	Thu 8/26/21																		
115	Natural Turf Baseball Fields and Accessories	90 days	Mon 3/1/21	Fri 8/6/21																		
116	Football Field / Track & Field & Accessories	60 days	Fri 4/2/21	Tue 7/20/21																		
117	Foundations	108 days	Tue 12/1/20	Tue 6/29/21																		
118	Middle School	108 days	Tue 12/1/20	Tue 6/29/21																		
119	Area ABC (North)	32 days	Tue 12/1/20	Mon 2/8/21																		
120	Area ABC - Footings and Foundations (1st Crew)	25 days	Tue 12/1/20	Wed 1/27/21																		

Task 
Critical 
Near Critical 

ID	Task Name	Duration	Start	Finish	2020		Half 2, 2020			Half 1, 2021			Half 2, 2021			Half 1, 2022			Half 2, 2022			Half 1, 2023
					M	M	J	S	N	J	M	M	J	S	N	J	M	M	J	S	N	J
121	Area ABC - Slab-on-Grade	12 days	Thu 1/14/21	Mon 2/8/21																		
122	Area DEFG (South)	93 days	Mon 1/4/21	Tue 6/29/21																		
123	Area DEFG - Footings and Foundations at Competition Gym Only (2nd Crew)	7 days	Mon 1/4/21	Tue 1/19/21																		
124	Area DEFG - Footings and Foundations Remaining Footings	15 days	Thu 1/28/21	Thu 2/25/21																		
125	Area DEFG - Slab-on-Grade - Steel Area	10 days	Thu 3/11/21	Mon 3/29/21																		
126	Area DEFG - Slab-on-Grade - Aux Gym	5 days	Tue 6/22/21	Tue 6/29/21																		
127	Area DEFG - Slab-on-Grade - Competition Gym	5 days	Tue 5/25/21	Thu 6/3/21																		
128	Structure	116 days	Thu 1/28/21	Thu 8/26/21																		
129	Middle School	116 days	Thu 1/28/21	Thu 8/26/21																		
130	Area ABC (First & Second Floor)	62 days	Thu 1/28/21	Fri 5/21/21																		
131	Area A - Structural Steel & 2nd Floor Decking	10 days	Thu 1/28/21	Mon 2/15/21																		
132	Area A - Slab-on-Deck	3 days	Tue 2/16/21	Mon 2/22/21																		
133	Area A - Roof Joists and Decking	10 days	Mon 3/1/21	Thu 3/18/21																		
134	Area BC - Structural Steel & 2nd Floor Decking	20 days	Tue 2/16/21	Fri 3/26/21																		
135	Area BC - Slab-on-Deck	5 days	Mon 3/29/21	Fri 4/2/21																		
136	Area BC - Roof Joists and Decking	25 days	Wed 4/7/21	Fri 5/21/21																		
137	Area DEFG (First & Second Floor)	108 days	Thu 2/11/21	Thu 8/26/21																		
138	Area DEFG - Masonry Installation at Competition Gym	40 days	Thu 2/11/21	Wed 4/28/21																		
139	Area DEFG - Masonry Starter Course at short walls (2nd Crew)	6 days	Mon 3/1/21	Tue 3/9/21																		
140	Area DEFG - Structural Steel, Roof Joists, & Decking at Competition Gym (2nd Crew & C	15 days	Thu 4/29/21	Mon 5/24/21																		
141	Area DEFG - Masonry Installation at short walls	45 days	Tue 3/30/21	Thu 6/17/21																		
142	Area DEFG - Precast Installation - walls and roof	12 days	Tue 5/25/21	Tue 6/15/21																		

Task █
Critical █
Near Critical █

ID	Task Name	Duration	Start	Finish	2020		Half 2, 2020			Half 1, 2021			Half 2, 2021			Half 1, 2022			Half 2, 2022			Half 1, 2023
					M	M	J	S	N	J	M	M	J	S	N	J	M	M	J	S	N	J
143	Area DEFG - Structural Steel, Roof Joists, & Decking	35 days	Fri 6/18/21	Wed 8/18/21																		
144	Area DEFG - Slab-on-Deck	5 days	Thu 8/19/21	Thu 8/26/21																		
145	Fieldhouse Building (at baseball complex)	171 days	Fri 10/23/20	Mon 9/13/21																		
146	Fieldhouse Building Pad LVC	3 days	Fri 10/23/20	Tue 10/27/20																		
147	Fieldhouse Footings (2nd Crew)	5 days	Thu 1/21/21	Fri 1/29/21																		
148	Underslab Rough-in	5 days	Mon 2/1/21	Mon 2/8/21																		
149	First course masonry (2nd Crew)	3 days	Thu 2/11/21	Tue 2/16/21																		
150	Form and Pour Slab-on-Grade (2nd Crew)	3 days	Thu 2/18/21	Tue 2/23/21																		
151	Masonry Wall Installation (2nd Crew)	20 days	Thu 2/25/21	Thu 4/1/21																		
152	Steel Beams, Joist, & Decking (2nd Crew)	7 days	Fri 4/2/21	Wed 4/14/21																		
153	Roofing Installation	15 days	Fri 4/16/21	Tue 5/11/21																		
154	Finishes	70 days	Thu 5/13/21	Mon 9/13/21																		
155	Enclosure	163 days	Tue 2/23/21	Thu 12/9/21																		
156	Envelope	163 days	Tue 2/23/21	Thu 12/9/21																		
157	Area ABC	90 days	Tue 2/23/21	Wed 8/4/21																		
158	Area ABC - Exterior Framing, Sheathing, Vapor Barrier	40 days	Tue 2/23/21	Thu 5/6/21																		
159	Area ABC - North Face	15 days	Thu 4/1/21	Wed 4/28/21																		
160	Area ABC - East Face	20 days	Fri 5/7/21	Fri 6/11/21																		
161	Area ABC - West Face	20 days	Mon 6/14/21	Mon 7/19/21																		
162	Area ABC - South Face	10 days	Tue 7/20/21	Wed 8/4/21																		
163	Area DEFG	85 days	Fri 7/16/21	Thu 12/9/21																		
164	Area DEFG - Exterior Framing, Sheathing, Vapor Barrier	30 days	Fri 7/16/21	Thu 9/2/21																		

Task 
Critical 
Near Critical 

ID	Task Name	Duration	Start	Finish	2020		Half 2, 2020			Half 1, 2021			Half 2, 2021			Half 1, 2022			Half 2, 2022			Half 1, 2023
					M	M	J	S	N	J	M	M	J	S	N	J	M	M	J	S	N	J
165	Area DEFG - North Face	10 days	Fri 9/3/21	Tue 9/21/21																		
166	Area DEFG - West Face	15 days	Thu 9/23/21	Fri 10/15/21																		
167	Area DEFG - South Face	15 days	Mon 10/18/21	Tue 11/9/21																		
168	Area DEFG - East Face	15 days	Wed 11/10/21	Thu 12/9/21																		
169	Roof	136 days	Fri 3/19/21	Tue 11/9/21																		
170	Area A - Roof	15 days	Fri 3/19/21	Mon 4/12/21																		
171	Area DEFG - Roof at Competition Gym	10 days	Tue 5/25/21	Fri 6/11/21																		
172	Area BC - Roof	35 days	Mon 6/14/21	Thu 8/12/21																		
173	Area ABC - Roof - Partially DRIED IN	0 days	Thu 8/12/21	Thu 8/12/21																		
174	Area DEFG - Roof at Aux Gym	10 days	Thu 6/17/21	Fri 7/2/21																		
175	Area DEFG - Roof	35 days	Fri 9/3/21	Mon 11/1/21																		
176	Mechanical Rooms Roof	5 days	Tue 11/2/21	Tue 11/9/21																		
177	Area DEFG - Roof - Partially DRIED IN	0 days	Wed 9/29/21	Wed 9/29/21																		
178	Rough-In	172 days	Tue 12/22/20	Tue 11/2/21																		
179	Underslab Rough-in	93 days	Tue 12/22/20	Mon 6/21/21																		
180	Area ABC - Underslab Rough-in	15 days	Tue 12/22/20	Wed 1/27/21																		
181	Area DEFG - Underslab Rough-in at Precast	3 days	Thu 6/17/21	Mon 6/21/21																		
182	Area DEFG - Underslab Rough-in at Steel	10 days	Thu 1/21/21	Mon 2/8/21																		
183	Overhead Rough-in	133 days	Tue 2/23/21	Fri 10/15/21																		
184	Area ABC	116 days	Tue 2/23/21	Fri 9/17/21																		
185	Area ABC - First Floor OH Rough-In	25 days	Tue 2/23/21	Mon 3/29/21																		
186	Area ABC - Second Floor OH Rough-In	25 days	Fri 8/13/21	Fri 9/17/21																		

Task 
Critical 
Near Critical 

ID	Task Name	Duration	Start	Finish	2020		Half 2, 2020			Half 1, 2021			Half 2, 2021			Half 1, 2022			Half 2, 2022			Half 1, 2023
					M	M	J	S	N	J	M	M	J	S	N	J	M	M	J	S	N	J
187	Area DEFG	30 days	Fri 8/27/21	Fri 10/15/21																		
188	Area DEFG - First Floor OH Rough-In	25 days	Fri 8/27/21	Fri 10/1/21																		
189	Area DEFG - Second Floor OH Rough-In	10 days	Mon 10/4/21	Fri 10/15/21																		
190	In-Wall Rough-In	39 days	Tue 8/31/21	Tue 11/2/21																		
191	Area ABC	34 days	Tue 8/31/21	Tue 10/26/21																		
192	Area ABC - First Floor In-Wall Rough-In	15 days	Tue 8/31/21	Fri 9/24/21																		
193	Area ABC - Second Floor In-Wall Rough-In	15 days	Fri 10/1/21	Tue 10/26/21																		
194	Area DEFG	20 days	Fri 10/1/21	Tue 11/2/21																		
195	Area DEFG - First Floor In-Wall Rough-In	15 days	Fri 10/1/21	Tue 10/26/21																		
196	Area DEFG - Second Floor In-Wall Rough-In	3 days	Fri 10/29/21	Tue 11/2/21																		
197	Major Mechanical Equipment	10 days	Mon 3/22/21	Fri 4/2/21																		
200	Finishes	193 days	Fri 8/13/21	Wed 5/18/22																		
201	Area ABC - First Floor	170 days	Fri 8/13/21	Fri 4/15/22																		
202	Area ABC - First Floor Metal Framing, Drywall & Finish	45 days	Fri 8/13/21	Fri 10/15/21																		
203	Area ABC - First Floor Finishes	125 days	Mon 10/18/21	Fri 4/15/22																		
204	Area ABC - Second Floor	170 days	Thu 9/16/21	Wed 5/18/22																		
205	Area ABC - Second Floor Metal Framing, Drywall & Finish	45 days	Thu 9/16/21	Wed 11/17/21																		
206	Area ABC - Second Floor Finishes	125 days	Thu 11/18/21	Wed 5/18/22																		
207	Area DEFG - First Floor	125 days	Thu 10/21/21	Wed 4/20/22																		
208	Area DEFG - First Floor Metal Framing, Drywall & Finish	25 days	Thu 10/21/21	Wed 11/24/21																		
209	Area DEFG - First Floor Finishes	100 days	Mon 11/29/21	Wed 4/20/22																		
210	Area DEFG - Second Floor	20 days	Mon 11/29/21	Tue 12/28/21																		

Task 
Critical 
Near Critical 

Insert Schedule

SITE & STRUCTURAL PACKAGE LOGISTICS PLAN

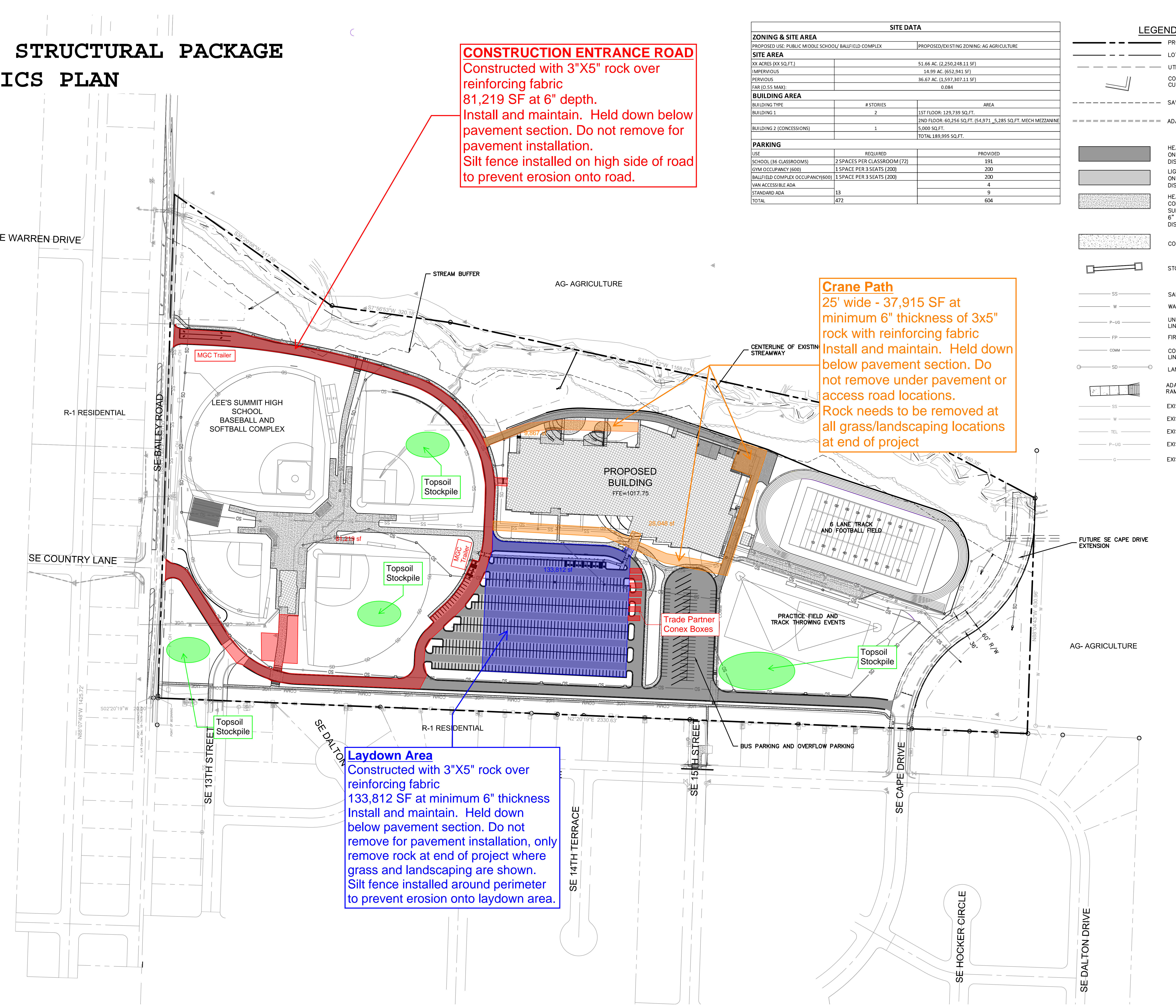
CONSTRUCTION ENTRANCE ROAD
Constructed with 3"X5" rock over reinforcing fabric
81,219 SF at 6" depth.
Install and maintain. Held down below pavement section. Do not remove for pavement installation.
Silt fence installed on high side of road to prevent erosion onto road.

Crane Path
25' wide - 37,915 SF at minimum 6" thickness of 3x5" rock with reinforcing fabric
Install and maintain. Held down below pavement section. Do not remove under pavement or access road locations.
Rock needs to be removed at all grass/landscaping locations at end of project

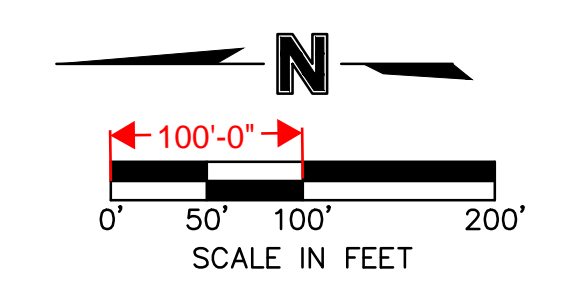
Laydown Area
Constructed with 3"X5" rock over reinforcing fabric
133,812 SF at minimum 6" thickness
Install and maintain. Held down below pavement section. Do not remove for pavement installation, only remove rock at end of project where grass and landscaping are shown.
Silt fence installed around perimeter to prevent erosion onto laydown area.

SITE DATA		
ZONING & SITE AREA		
PROPOSED USE: PUBLIC MIDDLE SCHOOL/BALLFIELD COMPLEX	PROPOSED/EXISTING ZONING: AG AGRICULTURE	
SITE AREA		
XX ACRES (XX SQ.FT.)	51.66 AC. (2,250,248.11 SF)	
IMPERVIOUS	14.99 AC. (652,941 SF)	
PERVIOUS	36.67 AC. (1,597,307.11 SF)	
FAR (0.55 MAX.)	0.084	
BUILDING AREA		
BUILDING TYPE	# STORIES	AREA
BUILDING 1	2	1ST FLOOR: 129,739 SQ.FT.
		2ND FLOOR: 60,256 SQ.FT. (54,971_5,285 SQ.FT. MECH MEZZANINE)
BUILDING 2 (CONCESSIONS)	1	5,000 SQ.FT.
		TOTAL 189,995 SQ.FT.
PARKING		
USE	REQUIRED	PROVIDED
SCHOOL (36 CLASSROOMS)	2 SPACES PER CLASSROOM (72)	191
GYM OCCUPANCY (600)	1 SPACE PER 3 SEATS (200)	200
BALLFIELD COMPLEX OCCUPANCY (600)	1 SPACE PER 3 SEATS (200)	200
VAN ACCESSIBLE ADA		4
STANDARD ADA	13	9
TOTAL	472	604

LEGEND	
	PROPERTY LINE
	LOT LINE
	UTILITY EASEMENT
	CONSTRUCT CONCRETE CURB & GUTTER
	SAWCUT PAVEMENT FULL DEPTH
	ADA PATH
	HEAVY DUTY ASPHALT PAVEMENT: 6-1/2" ASPHALT ON A 6" CLEAN ROCK BASE OR AS SPECIFIED IN THE DISTRICT'S GEOTECHNICAL REPORT.
	LIGHT DUTY ASPHALT PAVEMENT: 5-1/2" ASPHALT ON A 6" CLEAN ROCK BASE OR AS SPECIFIED IN THE DISTRICT'S GEOTECHNICAL REPORT.
	HEAVY DUTY CONCRETE PAVEMENT: 5" ASPHALTIC CONCRETE BASE, 1-1/2" ASPHALTIC CONCRETE SURFACE ON A 6" GRANULAR BASE COURSE ON A 6" STABILIZED SUBGRADE, OR AS SPECIFIED IN THE DISTRICT'S GEOTECHNICAL REPORT.
	CONCRETE PAVEMENT
	STORM SEWER
	SANITARY SERVICE LINE
	WATER SERVICE LINE
	UNDERGROUND POWER SERVICE LINE
	FIRE PROTECTION LINE
	COMMUNICATIONS SERVICE LINE
	LANDSCAPE/ROOF DRAIN
	ADA CONCRETE SIDEWALK AND RAMP
	EXISTING SANITARY SEWER MAIN
	EXISTING WATER MAIN
	EXISTING COMMUNICATIONS LINE
	EXISTING ELECTRIC LINE
	EXISTING GAS MAIN



DWG: F:\2020\0001-0500\020-0103\40-Design\AutoCAD\Final Plans\Sheets\CONSTRUCTION DOCUMENTS\C_GEN01_0200103.dwg
 DATE: Jun 19, 2020 10:44am
 USER: bkimmich
 T_PSAK_0200103
 V_XBCU_010103
 C_PBASE_0200103
 C_PBASE_0200103



07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

Subcontractor is expected to fulfill all the obligations contained in the Master Subcontract Agreement (“MSA”), and, in addition, the following requirements. In the event of any inconsistency between the MSA and the contents of this Scope of Work, Subcontractor shall comply with the more stringent requirement. Sample MSA is attached, reference section 002000 – Bidding Requirements.

Subcontractor is responsible for all items outlined and included in this section. For scope-specific clarifications, please see corresponding bid package scopes of work.

00 21 01 – Special Working Conditions

Reference Owner Contract for additional information. This includes, but is not limited to:

- 1.1.1 Liquidated damages in the amount of \$2,000 per day for delay caused by Subcontractor that impacts critical path and therefore substantial completion.
- 1.1.2 Owner has a policy prohibiting smoking, vaping, or other use of tobacco or vaping products in all of Owner's owned or leased buildings, on all grounds, and at all athletic facilities. Construction Manager agrees to comply with such policy and to require its contractors, subcontractors and sub-subcontractors to comply. Construction Manager agrees to prohibit its employees, agents, and servants, and the employees, agents, and servants of Construction Manager's contractors, sub-contractors and sub-sub-contractors from smoking, vaping, or other use of tobacco or other vaping products in all of Owner's owned or leased buildings, on all grounds, and at all athletic facilities.
- 1.1.3 Project is receiving funding from State of Missouri. Trade Partners to adhere to associated State of Missouri requirements including, but not limited to:
 - 1.1.3.1 All rates must be in accordance w/ Annual Wage Order No. 27
 - 1.1.3.2 Certified Payroll to be submitted to McCownGordon on no less than a monthly basis.
 - 1.1.3.3 Proof of OSHA 10 Hr Certification must be provided for all team members providing labor on the project.
- 1.1.4 Provide third party, certified background check for all employee’s that will be on site. Confirming that no felonies, listed on Sexual Offender, etc. for review by District and McCownGordon a minimum of two weeks prior to employee being on site.
 - 1.1.4.1 In addition to approved background check, McCownGordon will provide project specific training and issue badge or sticker to be worn by employee at all times. This will allow everyone on site to recognize individuals on site are approved
- 1.1.5 Weather Days
 - 1.1.5.1 Weather days listed below have been incorporated into the bid schedule. “Duration” is the amount of time the bidder must complete the work by. The “Start” and “Finish” dates on the schedule include the weather days.
 - 1.1.5.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15. In case of claim of extensions of time because of adverse weather, such extensions of time shall be granted only when such adverse weather prevented the execution of major items of Work on normal working days, and such Work is identified on the critical path of construction in the construction schedule most recently submitted prior to the occurrence of the event causing the delay. Additional days will only be granted when the total number of adverse weather days used exceeds the total number of monthly anticipated weather days listed below.

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

Anticipated monthly weather days are to be included in the Contract Schedule. Unused anticipated weather days shall accrue throughout the Project for each critical path activity. By way of example, once dry-in is completed, unused weather days will not carry forward to offset interior activities nor shall unused weather days affect material procurement. The anticipated monthly adverse weather days shall be:

January 8 days	July 4 days
February 7 days	August 4 days
March 5 days	September 3 days
April 5 days	October 3 days
May 4 days	November 4 days
June 4 days	December 6 days

00 21 02 – Safety | Housekeeping

1.2 General Safety

- 1.2.1.1 The subcontractor agrees to furnish to the contractors, the name, home address, and home telephone number of his current on-site supervisor and safety representative. The event of a change in supervisory personnel, the subcontractor shall immediately notify the contractor and provide current information of the new supervisor.
- 1.2.1.2 Every Subcontractor will identify, by name, at the time of contract award, the most senior onsite manager with accountability for injury free construction. A full time, onsite, qualified, safety professional is required at the specific request of McCownGordon Construction. Additional safety professionals may be required with project manpower increases at the discretion of McCownGordon Construction. McCownGordon Construction reserves the right of determination of qualifications of the assigned safety professional on an individual basis. If deemed unsuitable by experience of qualification, the safety representative will be replaced at the subcontractor’s expense.
- 1.2.1.3 Subcontractor’s safety representative shall actively participate in all meetings and job walks as specified by McCownGordon Construction. On site availability of the safety professional is at the discretion of McCownGordon Construction.
- 1.2.1.4 Below is the requirement for Subcontractor’s Safety Representative to visit the site based on this Subcontractor’s manpower onsite.
 - 1.2.1.4.1 1-10 workers Safety Rep 1 day a week
 - 1.2.1.4.2 11-20 workers Safety Rep 2 days a week
 - 1.2.1.4.3 21-40 workers Safety Rep 3 days a week
 - 1.2.1.4.4 40+ workers Safety Rep is fulltime
- 1.2.1.5 Provide all provisions necessary to meet OSHA requirements for work performed under this scope. This includes proper PPE utilized correctly. Hardhats, safety glasses, and high visibility vests/shirts will be worn at all times. This includes all workers and delivery personnel
- 1.2.1.6 Protection of slab-on-grade is required. All lifts are to have diaphragms and non-marking tires.
- 1.2.1.7 All temporary power sources must be GFCI protected, it is the responsibility of each Subcontractor to confirm or provide GFCI protection per OSHA standards.

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

- 1.2.1.8 Included are all costs associated with OSHA compliance when dealing with environmental issues during work activities. All signage, tie off points, etc. required to comply with all local, state, federal and owner/contractor requirements for this scope of work.
- 1.2.1.9 Verification of all existing utilities as required to complete the work for this project to be included under this bid package. Including coordination with McCownGordon Construction, owner of the project and/or property, and the utility companies as applicable. Private locates are required for all utilities not covered under the 811 call system. All private locates are at the expense of subcontractor performing the work to include subcontractor subcontractors. Any cutting, drilling, coring, etc. of existing slabs, subcontractors will be required hire and pay for ground penetrating/scanning before this work is started.
- 1.2.2 MGC Safety Forms/Procedures
 - 1.2.2.1 All subcontractor personnel are required to attend a site-specific safety orientation prior to working on site.
 - 1.2.2.2 Forms will be required from all contractors. These forms include but are not limited to the following:
 - 1.2.2.2.1 Method of Procedures (MOP)
 - 1.2.2.2.1.1 Subcontractor to fill out form for all high hazard operations prior to pre-install meetings.
 - 1.2.2.2.2 Competent Person Form
 - 1.2.2.2.2.1 Subcontractor completes form and deliveries to McCownGordon Construction prior to work starting on site. This is the Subcontractor’s person who has the knowledge and authority to implement all necessary safety procedures for their scope of work.
 - 1.2.2.2.3 Weekly Safety Inspection Forms
 - 1.2.2.2.3.1 Subcontractor must conduct a formal weekly jobsite inspection and turn the results into McCownGordon Construction.
 - 1.2.2.2.4 Site Specific Fall Protection Plan
 - 1.2.2.2.4.1 Subcontractor is required to submit plan for all work over 6’ in height. This is to be submitted to the onsite superintendent prior to work starting on site.
- 1.2.3 Air Containments and Monitoring
 - 1.2.3.1 When powered equipment, other than electrical, is utilized inside an enclosed area, continuous air monitoring must occur, and documentation of air results must be maintained and submitted to the daily. This includes the operation of such equipment as diesel powered welding machines, gas generators, diesel powered forklifts, quickie saws, etc. Each subcontractor, and any tier, is responsible for providing such air monitoring equipment and training to its employees.
 - 1.2.3.2 Special OSHA Silica Enforcement Provisions:
 - 1.2.3.2.1 There shall be NO “dry” cutting, grinding, large bore drilling of concrete, CMU or other silica containing material. All dust containing silica must be collected in accordance with applicable NIOSH, ANSI, OSHA and governing

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

Authorities having jurisdiction.

- 1.2.3.2.2 Subcontractor and their tiered subcontractors will be responsible for ensuring any operations generating dust shall use necessary means to control the dust and minimize or remove exposures. This includes, but is not limited to haul roads, grinding, drilling, chipping, hammering, sawing, polishing and cutting operations, etc.
- 1.2.3.2.3 McCownGordon Construction reserves the right to require subcontractor to perform additional air monitoring.
- 1.2.3.2.4 When applicable, sweeping compound shall be used to control nuisance dust from daily sweeping of working surfaces.
- 1.2.3.2.5 Subcontractor and their tiered subcontractors will be responsible for ensuring appropriate PPE for any exposures or supply McCownGordon Construction with Negative Exposure Assessments confirming exposure limits are below those established by OSHA, NIOSH, EPA or other governing authorities for the specific exposure. This includes, but is not limited to, nuisance dust and silica from operations, drilling and cutting operations, metal fume and hexavalent chromium from hot work operations, etc.

1.2.4 Cleanup

- 1.2.4.1 Subcontractor shall clean up and place trash in dumpsters furnished by others on a daily basis or as directed by McCownGordon Construction’s Superintendent. Subcontractor will also be responsible for participating in a composite clean-up crew. Clean-up by composite crew is to take place one (1) day per week, or as directed by the McCownGordon Construction’s Superintendent

1.2.5 Temporary Light and Power

- 1.2.5.1 The Contractor, through the electrical subcontractor, shall provide building temporary 120-Volt power to panels for use by Subcontractors. All power requirements other than 120V will be the Subcontractor’s responsibility. When the permanent power system is ready, it shall be made available for temporary use as required. Subcontractors need to provide GFCI protection for their own work.
- 1.2.5.2 Each Subcontractor shall provide their own extension cords and fittings as required.
- 1.2.5.3 The General Contractor, through the electrical subcontractor, will provide general lighting and lighting for stairwells per OSHA. Each Subcontractor will be responsible for any specific task lighting requirements over and above the general lighting provided by the Contractor.

1.2.6 Drinking Water

- 1.2.6.1 Subcontractor will be responsible for their own drinking water and ice.

1.2.7 Temporary Toilets

- 1.2.7.1 McCownGordon Construction shall provide proper sanitary arrangements for workmen. Such facilities shall be kept clean and maintained in accordance with the requirements of regulatory authorities having jurisdiction.
- 1.2.7.2 Under no circumstance should the existing restrooms in the occupied facility be used by construction workforce. Failure to adhere to this requirement may result in removal from the project site.

1.2.8 Flagmen and Traffic Regulations

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

- 1.2.8.1 Subcontractor will be required to provide their own flagmen for Work requiring flagmen such as deliveries, hauling material from site, etc., or as directed by the Project Superintendent.
- 1.2.8.2 Where streets now in use are within or adjacent to the Work, keep the passageways of such streets open to vehicular and pedestrian traffic from building frontage thereon. Maintain continual access for police, fire, and ambulance service. Keep all roadways clean from debris as required by county, city, and state, and McCownGordon Construction requirements.
- 1.2.8.3 Any road closure permits necessary for contractor's scope of work are the sole responsibility of the Subcontractor.
- 1.2.9 Barriers and Snow/Ice Removal
 - 1.2.9.1 Subcontractor shall properly protect and safeguard Subcontractor's work. The Owner or McCownGordon Construction shall not, in any way, be liable or responsible for the damage or loss to the Work due to trespass or theft.
 - 1.2.9.2 Subcontractor shall provide removal of snow, ice and/or water as required to perform their own scope of work.
- 1.2.10 Protection of Work
 - 1.2.10.1 Subcontractor shall be required to protect existing work from damage due to this Subcontractor's operations. If this Subcontractor damages the work of others, it is this Subcontractor's responsibility to repair and/or replace the damaged work. Subcontractor shall use specified materials as is required to comply with the Contract Documents and provide all guarantees and warranties as were in place or to be in place upon acceptance by the Owner. Subcontractor shall endeavor to have the original installer make the required repairs at this Subcontractor's costs.
 - 1.2.10.2 In the event of a dispute over who damaged or caused damage to a portion of the work, McCownGordon Construction shall make such determination and require the Subcontractor to make the required repairs. If the Subcontractor fails to provide the repairs, McCownGordon Construction will take such action to make the repair at the cost to the Subcontractor causing the damage as determined at McCownGordon Construction's sole discretion.
 - 1.2.10.3 Dewatering and/or protection of work areas is the responsibility of each contractor
 - 1.2.10.4 Security of materials, tools, equipment, etc., is the responsibility of each Subcontractor for their own materials, tools, equipment, etc. Each Subcontractor shall be responsible for properly barricading, protecting, and safeguarding his work. The Owner or Contractor shall not in any way be liable or responsible for the damage or loss to the work due to trespass, theft, and/or vandalism.
 - 1.2.10.5 Subcontractors shall take measures to preserve, protect, and keep clean floors. Subcontractor is responsible for cleaning floors back to the condition they were before starting their work. Drop cloths shall be used to prevent construction materials from soiling such floors. The rubber tires of lifts and equipment shall be covered so as to not leave tire marks on floors. Lifts must have under carriage covers to prevent leaks from lifts/equipment from damaging floors.
 - 1.2.10.6 This Subcontractor is aware of the roofing material on this project and that it can be easily damaged. Subcontractor to take all necessary precautions as required to protect this roof and further agrees to be responsible for all damage that may result

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

from this Subcontractor’s activities.

1.2.11 Access | Loading

1.2.11.1 Subcontractor is required to observe all loading limits of the facility and site and shall not overload any portions of the facility or site. Subcontractor shall be required to provide all access ramps, shoring and dunnage as may be required to properly access the work area and all other safety devices as may be necessary. The utilization of power lifts (i.e. scissor lifts, boom lifts) shall be reviewed on a case-by-case basis. Subcontractor shall be required to implement additional safety provisions as required for the utilization of motorized lifts. Extra care shall be given at edges where tipping of lifts is possible.

1.2.12 Storm Water Management Plan (SWMP)

1.2.12.1 McCownGordon Construction has developed and implemented a Storm Water Management Plan (SWMP) to address the local, state and Federal stormwater permitting requirements. The permit requires and the SWMP identifies controls MGC must implement and maintain throughout the length of the project to minimize or prevent pollutants from collecting in stormwater and be carried off site. Controls include but are not limited to the following: inlet protection, vehicle tracking controls, perimeter containment controls (such as silt fence and straw wattles), concrete washout areas and secondary containment for petroleum products and hazardous materials.

1.2.12.2 It is each Subcontractor’s responsibility to avoid disturbance, damage or removal of the SWMP controls. If the Subcontractor’s scope of work requires disturbance or removal of the SWMP controls, it is that Subcontractor’s responsibility to discuss with McCownGordon staff the need for the disturbance or removal and obtain approval prior to the disturbance or removal.

1.2.12.3 It will be this Subcontractor’s responsibility to provide sufficient labor, materials, equipment, and other items necessary to remove and replace back controls to their optimum condition. Any disturbance or removal that is required must be restored to optimal working condition, in accordance with the SWMP, by the Subcontractor. The SWMP contains design details on how controls must be installed. McCownGordon staff can provide those design details as needed.

1.2.12.4 Any blatant, malicious, or accidental acts by any Subcontractors employees that damage or destroy controls will be replaced and restored to optimum condition and costs incurred will be passed on to the offending Subcontractor.

1.2.12.5 Specific requirements regarding stormwater controls include, but are not limited to, the following:

1.2.12.5.1 All concrete waste must be disposed of in the designated concrete washout area. Disposal outside the washout area is not acceptable. Any spoils left from removal, accidental spills, or similar situations must be cleaned up and either disposed of offsite or placed in the designated concrete washout area.

1.2.12.5.2 If subcontractors store any petroleum, hazardous materials, paint, and other pollutant materials on site they must be clearly marked and stored in a safe location (covered and contained) so they cannot be accidentally spilled or intermixed with stormwater runoff. Any excess materials not used on site must be removed from the project by the Subcontractor. The

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

Subcontractor will be back charged for any materials left on site that must be disposed of by MGC.

1.2.12.5.3 All items, materials, or stockpiles that are a potential pollutant source are required to be barricaded, contained, or stabilized in an acceptable manner to prevent them from becoming a pollutant, or environmental issue as defined by the EPA, state, and local requirements.

1.2.12.5.4 This section does not identify all possible scenarios or conditions regarding stormwater permit compliance. Any issues or questions by Subcontractors should be discussed with MGC project staff as they arise. It shall be Subcontractor’s responsibility to coordinate and comply with the requirements and conditions of the SWMP and Permit. Any fees assessed MGC for an act by a Subcontractor for non-compliance with the SWMP will be passed on to the offending Subcontractor.

1.3 Project specific Safety

1.3.1.1 N/A

1.4 Site Specific Safety Plan

1.4.1.1 McCownGordon will create a project-specific Safety plan. All subcontractors are expected to follow the guidelines of this plan.

00 21 03 – Document Management

1.5 Project Management Software

1.5.1.1 McCownGordon utilizes Procore for all electronic project document management. Each Subcontractor is required to use this software and submit documents electronically through Procore as needed.

1.5.1.2 This software is free to Subcontractor, but Subcontractor will be required to use this management system daily. McCownGordon Construction will provide necessary training and supplementary instructions as required.

1.6 Drawings and Specifications

1.6.1.1 All project drawings and specifications are maintained electronically on Procore.

1.6.1.2 If desired, hard copies of project documents are the responsibility of the Subcontractor to procure. McCownGordon will not provide paper copies of any project documentation.

1.7 Submittals and Shop Drawings

1.7.1.1 Electronic submittals are required and shall be submitted to McCownGordon project team through Procore

1.7.1.2 Samples shall be submitted in quantities as dictated by the individual specifications.

1.7.1.3 All submittals, shop drawings and samples shall be submitted as required to maintain the project schedule, but no later than 3 weeks from receipt of notice to proceed.

1.7.1.4 Provide all mock-ups and samples as indicated by the contract documents. Include mock-up fabrication on the jobsite and removal following completion of work.

1.8 Procurement

1.8.1.1 Complete scope of work/bid form table for applicable scopes.

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

- 1.8.1.2 All necessary “quick-shipping”, material expediting, procurement expediting and costs necessary to meet the scheduled completion date per the construction schedule is to be included.
- 1.9 Pay Applications
 - 1.9.1.1 All monthly progress and final billings are required to be submitted through Procore’s “Invoicing” function by the 20th of every month while forecasting to the end of the month. McCownGordon will receive approval by the 10th of the following month. Payment will be made by the 20th of the month following the approved invoice. Instructions for this function will be provided upon award of a scope of work
- 1.10 Change Orders – Reference Owner Contract for additional information.
 - 1.10.1.1 For Work performed by a subcontractor and sub-subcontractor, the fee to the Construction Manager shall not exceed the percentage of the Construction Manager’s Fee established under the Agreement on the Actual Cost of the Work, and any fee or premium paid to the subcontractor or sub-subcontractor (to be included as part of the Cost of the Work (as described in Article 6 of the Agreement) shall not exceed ten percent (10%) of the Actual Cost of the Work performed by such subcontractor or sub- subcontractor, and such fee or premium shall include and be on account of all other direct and indirect costs, including but not limited to Project overhead, profit, bonds, insurance, superintendent compensation, Project manager compensation, vehicles, utilities, printing/reproduction, office equipment, mobile offices, phones, computers, as-built modifications, site cleaning and safety, and all efforts made in coordinating pricing, material procurement, and installation.
 - 1.10.1.2 As used herein, the term "Actual Cost of the Work" shall mean and include the direct cost of labor, materials and equipment necessary to install the changes in the Work. Such labor costs shall be computed using the hourly rates (including company paid employee benefits) of personnel involved in physically installing the changes in the Work. Material costs are the actual invoiced costs of materials as delivered to the site without mark-up for overhead, profit, or any other addition. Equipment costs shall be computed using the industry standard hourly rate for the equipment necessary to physically install the changes in the Work without mark-up for overhead, profit, or any other addition. All other direct and in-direct costs are not part of the Actual Cost of The Work. Expenses that are not part of the Actual Cost of the Work include, but shall not be limited to, Project overhead, profit, bonds, insurance, superintendent compensation, Project manager compensation, vehicles, utilities, printing/reproduction, office equipment, mobile offices, phones, computers, as-built modifications, site cleaning and safety, and all efforts made in coordinating pricing, material procurement, and installation.
 - 1.10.1.3 Any pricing requested for changes in the work shall be submitted within one week.
 - 1.10.1.4 All pricing shall be broken down with the following detail;
 - 1.10.1.5 Labor, material, equipment, overhead and profit
 - 1.10.1.5.1 Labor must be broken down by labor rate and hours
 - 1.10.1.6 Lump sum pricing will not be accepted.
 - 1.10.1.7 Change order proposals shall include costs for all required insurance, bonds, permits, fees, etc.

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

1.10.1.8 Any pricing of field work tickets that are generated in the field by McCownGordon should be submitted within one week.

1.11 Closeout

1.11.1.1 All manufacturer warranties, owner and maintenance manuals, operating instructions, etc. are to be submitted to McCownGordon within 30 days of being requested.

1.11.1.2 As-built drawings shall be maintained and updated throughout the project and submitted to McCownGordon for review and verification on a monthly basis.

1.11.1.3 Final as-built drawings shall be submitted no later than two weeks after substantial completion.

00 21 04 – Layout

1.12 Unless explicitly stated in the specific work package, building corner and control points shall be provided by McCownGordon appointed licensed surveyor. All other layout required to complete each Subcontractor's work shall be the responsibility of the Subcontractor

1.13 Subcontractor to provide all private and public locates as required to complete their scope of work. And damages incurred to public or private utilities will be the responsibility of the Subcontractor.

1.14 If applicable, examination of existing field conditions is the responsibility of the bidder PRIOR to submitting a bid. No additional costs will be paid for failure to sufficiently examine existing conditions.

00 21 05 – Meeting Schedule

1.15 Approximately 2 weeks prior to starting trade-specific work, McCownGordon will schedule a meeting to review scope details and coordination. Attendance by the project manager and field foreman is mandatory for these meetings. Additional attendees may be required as necessary.

1.16 Weekly onsite progress meetings should be anticipated. Each Subcontractor will have representation present at each weekly meeting. This representation will possess knowledge on the scope of work, procurement, manpower, etc. and have the authority to make decisions for this contractor concerning schedule and pricing.

00 21 06 – Quality Control

1.17 McCownGordon has a quality control/quality assurance program that all Subcontractors shall be required to participate.

1.18 Site Specific Quality Assurance Quality Control Plan

1.18.1 McCownGordon will create a Site Specific Quality Assurance Quality Control plan. All subcontractors are expected to follow the guidelines of this plan.

00 21 07 – Coordination

1.19 McCownGordon has a quality control/quality assurance program that all Subcontractors shall be required to participate.

1.20 Overall building permit provided by others. Subcontractor shall be responsible for all permits required to complete their respective scope of work.

1.21 Subcontractor shall be responsible for coordination with the McCownGordon Construction, other Contractors, Subcontractors and the Owner. Change orders will not be issued for failure to coordinate.

1.22 Coordinate all deliveries and storage of materials onsite with McCownGordon Superintendent.

1.23 Subcontractor shall be responsible for any and all scaffolding or hoisting requirements to complete their

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 21 00 – GENERAL PROVISIONS

scopes of work.

- 1.24 If Subcontractors scope of work requires sleeves, coring, saw cutting etc. to facilitate their scope of work, it is the responsibility of that Subcontractor to provide these measures. This includes x-ray investigation of slabs/walls prior to coring. Any resultant damages or cleanup from coring/saw cutting will be the responsibility of the Subcontractor to remediate.
- 1.25 Each Subcontractor must provide the necessary manpower to monitor, protect and adjust their work items placed in concrete, masonry, grouting, etc. to ensure alignment of finished product.
- 1.26 Any scope of work performing any excavations, trenching or earthwork must be familiar with the Geotechnical Report and bid their work accordingly. Any spoils generated must be removed from the site within one week or stockpiled onsite as approved by the Superintendent.
- 1.27 Each Subcontractor must coordinate with the roofing contractor in order to schedule installation of roofing penetrations prior to roofing system installation.

00 21 08 – Virtual Construction | BIM

- 1.28 This project will utilize 3D modeling and coordination. All trades shall review the BIM Supplemental Instructions and participate fully as indicated for their respective scope of work.

00 21 09 – Schedule Coordination and Phasing

- 1.29 Subcontractor's work shall be completed in accordance with durations shown in the project schedule, providing appropriate levels of manpower to meet or exceed the project schedule durations. The project schedule will be reviewed at each weekly progress meeting. All modification to the schedule at the progress meeting will be sent out with the meeting minutes and will become a Contract Document, superseding the original bid/contract schedule.
- 1.30 Include multiple mobilizations as required in accordance with schedule requirements.
- 1.31 Upon award (or prior to) of Subcontractor work Order, each Sub/Vendor shall submit to MGC a detailed man-loaded schedule showing compliance with the project schedule dates. The schedule will be updated monthly at a minimum. Subs/Vendors will be requested to participate in schedule updates. Whether present or not Subcontractors shall adhere to the results of the schedule updates.
- 1.32 Subcontractor has included all costs associated to meet the project schedule as defined, and including but not limited to:
 - 1.33 Costs associated with material, rental or labor escalation.
 - 1.34 Costs associated with material expediting.
 - 1.35 Costs associated with overtime, and or premium time for work that cannot be completed during normal working hours.
- 1.36 Subcontractor shall furnish all provision including, but not limited to all labor material, power, and equipment for hot and cold weather practices as required to meet the project schedule
- 1.37 Allowed weather days are included in Contractors contract with the Owner. For any additional weather days, Subcontractor shall document in writing to the Contractor on a monthly basis all days on which critical path work could not be performed due to the effects of inclement weather, in increments of ½ days. Subcontractor hereby specifically and expressly waives any monetary compensation for any weather delays. Calendar days shall be used as the basis of tracking lost days.
- 1.38 Projected weather days are incorporated into the bid/contract schedule.
- 1.39 See attached Logistics and Schedule.

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 41 00 – BID FORM

Scope of Work/Bid Package #: _____

Company Name: _____

Company Street Address: _____

Company City, ST & Zip: _____

Estimator Name and Phone: _____

Authorized Agent Name and Phone: _____

1.1 **Base Bid**

(Please Submit a Separate Proposal Form for each Bid Package if applicable). The following pricing includes all labor, burden, fringe benefits, materials, tools, equipment, temporary provisions, shipping, fuel, trade permits, markups, fee's, overhead, insurance and bonds in accordance with the bidding documents.

BASE BID AMOUNT \$ _____

1.2 **Cost Breakdown**

Additional cost breakdown may be requested in final evaluation of proposals only if necessary or required. Refer to scopes of work for any breakdowns.

Breakdown #1: Cost to provide Payment & Performance Bond (not included in base bid

\$ _____

Breakdown #2: _____ \$ _____

Breakdown #3: _____ \$ _____

Breakdown #4: _____ \$ _____

Breakdown #5: _____ \$ _____

Breakdown #6: _____ \$ _____

Breakdown #7: _____ \$ _____

1.3 **Alternates**

Indicate if alternate is add or deduct on each item below

Voluntary Alt #1: _____ \$ _____

Voluntary Alt #2: _____ \$ _____

Voluntary Alt #3: _____ \$ _____

Voluntary Alt #4: _____ \$ _____

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 41 00 – BID FORM

Voluntary Alt #5: _____ \$ _____

1.4 Markups, Labor Rates and Unit Pricing:

Combined Markup for Overhead & Profit (OH&P) on Change Orders is 10% for work performed by this Contractor’s own forces. If work is performed by a sub-tier, the OH&P is limited to 5% of the sub-tier proposal.

Hourly Labor Rates (To be completed for each trade as it applies to your Scope of Work).

Wage & Benefits – Special Requirements as outlined in the bid documents shall be incorporated.

TRADE:			
	BASE RATE	OT PREMIUM	DT PREMIUM
Apprentice	\$	\$	\$
Journeyman	\$	\$	\$
Foreman	\$	\$	\$

TRADE:			
	BASE RATE	OT PREMIUM	DT PREMIUM
Apprentice	\$	\$	\$
Journeyman	\$	\$	\$
Foreman	\$	\$	\$

TRADE:			
	BASE RATE	OT PREMIUM	DT PREMIUM
Apprentice	\$	\$	\$
Journeyman	\$	\$	\$
Foreman	\$	\$	\$

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 41 00 – BID FORM

1.5 Unit Pricing

Reference Individual Bid Packages and specifications for requested unit costs to be submitted. All unit costs shall include all related labor, materials, equipment, supervision, overhead, profit, insurance, bonds, etc., complete.

NO	DESCRIPTION	UNIT COST	PER UNIT
		\$	
		\$	
		\$	
		\$	
		\$	
		\$	

1.6 Materials and Specifications:

All materials are to be bid per specifications, if bidder wishes to utilize an “approved equal”, as allowed by the specification, then bidder shall include cut sheet of proposed material/item with an estimated cost savings for using the submitted product in lieu of the basis of design. This information shall be provided by the bidder at time of bid

Bidders must utilize the Pre-Bid Substitution Request Form provided in the Specifications for any materials not meeting the requirements of the specifications. If approval is not received prior to the bid date then such materials will not be accepted.

1.7 Subcontractor Acknowledgement:

The project IS sales tax exempt.

This Proposal in its entirety is valid for sixty (60) calendar days from the date of this Bid. Adjustments to the price, basis and/or extensions of the date through which the Bid is still valid, may occur only through mutual written consent of the Subcontractor and McCownGordon Construction

By submitting this bid, Subcontractor acknowledges receipt of the construction schedule and the bid reflects the durations included in the schedule.

The bidder hereby acknowledges receipt, review and incorporation of the following as part of this proposal:

- Addendum 0 1 2 3 4 5
- Schedule and Logistic Plans Yes No

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL – SITE & STRUCTURE PACKAGE

BID PACKAGE 00 41 00 – BID FORM

- Bid Package(s) Yes No
- MGC Contract Docs. Yes No
- Performance & Payment Bond Included Yes No
- Prequalification Process Completed Yes No
- Sales Tax Excluded Yes No

- 1.8 The undersigned hereby declares that he/she has examined the Construction Documents, Supporting Documents, Owner Contract, has visited the Site, and agrees to all terms and conditions set forth in this bid package and all of the contract documents.
- 1.9 This proposal in its entirety is valid for thirty (60) calendar days from the date of this Bid. Adjustments to the price, basis and/or extensions of the date through which the Bid is still valid may occur only through mutual written consent of the Bidder and McCownGordon Construction.

Company Name

Printed Name

Signature

Date

Phone

Email

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 3A – CONCRETE

1. Trade Specific Scope Outline

- 1.1 Subcontractor is responsible for all items outlined and included in Contract Documents and General Provisions. Refer to those sections for additional information.
- 1.2 Furnish and install all work required for the complete and total Concrete scope in accordance with Division 03 (03 12 30 Geofoam Concrete Forms, 03 30 00 Cast-in-place Concrete) in accordance with the Contract Documents (plans and specifications) including, but not limited to, the following clarifications:
 - 1.2.1.1 All laydown, deliveries, and onsite storage are to be coordinated and scheduled with McCownGordon Construction. On site storage is not guaranteed and will be at McCownGordon's discretion. If onsite storage is permitted, Subcontractors will be required to relocate material as directed by McCownGordon at no additional cost.
 - 1.2.1.2 Include all excavation, forming and backfill. Excess spoils to be hauled off site by this contractor.
 - 1.2.1.3 Provide all required delegated design shop drawings and calculations signed and sealed by a Professional Engineer licensed in the State of Missouri.
 - 1.2.1.4 Include concrete washout dumpster for all concrete pours. Washout on ground will not be permitted.
- 1.2.2 Site Concrete
 - 1.2.2.1 Furnish and install all site concrete and base rock including, but not limited to:
 - 1.2.2.1.1 Curb and gutter
 - 1.2.2.1.2 Sidewalks and/or walkways
 - 1.2.2.1.3 Decorative concrete per documents
 - 1.2.2.1.4 Heavy duty concrete paving, including subbase
 - 1.2.2.1.5 ADA accessible ramps per City of Lee's Summit standards
 - 1.2.2.1.6 Ramps and stairs
 - 1.2.2.1.7 Cast-in-place retaining wall
 - 1.2.2.1.7.1 Assume a 3'x10' wide footing with a 12" thick wall at length & height shown on the contract documents. If reinforcing is not detailed, assume double mat utilizing #4 rebar at 12" o.c
 - 1.2.2.1.7.2 Backfill of wall by others.
 - 1.2.2.1.8 Light pole bases, coordinate with electrician
 - 1.2.2.1.9 Flagpole footings
 - 1.2.2.1.10 Mowstrips around buildings and at fencing areas per documents
 - 1.2.2.1.11 Scoreboard Footings.
 - 1.2.2.1.12 Monument sign footings
 - 1.2.2.1.13 Transformer pads per Everygy standard pad detail and dumpster pads
 - 1.2.2.1.14 Tactile warning surfaces
 - 1.2.2.1.15 Concrete control joints and expansion joints, including saw cut and hand troweled per drawings. If pattern is not shown, refer to ACI standards.
 - 1.2.2.1.16 All concrete shown on landscape & civil drawings
 - 1.2.2.1.17 Concrete reinforcing materials
 - 1.2.2.2 Install the following items furnished by others:
 - 1.2.2.2.1 Pipe bollards and filling with concrete.

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 3A – CONCRETE

1.2.3 Building Concrete

1.2.3.1 Furnish and install the following:

1.2.3.1.1 Footings and Foundations

1.2.3.1.2 Contractor understands 2 crews are required at certain times throughout the project. Review schedule for dates and durations

1.2.3.1.3 Review drawings for locations at areas DEFG where footing step and stem wall is required. Stem wall to be 8" wide (except where brick ledge is required) and 4' tall on top of 3' thick footing.

1.2.3.1.4 Stairs and/or metal pan stairs

1.2.3.1.5 Infill and finishing of diamond block outs

1.2.3.1.5.1 Plywood covers at diamond block outs will be the responsibility of this Subcontractor.

1.2.3.1.5.2 Cover block outs immediately after concrete is placed.

1.2.3.1.5.3 Remove block outs during setting of steel columns and reinstall immediately after column is set.

1.2.3.1.5.4 Remove diamond block outs only after placing of concrete is complete.

1.2.3.1.6 Grouting of base plates

1.2.3.1.7 Footing and foundation wall insulation

1.2.3.1.8 Under slab gravel base coarse material

1.2.3.1.9 Vapor barrier below slab

1.2.3.1.10 Saw cutting of concrete slab on grade. This shall be completed as soon as curing allows, without damaging the finish, on the day of the pour. Control all dust from saw cutting.

1.2.3.1.11 Verify that all concrete inserts, reinforcing, hairpins, and embedded items are correctly located and rigidly secured prior to concrete placement.

1.2.3.1.12 Include layout and installation of embeds, anchor bolts, etc. supplied by others.

1.2.3.1.13 Include final surveyor verification of anchor bolt layout.

1.2.3.1.14 Expansion joints

1.2.3.1.15 Bond breaker/form oil at all construction joints

1.2.3.1.16 Grouting of base plates, bollards, MEP pumps, etc.

1.2.3.1.17 All required interior equipment pads.

1.2.3.1.18 Locker Bases

1.2.3.1.19 Area ABC design is complete, but details for areas DEFGS&T are not complete. Typical details are included in the construction documents for these areas and should be incorporated into base bid. Additional details will be provided post-bid.

1.2.4 Weather Protection

1.2.4.1 Provide all weather protection (ground thaw equipment, concrete blankets, etc) to perform concrete work per the construction schedule.

1.2.4.2 Provide all necessary cold/hot water additives to mix designs as allowed by the contract documents.

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 3A – CONCRETE

1.2.5 Unit Prices

1.2.5.1	Unit Price #1 - Cost per SF for Housekeeping Pads	\$_____ /sf
1.2.5.2	Unit Price #2 - Cost per site lighting light pole base	\$_____ /ea
1.2.5.3	Unit Price #3 - Cost per sports lighting light pole base	\$_____ /ea
1.2.5.4	Unit Price #4 - Cost per SF of 4" locker base	\$_____ /sf
1.2.5.5	Unit Price #5 - Cost per SF of sidewalk	\$_____ /sf
1.2.5.6	Unit Price #6 - Cost per LF of mowstrip	\$_____ /lf
1.2.5.7	Unit Price #7 - Cost per LF of curb	\$_____ /lf
1.2.5.8	Unit Price #8 - Cost per cy of footing including excavation, etc	\$_____ /cy
1.2.5.9	Unit Price #9 - Cost for 4" normal weight topping slab on Aux Gym Roof	\$_____ /sf

1.2.6 Allowances

- 1.2.6.1 Furnish, install, and remove 25lf of 5' wide sidewalk to McCownGordon's construction trailer, allowance to be used as directed by McCownGordon Superintendent

07-1256 – LEE'S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 3B – PRECAST CONCRETE

1. Trade Specific Scope Outline

- 1.1 Subcontractor is responsible for all items outlined and included in Contract Documents and General Provisions. Refer to those sections for additional information.
- 1.1 Furnish and install all work required for the complete and total Precast Concrete scope in accordance with Division 03 41 00 Precast Structural Concrete including, but not limited to, the following clarifications:
 - 1.1.1 General
 - 1.1.1.1 Erecting Subcontractor
 - 1.1.1.1.1 Subcontractor shall protect all existing work in place.
 - 1.1.1.1.2 Panels to be delivered to site as needed and not stored onsite.
 - 1.1.1.1.3 Verify field conditions and embed locations are correct 10 days prior to mobilization and delivery of panels.
 - 1.1.1.1.4 Provide final cleaning of all work installed under this scope of work
 - 1.1.1.1.5 Provide all rubbing, patching, etc as needed
 - 1.1.2 Testing requirements
 - 1.1.2.1 Coordinate all inspections of work as required with McCownGordon Construction.
 - 1.1.3 Coordination
 - 1.1.3.1 Furnish embeds to concrete contractor before installation of footings per schedule.
 - 1.1.3.2 Coordinate temporary engineered bracing with McCownGordon Construction
 - 1.1.3.3 Provide all required delegated design shop drawings and calculations signed and sealed by a Professional Engineer licensed in the State of Missouri for precast panels, double T's and precast temporary bracing
 - 1.1.3.4 All temporary bracing shall be designed to withstand wind up 60mph.
 - 1.1.3.5 Coordinate with all trades for blockouts, junction boxes, sleeves, penetrations, embeds, etc.
 - 1.1.3.6 Provide site specific erection and hoisting plan at least 1 month before mobilization. Plan will be reviewed by McCownGordon's safety team.
 - 1.1.4 Structural Precast
 - 1.1.4.1 Furnish and install the following:
 - 1.1.4.1.1 Deadmen if required, including removal of deadmen
 - 1.1.4.1.2 Contractor has reviewed the bid schedule and understands precast is required to be onsite in June and includes a 12day install duration.
 - 1.1.4.1.3 Temporary engineered bracing
 - 1.1.4.1.4 Grouting of precast
 - 1.1.4.1.5 Included is all thin-brick faced panels.
 - 1.1.4.1.6 All mockups as required per specifications (verify mockup outlines color, joints, edges, reveals, finish, form liner, transition as it will appear) and disposal of mockup at a time determined by McCownGordon
 - 1.1.4.1.7 Architectural finish per contract documents. Reference interior and exterior elevations, etc.

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 5A – STEEL

1. Trade Specific Scope Outline

- 1.1 Subcontractor is responsible for all items outlined and included in Contract Documents and General Provisions. Refer to those sections for additional information.
- 1.2 Furnish and install all work required for the complete and total Steel scope in accordance with Division 05 (05 12 00 Structural Steel Framing, 05 21 00 Steel Joist Framing, 05 31 00 Steel Deck Framing) in accordance with the Contract Documents (plans and specifications, including, but not limited to, the following clarifications:
 - 1.2.1 General
 - 1.2.1.1 Provide all hoisting and rigging as required for installation
 - 1.2.1.2 Provide copies of crane and operator certification prior to start of material erection.
 - 1.2.1.3 Laydown, crane path, and storage is shown on the site logistics plan for all contractors. If more area is needed, it will be the responsibility of this contractor to provide.
 - 1.2.1.4 Contractor understands that the intent of the schedule is to install the slab-on-grade before steel erection. This contractor is responsible for protection of slab-on-grade when welding, erecting, etc. Lifts are required to have diapers and non-marking tires.
 - 1.2.1.5 All steel stored and covered on site shall not be in mud/water/etc. and held up with dunnage provided under this scope of work.
 - 1.2.1.6 Verify field conditions and embed locations are correct 10 days prior to mobilization and delivery of steel.
 - 1.2.1.7 Prime all steel as required. Provide field touch up of steel primer prior to painting.
 - 1.2.1.8 Furnish, install, and remove all temporary shoring and bracing required to complete this scope of work.
 - 1.2.1.9 Provide, install, maintain, and remove 2 line OSHA safety cable at 2nd floor edges and openings during construction.
 - 1.2.1.10 Cleaning of all debris from steel resulting from delivery, stockpiling, and/or placement as required immediately following installation. Upon installation, steel shall be in a condition for standard preparation by other trades to apply painting, fire proofing, or other finish coatings.
 - 1.2.1.11 All submittals/shop drawings shall be turned into McCownGordon within 20 days of contract
 - 1.2.1.12 Provide site specific erection and hoisting plan at least 1 month before mobilization. Plan will be reviewed by McCownGordon’s safety team.
 - 1.2.2 Testing requirements
 - 1.2.2.1 Coordinate all inspections of work as required with McCownGordon Construction.
 - 1.2.3 Structural Steel
 - 1.2.3.1 Furnish and install all required structural steel per Contract Documents:
 - 1.2.3.2 Furnish templates, embeds, anchor bolts, etc. as required for installation by others (Concrete, Mason, Precast, etc).
 - 1.2.3.3 Include all welding as required to complete this scope of work.

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 5A – STEEL

- 1.2.3.4 Provide steel supports for roof penetrations. Coordinate with other Subcontractors for installation requirements.
- 1.2.3.5 Cut all deck openings as required
- 1.2.3.6 Area ABC design is complete, but details for areas DEFGS&T are not complete. Typical details are included in the construction documents for these areas and should be incorporated into base bid. Additional details will be provided post-bid.
- 1.2.4 Miscellaneous Steel
 - 1.2.4.1 All required miscellaneous steel at areas **ABC ONLY** (Areas DEFGS&T are excluded) per Contract Documents, including but not limited to the following:
 - 1.2.4.1.1 Furnish and Install interior and exterior stairs
 - 1.2.4.1.2 Furnish and Install interior and exterior handrails
 - 1.2.4.1.3 Furnish and Install Metal gates
 - 1.2.4.1.4 Furnish and Install Roof access ladders
 - 1.2.4.1.5 Furnish Vanity supports
 - 1.2.4.1.6 Furnish and Install Shelf angles
 - 1.2.4.1.7 Furnish Lintels
 - 1.2.4.1.8 Furnish Bollards
 - 1.2.4.1.9 Furnish and Install Elevator Hoist Beams
 - 1.2.4.1.10 Furnish and Install Tie-off points, tie-backs, and davits
- 1.2.5 Unit Cost
 - 1.2.5.1 Cost per LF for a 2-rail galvanized tube handrail \$ _____/LF
 - 1.2.5.2 Cost per LF for a galvanized guardrail. \$ _____/LF
 - 1.2.5.3 Current schedule shows 5 weeks for steel shop drawings. Cost to expedite shop drawings and decrease duration to 3 weeks total \$ _____
 - 1.2.5.4 Current schedule shows Steel fabrication and delivery with a duration of 7 weeks. Cost to expedite fabrication to 5 weeks \$ _____
- 1.2.6 Breakdown Pricing
 - 1.2.6.1 Write in amount on bid form
 - 1.2.6.1.1 Breakdown #1 – Include dollar amount included in base bid for exterior site handrails.

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 32– MODULAR RETAINING WALLS

1. Trade Specific Scope Outline

- 1.1 Subcontractor is responsible for all items outlined and included in Contract Documents and General Provisions. Refer to those sections for additional information.
- 1.2 Furnish and install all work required for the complete and total Modular Retaining Wall scope in accordance with Division 32 in accordance with the Contract Documents including, but not limited to, the following clarifications:
 - 1.2.1 General
 - 1.2.1.1 Provide all fine grading and handwork
 - 1.2.1.2 Site shall be brought to +/- 1/10 foot by Earthwork Subcontractor. Adjustments to grading beyond that shall be included within this package including any import/haul off of material.
 - 1.2.2 Testing requirements
 - 1.2.2.1 Coordinate all inspections of work as required with McCownGordon Construction.
 - 1.2.3 Coordination
 - 1.2.3.1 Coordinate with Earthwork, Site Concrete, Landscaping, etc. Subcontractors
 - 1.2.3.2 Coordinate with Fencing Subcontractor for sleeve-it locations
 - 1.2.3.3 Provide all required delegated design shop drawings and calculations signed and sealed by a Professional Engineer licensed in the State of Missouri
 - 1.2.3.3.1 Submit to City within 3 working days of approved shop drawings
 - 1.2.3.4 Contractor has reviewed the drawings and understands there is a streamway buffer. No disturbance of the streamway is allowed.
 - 1.2.4 Modular Retaining Walls
 - 1.2.4.1 Furnish and install all the following:
 - 1.2.4.1.1 Footings
 - 1.2.4.1.2 Structural and filter fabrics, drain tile, granular backfill and soil backfill
 - 1.2.4.1.3 Structural excavation, removal and haul off all spoils generated from retaining wall.
 - 1.2.4.1.4 Protect any conditions that create a 6’ elevation change.
 - 1.2.4.1.5 Top of wall fencing and posts, including sleeves.
 - 1.2.4.2 Install the following:
 - 1.2.4.2.1 Layout and installation of sleeves; sleeves furnished by others
 - 1.2.5 Unit Pricing
 - 1.2.5.1 Unit Price #1 - Cost per SF to add or decrease size of modular retaining wall

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 33A – SITE UTILITIES

1. Trade Specific Scope Outline

- 1.1 Subcontractor is responsible for all items outlined and included in Contract Documents and General Provisions. Refer to those sections for additional information.
- 1.2 Furnish and install all work required for the complete and total Site Utilities scope in accordance with Division 33 (including all general notes included on the construction drawings) in accordance with the Contract Documents, plans and specifications, including, but not limited to, the following clarifications:
 - 1.2.1 General
 - 1.2.1.1 Include final connections of all utilities noted below.
 - 1.2.1.2 Include a verification of existing lines or manholes that will be tied in to prior to release of material production.
 - 1.2.1.3 Include any shoring required to complete this scope of work.
 - 1.2.1.4 Include all excavation and fill for underground utilities
 - 1.2.1.5 Include all boring of utilities as needed
 - 1.2.1.6 Include all structures, manholes, etc to complete site utilities.
 - 1.2.2 Testing requirements
 - 1.2.2.1 Coordinate all inspections of work as required with McCownGordon Construction.
 - 1.2.3 Coordination
 - 1.2.3.1 Coordinate with the Plumbing Subcontractor and drawings at all building tie in locations. Coordinate tie-in’s with mowstrip at buildings
 - 1.2.3.2 Coordinate with the Fire Suppression Subcontractor and drawings at all building tie in locations.
 - 1.2.3.3 Coordinate installation with designing Subcontractors and authorities having jurisdiction.
 - 1.2.4 Storm Sewer
 - 1.2.4.1 Furnish and install all storm sewer piping outside +/- 5’-0” of building
 - 1.2.4.2 Included are the SD line locations at the southern two baseball fields
 - 1.2.4.3 Included are all SD lines at the track and football fields.
 - 1.2.5 Sanitary Sewer
 - 1.2.5.1 Furnish and install all sanitary sewer piping outside +/- 5’-0” of building
 - 1.2.5.2 Furnish, install, and remove sanitary sewer to McCownGordon’s construction trailers (double wide and single wide at same location) Trailer location shown on Site Logistics plan in specifications
 - 1.2.6 Natural gas
 - 1.2.6.1 Furnish and install all natural gas piping outside +/- 5’-0” of building
 - 1.2.7 Domestic Cold Water
 - 1.2.7.1 Furnish and install all domestic cold water piping outside +/- 5’-0” of building
 - 1.2.7.2 Furnish, install, and remove domestic cold water to McCownGordon’s construction trailer. Trailer location shown on Site Logistics plan in specifications
 - 1.2.8 Fire Protection Water Lines
 - 1.2.8.1 Furnish and install fire line into the building and turning up above the slab on grade; terminate with flanged connection.

07-1256 – LEE’S SUMMIT MIDDLE SCHOOL #4

PACKAGE 2 - STRUCTURAL & SITE UTILITIES

BID PACKAGE 33A – SITE UTILITIES

- 1.2.9 Furnish, install, and remove 575 LF of 12” HDPE storm pipe for temporary drainage. Coordinate elevation with other site utilities.
- 1.2.10 Furnish, install, and remove 3ea temporary yard hydrants located by McCownGordon Construction for all Subcontractors to use. 1ea will be installed at the Fieldhouse building, and 2ea will be installed at the middle school building.

1.3 Unit Prices

1.3.1 Provide unit pricing for the following items:

- 1.3.1.1 Unit Price #1 - Cost for additional Sanitary Sewer (8” PVC) at 10’ deep
\$ _____/lf
- 1.3.1.2 Unit Price #2 - Cost for offsite rock excavation
\$ _____/cy
- 1.3.1.3 Unit Price #3 - Haul off of spoils for additional
\$ _____/cy
- 1.3.1.4 Unit Price #4 - Cost for additional rock backfill
\$ _____/ton
- 1.3.2 Write in equipment costs, including operator costs
 - 1.3.2.1 Unit Price #5 - Excavator with operator
\$ _____/hr
 - 1.3.2.2 Unit Price #6 - Loader with operator
\$ _____/hr
 - 1.3.2.3 Unit Price #7 - Mini Excavator with operator
\$ _____/hr
 - 1.3.2.4 _____
\$ _____/hr
 - 1.3.2.5 _____
\$ _____/hr
 - 1.3.2.6 _____
\$ _____/hr
 - 1.3.2.7 _____
\$ _____/hr

1.4 Allowances

- 1.4.1 Refer to item 1.2.9 above; if 575LF of temp drainage pipe can be abandoned in place, provide credit to leave in place Deduct <\$ _____>
- 1.4.2 Refer to item 1.2.9 above; if 575LF of temp drainage pipe can be abandoned in place but design team requires flowable fill, provide cost to flowable fill pipe Add \$ _____
- 1.4.3 Allowances to be tracked and any savings to be returned

SECTION 000105 CERTIFICATIONS PAGE

I hereby certify that this specification was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Missouri.



Scott Pashia

License No. 7347

I hereby certify that this specification was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.



Derek Joseph Smith

License No. 2007012527

I hereby certify that this specification was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Missouri.

END OF SECTION 000105

DOCUMENT 000115 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

A. Drawings: Drawings consist of the Contract Drawings and other drawings listed on the Table of Contents page of the separately bound drawing set titled Lee's Summit Middle School #4 Package 2 Structural and Site Utilities Permit Set, dated August 28, 2020 as modified by subsequent Addenda and Contract modifications.

B. List of Drawings: Drawings consist of the following Contract Drawings and other drawings of type indicated:

1. General:

Sheet 0.0B	Cover Sheet
Sheet 0.1B	Symbols and Abbreviations
Sheet A1.1CP	Code Plan Level 01
Sheet A1.2CP	Code Plan Level 02

2. Civil:

Sheet 1001	General Notes
Sheet 1002	General Layout Plan
Sheet 1003	Site Dimension Plan
Sheet 1004	Site Dimension Plan
Sheet 1005	Site Dimension Plan
Sheet 1006	Site Dimension Plan
Sheet 1007	Site Dimension Plan
Sheet 1008	Site Dimension Plan
Sheet 1009	Site Dimension Plan
Sheet 1010	Site Dimension Plan
Sheet 1011	Site Dimension Plan
Sheet 1012	Grading Plan
Sheet 1013	Grading Details
Sheet 1014	Grading Details
Sheet 1015	Grading Details
Sheet 1016	Grading Details
Sheet 1018	Grading Details
Sheet 1020	Grading Details
Sheet 1021	Grading Details
Sheet 1026	Utility Plan
Sheet 1027	Utility Plan
Sheet 1028	Utility Plan
Sheet 1029	Storm Sewer Plan & Profile Line A
Sheet 1030	Storm Sewer Plan & Profile Line A and B
Sheet 1031	Storm Sewer Plan & Profile Line C
Sheet 1032	Storm Sewer Plan & Profile Line C

Sheet 1033	Storm Sewer Plan & Profile Line CC
Sheet 1034	Storm Sewer Plan & Profile Line D
Sheet 1035	Storm Sewer Plan & Profile Line E
Sheet 1036	Storm Sewer Plan & Profile Line E
Sheet 1037	Storm Sewer Plan & Profile Line E
Sheet 1038	Storm Sewer Plan & Profile Line E
Sheet 1039	Storm Sewer Plan & Profile Line E
Sheet 1040	Storm Sewer Plan & Profile Line F
Sheet 1041	Storm Sewer Plan & Profile Line G
Sheet 1042	Storm Sewer Plan & Profile Line G
Sheet 1043	Storm Sewer Plan & Profile Line G
Sheet 1044	Storm Sewer Profile Line H and J
Sheet 1045	Storm Sewer Profile Line K and L
Sheet 1046	Storm Sewer Profile Line M and N
Sheet 1050	Standard Details
Sheet 1051	Standard Details
Sheet 1052	Standard Details
Sheet 1053	Standard Details
Sheet 1054	Standard Details
Sheet 1055	Standard Details
Sheet 1056	Standard Details

3. Structural – Sheets marked “***” are For Reference Only, Not for Construction, Under Separate Permit

Sheet S0.1	Structural Notes
Sheet S0.2	Structural Notes
Sheet S0.3	Snow Drift Plan
Sheet S0.4	Storm Shelter Structural Criteria**
Sheet S0.5	Grid Geometry Plan
Sheet S1.1A	Foundation Plan Area A
Sheet S1.1B	Foundation Plan Area B
Sheet S1.1C	Foundation Plan Area C
Sheet S1.1D	Foundation Plan Area D**
Sheet S1.1E	Foundation Plan Area E**
Sheet S1.1F	Foundation Plan Area F**
Sheet S1.1G	Foundation Plan Area G**
Sheet S1.1S	Foundation Plan Areas S & T**
Sheet S2.1A	Floor Framing Plan Area A
Sheet S2.1B	Floor Framing Plan Area B
Sheet S2.1C	Floor Framing Plan Area C
Sheet S2.1D	Floor Framing Plan Area D**
Sheet S2.1E	Floor Framing Plan Area E**
Sheet S2.1F	Floor Framing Plan Area F**
Sheet S2.1G	Floor Framing Plan Area G**
Sheet S2.2A	Roof Framing Plan Area A
Sheet S2.2B	Roof Framing Plan Area B
Sheet S2.2C	Roof Framing Plan Area C
Sheet S2.2D	Roof Framing Plan Area D**

Sheet S2.2E	Roof Framing Plan Area E**
Sheet S2.2F	Roof Framing Plan Area F**
Sheet S2.2G	Roof Framing Plan Area G**
Sheet S2.2S	Roof Framing Plan Areas S & T**
Sheet S3.1	Foundation Typical Details
Sheet S3.2	Foundation Typical Details
Sheet S3.5	Foundation Sections
Sheet S3.7	Foundation Sections**
Sheet S4.1	Steel Typical Details
Sheet S4.2	Floor Framing Typical Details
Sheet S4.5	Floor Framing Sections
Sheet S4.7	Floor Framing Sections**
Sheet S4.8	Masonry Typical Details**
Sheet S4.9	Precast Typical Details**
Sheet S5.1	Roof Framing Typical Details
Sheet S5.5	Roof Framing Sections
Sheet S5.7	Roof Framing Sections**
Sheet S6.1	Braced Frame Typical Details
Sheet S6.2	Braced Frame Elevations
Sheet S6.3	Braced Frame Elevations**

END OF DOCUMENT 000115

SECTION 003132 - GEOTECHNICAL DATA

PART 1 - GENERAL

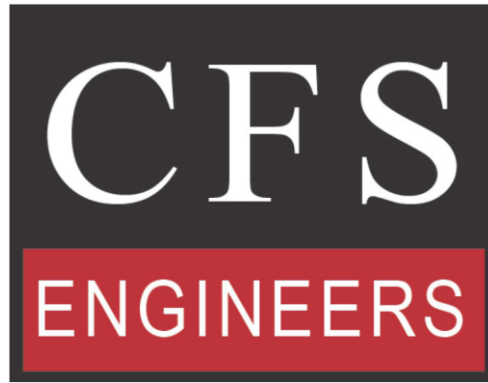
1.1 GEOTECHNICAL DATA

- A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information but are not a warranty of existing conditions. This Document and its attachments are not part of the Contract Documents.
- B. A geotechnical investigation and soil-boring data report for Project, prepared by CFS Engineers, dated June 8, 2020, is attached herein as Section 003132A, for Bidders' reference.
- C. Related Requirements:
 - 1. "Instructions to Bidders" for the Bidder's responsibilities for examination of Project site and existing conditions.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION 003132



**GEOTECHNICAL EXPLORATION
AND
FOUNDATION RECOMMENDATIONS**

LEE'S SUMMIT MIDDLE SCHOOL #4 - REVISED
Lee's Summit, Missouri

CFS Project No. 20-1074

Prepared for:

Lee's Summit R-7 School District
301 NE Tudor Road
Lee's Summit, Missouri 64086
June 8, 2020



Prepared by:
Cook, Flatt & Strobel Engineers, P.A.

SYNOPSIS

A subsurface exploration and an evaluation were performed at the planned Lee's Summit Middle School #4 project site to provide geotechnical engineering related recommendations for design and construction of the proposed project.

Exploratory soil borings have been drilled and a laboratory testing program was conducted on selected soil samples. The data has been analyzed based upon the project information provided DLR Group and the project team.

The results of this exploration and analysis indicate conventional spread and continuous wall footings appear to be a suitable foundation system for support of the proposed structure. However, to mitigate the risk of total and differential settlement exceeding the tolerable limits, surcharging of the building subgrade will be necessary after completion of grading operations and prior to additional loading. Alternatively, if time restrictions prohibit surcharging of the building footprint, rammed aggregate piers (RAPs) or concrete drilled piers can be utilized to support the planned structure.

Detailed analysis of subsurface conditions, any alternate foundation types, and pertinent design recommendations are included, herein.

Groundwater conditions are not expected to cause any major difficulties. These conditions will be further discussed in the report. Please note, groundwater levels should be expected to fluctuate based on seasonal changes and precipitation events.

TABLE OF CONTENTS

1	Introduction	1
1.1	<i>Purpose.....</i>	<i>1</i>
1.2	<i>Scope of Services</i>	<i>1</i>
1.3	<i>General.....</i>	<i>1</i>
2	Project Description	2
2.1	<i>Site Description</i>	<i>2</i>
2.2	<i>Site Geology</i>	<i>2</i>
3	Subsurface Exploration	3
3.1	<i>Scope of Work</i>	<i>3</i>
3.2	<i>Drilling and Sampling Procedures</i>	<i>3</i>
3.3	<i>Field Tests and Measurements.....</i>	<i>4</i>
3.4	<i>Subsurface Conditions</i>	<i>4</i>
3.5	<i>Groundwater Conditions</i>	<i>4</i>
4	Laboratory Testing.....	5
5	Geotechnical Concerns	5
6	Earthwork & Site Development.....	6
6.1	<i>Site Preparation.....</i>	<i>6</i>
6.2	<i>Grading.....</i>	<i>6</i>
6.3	<i>Excavations & Trenches.....</i>	<i>8</i>
6.4	<i>Drainage and Dewatering</i>	<i>8</i>
6.5	<i>Landscaping</i>	<i>9</i>
7	Geotechnical Engineering Recommendations	9
7.1	<i>Foundations Recommendations.....</i>	<i>9</i>
7.2	<i>Slab on Grade Recommendations</i>	<i>12</i>
7.3	<i>Lateral Earth Pressures</i>	<i>13</i>
7.4	<i>Synthetic Turf Fields & Athletic Track Recommendations.....</i>	<i>14</i>
7.5	<i>Pavement Recommendations.....</i>	<i>15</i>
8	General Comments	18

Appendix A: Figures

Figure 1 – Project Location

Figure 2 – Boring Location Plan

Appendix B: Boring Logs

Appendix C: Portland Cement Stabilization

Geotechnical Exploration and Foundation Recommendations

LEE'S SUMMIT MIDDLE SCHOOL #4 - REVISED LEE'S SUMMIT, MISSOURI

Project Number: 20-1074

May 19, 2020

1 INTRODUCTION

1.1 PURPOSE

The purpose of this geotechnical exploration was to evaluate the underlying materials at the proposed Lee's Summit Middle School #4 project site, and based upon this information, provide geotechnical engineering related recommendations for design and construction of the planned project. This exploration was performed in accordance with the requirements outlined by the project team and the Lee's Summit R-7 School district's request for proposal (RFP) number R19/20-04 titled "Geotechnical 7 Construction Testing Services" and dated March 17, 2020.

This report includes geotechnical recommendations and considerations pertaining to site development, foundation support, concrete slab on grade, pavement construction, and synthetic turf field and athletic tack subgrade support. Also, included in this report are earthwork, construction and drainage considerations associated with the proposed project.

1.2 SCOPE OF SERVICES

This exploration and analysis include an engineering reconnaissance of the planned site, a subsurface exploration as outlined below, a field and laboratory testing program, and an engineering analysis and evaluation of the subsurface materials.

The scope of services did not include any environmental assessment for wetlands or hazardous materials in the soil, surface water, groundwater, air, or surrounding area. Any statement in this report or on the boring logs regarding odors, colors, or unusual or suspicious items is strictly for the information of the client.

1.3 GENERAL

The general subsurface conditions used in this analysis are based upon an interpolation of the subsurface data between the borings; varying conditions may be encountered between boring locations. If deviations from the noted subsurface conditions are encountered during construction, they should be brought to the attention of the Geotechnical Engineer.

The recommendations submitted for the proposed structure are based on the available soil information and the preliminary design details. Any revision in the plans for the proposed structure from those

described in this report should be brought to the attention of the Geotechnical Engineer to determine if changes in the foundation recommendations are required.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, and professional advice contained, herein, have been presented after being prepared in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics and engineering geology. No other warranties are implied or expressed.

After the plans and specifications are complete, it is recommended that the Geotechnical Engineer be provided the opportunity to review the final design and specifications, in order to verify that the earthwork and foundation recommendations are properly interpreted and implemented.

2 PROJECT DESCRIPTION

CFS Engineers understands the planned project consists of constructing a new, approximately 125,000 square feet, two-story, slab on grade middle school in Lee's Summit, Missouri with a finish floor elevation of 1011 feet above sea level. The middle school will be a combination of structural steel framing and structural concrete masonry unit (CMU) walls with anticipated typical wall and column loads on the order of five (5) kips per linear foot (klf) and 250 kips, respectively. A heavily loaded auxiliary gym (shelter area) is included in the school design with increased wall loads on the order of 12 to 15 klf.

In addition to the school building, the project comprises 4 new baseball fields with an associated concession stand building, a new football field with an athletic track, two (2) mechanically stabilized earth (MSE) retaining walls, one (1) concrete cast-in-place retaining wall, and associated parking and drive lanes. CFS understands the football field and/or baseball fields will consist of synthetic turf surfaces.

CFS understands the southeast portion of the planned structure will require fill depths on the order of approximately eleven (11) feet while the northwest corner of the planned structure will require approximately five (5) feet of cut to achieve the desired construction elevation.

If any changes to the project occur, please notify CFS to allow for review of these changes and, if necessary, amend this report.

2.1 SITE DESCRIPTION

Currently, the planned site is an agricultural field that slopes downward from the northwest to the southeast. The project site is located south of the intersection of SE Bailey Road and Country Lane in Lee's Summit, Missouri. The planned site is approximately 1,000 feet wide by 2,000 feet long. It is bounded by SE Bailey Road to the north and a tree row to the east and south. The western border is a row of residential homes.

2.2 SITE GEOLOGY

Jackson County is located in the Central Lowland province of the Interior Plains and is near the middle of an approximate 150 mile-wide, north-south trending band of Pennsylvanian-Age Rocks that is located in western Missouri and eastern Kansas. Generally, the rock beds exhibit a subtle prevailing dip to the west-northwest of about 10 feet per mile. The region is underlain by rock units of the Pennsylvanian

System, Missourian Series (Kansas City Group, Lansing Group, and Pleasanton Group) in the Time Stratigraphic Unit age classification.

3 SUBSURFACE EXPLORATION

Based on the project information as outlined above, CFS Engineers conducted a field exploration to determine the underlying materials at the proposed project site and to establish their engineering characteristics.

3.1 SCOPE OF WORK

This geotechnical exploration consisted of drilling thirty (30) borings throughout the planned project site. Structural borings had a planned termination depth of twenty (20) feet beneath existing grade while pavement and synthetic turf field borings had a planned termination depth of five (5) feet beneath existing grade. The borings were advanced to their planned depths or auger refusal, whichever occurred first. Fifteen (15) structural borings were drilled in the planned school's footprint, one (1) structural boring was drilled at the planned concession stand, six (6) structural borings were drilled along the retaining walls' alignment, and eight (8) pavement/turf borings were drilled in the parking and field areas. The boring locations can be seen on the Boring Location Plan included in Appendix A.

The boring locations were surveyed in the field by Cook, Flatt & Strobel Engineers. The elevation and location of the borings can be seen on the boring logs in Appendix B.

Boring logs representing the materials encountered in the borings are included in Appendix B. The boring logs represent the CFS Engineers' interpretation of the field logs combined with laboratory observations and testing of the samples. The stratification boundaries indicated on the boring logs were based on field observations, an extrapolation of information obtained by examining samples from the borings, and comparisons of soils and/or bedrock types with similar engineering characteristic. As such, the boundaries between subsurface strata should be expected to vary from the logs to some extent.

The depth to groundwater, if encountered, was recorded in each test boring during drilling and can be seen in Section 3.5, Groundwater Conditions. After completion of drilling, sampling, and field testing, the excavations were backfilled with auger cuttings.

3.2 DRILLING AND SAMPLING PROCEDURES

The auger borings were drilled using a truck mounted SIMCO 2400 drill rig equipped with a rotary head. 3.25-inch solid-stem augers were used to drill the holes. During drilling, field logs were created and maintained by CFS personnel to catalog the materials encountered.

Representative samples were obtained during drilling using split-barrel sampling procedures in general accordance with the procedures for "Standard Test Methods for Standard Penetration Test (SPT) and Split-Barrel Sampling of Soils" (ASTM D 1586).

Upon completion of drilling, the samples were then sealed and returned to CFS's laboratory for further examination, classification, and testing. The samples recovered were identified, classified, and evaluated by a Geotechnical Engineer.

3.3 FIELD TESTS AND MEASUREMENTS

During the soil boring procedure, Standard Penetration Tests (SPT) were performed at pre-determined intervals to obtain the standard penetration value of the soil as outlined in the ASTM D1586 test method. The standard penetration value (N) is defined as the number of blows of a 140-pound hammer falling 30 inches, required to advance the split-barrel sampler one foot into the soil. The sampler is lowered to the bottom of the previously cleaned drill hole and advanced by blows from the hammer.

The number of blows is recorded for each of three successive increments of six inches penetration. The "N" value is then obtained by adding the second and third incremental numbers. The results of the standard penetration test are shown on the Boring Logs and indicate the relative density of cohesionless soils and comparative consistency of cohesive soils, and thereby provide a basis for estimating the relative strength and compressibility of the soil profile components.

The Standard Penetration Test (SPT) was also used to evaluate the consistency of the in-situ materials. The N-values for the site's materials were found to range from 3 to 40 blows/foot.

3.4 SUBSURFACE CONDITIONS

The materials encountered in the test borings have been visually classified according to the Unified Soil Classification System (USCS). They are described on the Boring Logs in Appendix B. The results of the field tests, water level observations, and laboratory tests are presented on the Boring Logs (Appendix B).

The following presents a general summary of the major strata encountered during this subsurface exploration and includes a discussion of field and laboratory tests conducted. Specific subsurface conditions encountered—including field tests, lab tests, and water level observations—at the boring locations are also presented on the individual boring logs found in Appendix B of this report.

3.4.1 Overburden Material

Approximately twelve (12) inches of topsoil was encountered at the surface of the borings. The topsoil was generally underlain by gray-brown and gray fat clay (CH) with consistencies ranging from medium stiff to stiff. The fat clay material continued to the refusal material, occasionally taking on a shaley characteristic.

3.4.2 Refusal Materials

Auger refusal on highly weathered shale and limestone was encountered throughout the borings below the soil overburden. Some sandstone was encountered prior to refusal in some of the borings. Auger refusal was encountered at depths ranging from 7.0 to 18.75 feet beneath existing grade.

3.5 GROUNDWATER CONDITIONS

Free water was encountered during drilling in borings B1, B13 and B27 at depths of 19.5, 8.5, and 13.5, respectively. The remaining borings stayed dry and no free water was encountered at the time of drilling.

Please note, the reported groundwater levels reflect the conditions observed at the time the borings were drilled. Groundwater levels should be expected to fluctuate with changes in grading, precipitation changes and seasonal changes. The water levels included in this report do not indicate a permanent

groundwater condition. Additionally, the materials encountered during this exploration are, generally, low permeable soils.

4 LABORATORY TESTING

Upon completion of drilling, the samples were returned to CFS's laboratory located in Kansas City, Kansas for laboratory testing. A supplemental laboratory testing program was conducted to evaluate additional engineering characteristics of the in-situ soils necessary in analyzing the behavior of the support systems for the proposed building.

The laboratory testing program included the following tests:

- Supplementary visual classification (ASTM D2488) of all samples,
- Water content (ASTM D2216) of all samples, and
- Atterberg limit tests (ASTM D4318) on a selected sample.

The results of the laboratory testing program can be seen in on the boring logs in Appendix B. The Atterberg limits can be seen in the following table.

Table 1: Atterberg Limits Results

Boring ID	Sample #	Moisture Content (%)	Atterberg Limits			USCS Classification
			Liquid Limit	Plastic limit	Plasticity Index	
B1	SS2	25.0	40	22	18	LEAN CLAY (CL)
B9	SS1	23.0	38	13	25	LEAN CLAY (CL)
B16	SS1	30.0	53	25	28	FAT CLAY (CH)
B25	SS2		46	19	27	LEAN TO FAT CLAY (CL/CH)
B29	SS1		55	23	32	FAT CLAY (CH)
B30	SS1		55	21	34	FAT CLAY (CH)

Based on the Atterberg limits, the gray-brown overburden material classifies as Lean Clay (CL), Lean to Fat Clay (CL/CH), and Fat Clay (CH) and is considered highly expansive. To limit the risk of differential slab movements, all concrete slabs on grade should be constructed in accordance with Section 7.2, "Slab On Grade" of this report.

5 GEOTECHNICAL CONCERNS

The following geotechnical concerns are based upon the subsurface materials encountered during this exploration and CFS's understanding of the project as described in Section 2, Project Description of this report. If any changes to the planned structure's location, loading or elevations occur, CFS must be allowed to review these changes, and if necessary, issue amendments to this report and its recommendations.

1. *Significant Fill Amounts:* CFS understands fill amounts of five (5) to eleven (11) feet are scheduled across the southern half of the planned new structure, while approximately four (4) feet of cut is planned in the northwest corner of the building footprint. To mitigate the risk of settlement from

the induced load attributed to the planned fill depths and to allow for utilization of shallow foundations, CFS recommends the entire building pad be surcharged upon completion of grading. The recommended surcharge load should consist of a minimum of a five (5) feet-thick layer of compacted clay soil (wet density of 120 lbs/ft³) and should remain in place for a minimum of two (2) months to allow for consolidation of the overburden materials prior to constructing the school. Settlement monitoring plates should be installed to track the consolidation process. See Section 7.1.1 for settlement monitoring recommendations. Alternatively, if time restrictions prohibit surcharging of the building footprint, rammed aggregate piers (RAPs) or concrete drilled piers can be utilized to support the planned structure.

2. *Expansive Clay Soils*: Expansive clay soils were encountered during this exploration. The on-site materials are NOT suitable for direct support of concrete slabs. All slabs on grade should be supported by a minimum 24-in-thick mat of low volume change material (LVC) constructed in accordance with Section 7.2, Slab on Grade Recommendations of this report.

6 EARTHWORK & SITE DEVELOPMENT

6.1 SITE PREPARATION

Prior to filling, the grass and topsoil should be stripped from all structural areas and be stockpiled for later use in landscape areas or it should be wasted. Any trees and shrubs should be properly removed including the entirety of the root ball and root systems. The upper 12-inches of the subgrade should be moisture conditioned and recompacted, as necessary, to provide a stable subgrade upon which to begin placement of engineered fill.

Upon completion of stripping and prior to filling, the newly exposed subgrade should be evaluated by a qualified professional for stability by means of proofrolling. The proofroll should be conducted using a fully loaded, tandem axle dump truck weighing in excess of 20 tons. Any soft or unsuitable areas identified during the proofroll should be corrected by means of additional moisture conditioning and recompacting, or removal and replacement with an acceptable material.

Additionally, although not encountered during this exploration, any undocumented fill encountered during construction should be completely removed from beneath the structure footprint. Undocumented fill is any foreign material that was placed or dumped in an uncontrolled manner (i.e. no records of testing exist from the time of placement). Undocumented fill is inconsistent and unpredictable in nature, and it should not be used in support of any structures or foundation systems.

6.2 GRADING

6.2.1 Suitable Fill Material

All general and structural fill should be free of debris and defined by ASTM 2487 as CH, CL, ML, GW, GP, SM, SW, SC, and SP. The onsite soils tend to meet this requirement; however, please note that CH (fat clay) classification materials should NOT be used as structural fill within two (2) feet of the finished grade supporting the building slab and within ten (10) feet laterally outside of the building footprint. Fat clays (CH) with Liquid Limits of greater than 55 should not be used in the upper one (1) foot beneath the pavement or athletic track without being treated with cement as outlined later in this report.

6.2.2 Unsuitable Fill Material

The on-site topsoil contains organic material and is unsuitable for use as structural fill. Unsuitable materials are those defined by ASTM 2487 as MH, OL, OH, and PT.

6.2.3 Engineered Fill Placement

CFS understands fill amounts on the order of five (5) to eleven (11) feet are scheduled across the southern portion of the planned new structure. To mitigate the risk of differential settlement attributed to long term consolidation of the engineered fill, any structural fill beneath the planned structure, which exceeds four (4) feet in depth, must be compacted to 98% of the materials dry unit weight as determined by standard Proctor ASTM 698. For the upper four (4) feet of building subgrade, engineered fill should be compacted to a minimum of 95% of the materials dry unit weight as determined by standard Proctor ASTM 698.

Structural fill materials should be free of organic matter. Moisture contents should be within 0% and +4% of the optimum for soils with a liquid limit of greater than 40, and +/-3% of the optimum for soils with a liquid limit of less than 40. Maximum dry density and optimum moisture content should be determined by the Standard Proctor test (ASTM D 698).

Fill should be placed in six (6) inch lifts (compacted thickness) in mass fill areas, and as needed to obtain the proper compaction in utility trenches and behind walls.

Structural fill should extend a minimum of five (5) feet laterally in all directions beyond the planned structure footprint and a minimum of two (2) feet beyond any pavement lines.

A representative of the Geotechnical Engineer should monitor filling operations on a full-time basis. A sufficient number of density tests should be taken to verify that the specified compaction is obtained. See Table 3 below for required testing frequency.

Table 2: Density Testing Frequency

Location or Area	Standard Proctor Density (ASTM D 698)	Testing Frequency One per lift per ...
Building Walkways	95%	20,000 sf
Retaining Walls	95%	1,000 sf
Trenches	95%	150 lf
Lawn or Unimproved Areas	92%	20,000 sf
General Building and Pavement Subgrades (*)	95%	10,000 sf
Out-Parcels	95%	20,000 sf
*If RAPs are utilized in accordance with Section 7, compaction requirements increase to 98% for fill areas exceeding 4-feet in depth.		

6.3 EXCAVATIONS & TRENCHES

All temporary slopes and excavations should conform to Occupational Safety and Health Administration (OSHA) Standards for the Construction Industry (29 CFR Part 1926, Subpart P). Excavations at this site are *expected* to be made in "Type B" clayey soil. Soil types should be verified in the field by a competent individual.

All excavations should be kept dry during subgrade preparation. Storm water runoff should be controlled and removed to prevent severe erosion of the subgrade and eliminate free standing water. Subgrade that has been rendered unsuitable from erosion or excessive wetting should be removed and replaced with controlled fill.

Trenches should be excavated so that pipes and culverts can be laid straight at uniform grade between the terminal elevations. Trench width should provide adequate working space and sidewall clearances. Trench subgrade should be removed and replaced with controlled fill if found to be wet, soft, loose, or frozen. Trench sub-grades should be compacted above 95% of the maximum dry density in accordance with ASTM D 698 at moisture contents between -3% to +3% of the optimum moisture content.

Granular bedding materials for pipes, such as well-graded sand or gravel, may be used provided that the bottom of the trench is graded so that water flows away from building

Bedding material should be graded to provide a continuous support beneath all points of the pipe and joints. Embedment material should be deposited and compacted uniformly and simultaneous on each side of the pipe to prevent lateral displacement. Compacted control fill material will be required for the full depth of the trench above the embedment material except in area landscape area with the compaction may be reduced to 90% Standard Proctor ASTM D 698. No backfill should be deposited or compacted in standing water.

Precautions should be taken by the contractor to avoid undermining the newly constructed foundations/rammed aggregate piers. Shoring and excavations supports may need to be designed to account for the existing building loads.

Permanent slopes greater than 3 horizontals to 1 vertical should not be used unless additional testing and slope analysis is performed.

6.4 DRAINAGE AND DEWATERING

Normal seasonal weather conditions should be anticipated and planned for during earthwork. It is recommended that the Contractor determine the actual groundwater levels at the site at the time of the construction activities to assess the impact groundwater may have on construction. Water should not be allowed to collect in the foundation excavation, on floor slab areas, or on prepared subgrades of the construction area either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate removal of collected rainwater, groundwater, or surface runoff. Positive site drainage should be provided to reduce infiltration of surface water around the perimeter of the building and beneath the floor slabs. The grades should be sloped away from the building and surface drainage should be collected and discharged such that water is not permitted to infiltrate the backfill and floor slab areas of the building.

The site should be graded such that positive drainage (normally 2% minimum) is provided away from any structures. Where sidewalks or paving do not immediately adjoin the building, protective slopes of at least 5% for a minimum of 10 feet from the perimeter walls are recommended. Roof drains and downpours should also be directed away from the building. Open-graded stone is not recommended for use under sidewalks unless the stone is adequately drained to prevent collection of water under the walks.

The site should also be graded to avoid water flows, concentrations, or pools behind retaining walls, curbs or similar structures. When swales are designed at the top of the walls, proper line and slope should be considered to avoid any flow down behind walls. Special attention is needed for sources of storm water from slopes, building roofs, gutter downspouts and paved areas draining to one point.

In paved areas where seasonal water potentially accumulates behind curbs, gutters and planters ensure concrete extends 6-inches into impervious material to reduce seepage under the curbs, saturating and weakening the pavement subgrade.

Perforated plastic pipes should be placed on the backfilled side of the walls near the bottom and daylighted. Six inches of open graded crushed rock wrapped with geo-textile fabric should be placed behind the walls up to a depth of two feet below the finished grade. As an alternative to the open graded crushed rock, a manufactured geo-composite sheet drain such as Mirafi G100N, Contech C-Drain, or equivalent, may be used in conjunction with the perforated pipe.

6.5 LANDSCAPING

Landscaping and irrigation should be limited adjacent to buildings and pavements to reduce the potential for large moisture changes. Trees and large bushes can develop intricate root systems that can draw moisture from the subgrade, resulting in shrinkage of the bearing material during dry periods of the year. Desiccation of bearing material below foundations may result in foundation settlement.

Landscaped areas near pavements and sidewalks should include a drainage system that prevents over saturation of the subgrade beneath asphalt and concrete surfaces. Drainage systems in irrigation areas should be incorporated into the storm drain system.

7 GEOTECHNICAL ENGINEERING RECOMMENDATIONS

7.1 FOUNDATIONS RECOMMENDATIONS

Based on CFS's understand of the planned project and the large amount of fill planned beneath the proposed school, three (3) independent foundation alternatives have been provided for a cost analysis. Please note, to accommodate a shallow foundation system either surcharging of the building pad or a ground improvement system such as rammed aggregate piers prior to loading is required. If neither option is desirable, concrete drilled piers can be used to support the planned structure.

Please note, the concession stand can be supported on shallow foundations designed and constructed as outlined below without the need for surcharging of the building pad.

7.1.1 Shallow Foundations (Spread and Continuous Wall Footings)

Conventional spread and continuous wall footings are, generally, most economical when the existing soil conditions allow them to be founded at shallow depths on existing materials. Based on the materials encountered during this exploration, it is CFS Engineers' opinion that the planned structure can be supported by a shallow foundation system, such as spread and/or trench footings bearing in native clay soils and engineered fill given the building pad has been surcharged prior to loading in accordance with this report.

CFS understands five (5) to eleven (11) feet of fill is scheduled across the southern half of the planned new structure. To mitigate the risk of differential settlement from the induced load attributed to the planned fill depths, and to allow for utilization of shallow foundations, CFS recommends the entire building pad be surcharged upon completion of grading. The recommended surcharge load should consist of a minimum five (5) feet-thick layer of compacted clay soil (wet density of 120 lbs/ft³) and should remain in place for a minimum of two (2) months to allow for consolidation of the overburden materials prior to constructing the building. Topsoil is considered a suitable material for surcharging. A settlement monitoring program as outlined below should be conducted in conjunction with surcharging.

Prior to placement of fill on the building pad, five (5) settlement plates should be installed uniformly across the pad at existing grade as directed by the Geotechnical Engineer. Rigid steel settlement plates should be a minimum of two (2) feet by two (2) feet. A rod(s) should be located in the center of the plate that extends above the proposed fill. The rod should be encapsulated by a 2 inch diameter PVC pipe to permit free movement of the plate and rod. The rods should be painted for visibility and protected from construction traffic. Settlement/movement of the plates should be performed initially prior to fill placement and twice per week by the project registered surveyor. Settlement plate elevations should be surveyed and evaluated until movement is within tolerable limits as determined by the Geotechnical Engineer.

Additionally, it is recommended that spread and trench footings have a minimum width of 24 and 16-inches, respectively. Footings should be suitably reinforced to reduce the effects of differential movement that may occur due to variations in the properties of the supporting soils. Top and bottom reinforcing steel is recommended for continuous wall footings to reduce differential settlement due to possible varying bearing capacities of the existing fill soils.

Every effort should be made to keep the footing excavations dry as the soils will tend to soften when exposed to free water. Footing bottoms should be free of loose soil and concrete should be placed as soon as possible to prevent drying of the foundation soils.

7.1.1.1 *Bearing Capacity Analysis*

The bearing capacity of the subsurface materials was evaluated from the results of the field and laboratory tests. Based on this information, shallow foundation systems bearing on the surcharged subgrade, and constructed as recommended above, can be proportioned for a maximum allowable soil bearing capacity of 2,500 psf.

A representative of the Geotechnical Engineer should test the soils in the footing excavations to verify the design soils bearing pressure. If undercutting of any footing is required to reach design bearing

capacity backfill of the undercut footing should be done with a closed grade stone (such as KDOT AB-3) or lean concrete. If compacted structural fill is used to back fill the excavation, widening of the excavation one-half (1/2) the depth of the excavation on either side should be performed. The structural fill should be compacted to at least 95% of the material's maximum dry density within -2 to 3% of the optimum moisture content as determined by ASTM D-698.

Based on the seasonal freeze-thaw cycles associated with the project site, shallow foundation systems should bear a minimum of 36-inches beneath the ground surface for adequate frost protection.

7.1.1.2 Settlement Analysis

To help mitigate the risk of differential foundation movements such as settlement, the foundation system should bear on the engineered fill and native clay soils that have been surcharged appropriately. For spread and/or trench footings designed in accordance with these recommendations, total settlements of less than 1-inch and differential settlements of less than 3/4-inches can be anticipated.

7.1.2 Foundation Alternative 1: Rammed Aggregate Piers

In lieu of surcharging, the existing conditions and planned project are such that a ground improvement system such as rammed aggregate piers (RAPs) are a suitable and recommended method to support conventional spread footings and the floor slab of the proposed building. Please note, CFS recommends RAPs be utilized to strengthen the in-situ soils located beneath the southern portion of the planned structure (including slab on grade area) where the scheduled amount of fill will exceed four (4) feet in depth.

Please note, to mitigate the risk of differential settlement attributed to long term consolidation of the engineered fill, any structural fill beneath the planned structure, which exceeds four (4) feet in depth, must be compacted to 98% of the materials dry unit weight as determined by ASTM 698. For the upper four (4) feet of building subgrade, engineered fill should be compacted to a minimum of 95% of the materials dry unit weight as determined by ASTM 698.

RAPs are used to improve the load carrying capacity of soils by ramming aggregate into the unstable subgrade. Generally, a hole is first drilled into the subgrade and successive layers of aggregate are placed and driven into the unstable soils forming an "aggregate bulb" at the base, and thus providing lateral and vertical strengthening of the existing materials. RAPs are a patented design-build intermediate foundation system. The respective companies should be contacted to design the foundation system.

Although final design and analysis must be conducted by RAPs contactor/engineer, typical bearing capacities achieved by this rammed aggregate piers are on the order of 3,000 to 5,000 pounds per square foot (psf) with settlements on the order of 1-inch for total settlement and 1/2-inch for differential settlement.

In conjunction with the recommended ground improvement system, it is recommended that spread and trench footings be designed and constructed as outlined in Section 7.1.1.

7.1.3 Foundation Alternative 2: Concrete Drilled Piers

In lieu of rammed aggregate piers and surcharging the building pad, a deep foundation system such as drilled concrete piers can be utilized to support the foundation system and slab on grade. A structural slab beneath may be required to achieve this. Drilled piers are used most advantageously where a soft or unsuitable soil strata overlies a hard foundation material. Soil conditions and the magnitude of the proposed loads indicate that drilled piers would be a suitable foundation system.

Limestone and shale bedrock were encountered throughout this exploration at relatively shallow depths (Reference the boring logs in Appendix B). Drilled piers should bear on competent limestone using a maximum allowable end bearing pressure of 20 kips per square foot (ksf). Drilled piers should extend through all upper broken limestone and shale layers and be socketed a minimum of two (2) feet or one (1) pier diameter, whichever is more, into competent limestone. Piers should be suitably reinforced to resist lateral movement. A representative of the geotechnical engineer should be in the field to evaluate embedment and a suitable bearing stratum has been reached. Down hole inspection is not anticipated to be required by the inspector.

Please note, shallow groundwater and wet, soft soils were and are often encountered above the restrictive bearing layer (rock). The contractor should have equipment onsite to dewater the pier excavation and/or prevent sloughing of wet, soft soils into the excavation in case it becomes necessary. Temporary steel casing may be required in some holes to prevent sloughing of the upper soils and to permit down-hole cleaning and inspection (if required). Conventional drilling equipment with bullet nose rock teeth is expected to be able to penetrate the upper soils and reach the bearing surface. Coring is not expected to be required to reach the limestone.

A minimum shaft diameter of 30 inches is recommended to facilitate clean out and inspection. Drilling of test holes is not required, however the contractor should provide a price for tests holes should rock conditions dictate further investigation to confirm design parameters. The bottom of the hole should be free of water and loose soils prior to placement of reinforcing steel and concrete.

To help mitigate the risk of differential foundation movements such as settlement, a uniform bearing condition should exist beneath the entirety of the foundation system for a given structure. For a drilled pier foundation system, total settlements of less than ½ -inch and differential settlements of less than ½ -inch can be anticipated.

7.1.4 Seismic Analysis

The typical profile at this site consists of soil to a depth of six (6) to 18 feet where bedrock /was encountered. The seismic properties of the soil were interpolated from the standard penetration test values. A Seismic Site Class "C" was determined for this site. In addition, there is no significant risk of liquefaction or mass movement of the on-site soils due to a seismic event.

7.2 SLAB ON GRADE RECOMMENDATIONS

CFS recommends all concrete slabs on grade be supported by a minimum of 24-inches of Low Volume Change (LVC) material. LVC material should consist of lean clay (CL), KDOT AB3, crushed limestone

screenings or equivalent. A low volume change material is defined as a material with a liquid limit less than 45 and a plasticity index less than 25. The subgrade can be constructed as outlined below.

1. Cut the subgrade to a minimum depth of 24-inches beneath the planned bottom of slab elevation.
2. Twenty (20) inches of a compacted LCV material should be placed atop the exposed slab subgrade. The LVC should be placed in lifts no greater than 8-inches-thick (compacted thickness) and compacted to 95% of the maximum dry density as determined by ASTM 698. Limestone based LVC material should be compacted at a moisture content sufficient to achieve the desired compaction, and lean clay (CL) material should be compacted at a moisture content between 0 and +4% of optimum.
3. A 4-inch-thick layer of open graded stone (ASTM C33 or equivalent material) should be placed atop the 20-inches of compacted LVC material to return the subgrade to the original bottom of slab elevation. The open-graded stone will ease construction and provide a capillary break between the LVC and concrete slab.

Every floor slab should be evaluated to determine if a vapor retarder under the concrete floor is required. The slab designer should refer to ACI 302 and/or ACI 360 for procedures regarding the use and placement of a vapor retarder.

To reduce the effects of differential movement, slabs-on-grade should not be rigidly connected to columns, walls, or foundations unless it is designed to withstand the additional resultant forces. Floor slabs should not extend beneath exterior doors or over foundation grade beams, unless saw cut at the beam after construction. Expansion joints may be used to allow unrestrained vertical movement of the slabs. The floor slabs should be designed to have an adequate number of joints to reduce cracking resulting from differential movement and shrinkage. CFS suggests joints be provided on a minimum spacing of twelve (12) feet on center. For additional recommendations refer to the ACI Design Manual. The requirements for the slab reinforcement should be established by the designer based on experience and the intended slab use.

7.3 LATERAL EARTH PRESSURES

Lateral earth pressures are determined by multiplying the vertical applied pressure by the appropriate lateral earth pressure coefficient. If the foundation walls are rigidly attached to the building and not free to rotate or deflect at the top, CFS recommends designing the walls for the *at-rest* earth pressure coefficient. Walls that are permitted to rotate and deflect at the top can be designed for the *active* lateral earth pressure condition. Horizontal loads acting on shallow foundations are resisted by friction along the foundation base and by *passive* pressure against the footing face that is perpendicular to the line of applied force.

Table 3: Earth Pressure and Friction Coefficients

	Active (K _a)	Passive (K _p)	At-Rest (K _o)	Allowable Base Friction	Unit Weight (pcf)
Open-graded crushed limestone	0.27	3.69	0.43	0.47	130-140
In-situ lean clay soils	0.40	2.5	0.68	0.32	95-115
In-situ fat clay soils	0.49	2.04	0.66	0.24	90-110
Lean clay – conditioned and compacted	0.32	3.12	0.48	0.35	95-115
Fat clay – conditioned and compacted	0.45	2.2	0.63	0.27	90-110

These earth pressure coefficients do not include the effect of surcharge loads, hydrostatic loading, or a sloping backfill. Nor do they incorporate a factor of safety. Also, these earth pressure coefficients do not account for high lateral pressures that may result from volume changes when expansive clay soils are used as backfill behind walls with unbalanced fill depths. In addition, any disturbed soils that are relied upon to provide some level of passive resistance should be placed in lifts not exceeding six (6) inches in thickness and compacted to a minimum density of 95% of the Standard Proctor (ASTM D698) maximum dry density at a moisture content within +/- 3% of the optimum moisture content. It is recommended that a representative of CFS should verify the compaction of any such materials relied upon to provide passive pressure.

The actual earth pressure on the walls will vary according to material types and backfill materials used and how the backfill is compacted. If the backfill conditions are different than the ones used above, CFS should be notified so the recommendations can be modified. The buildup of water behind a wall will increase the lateral pressure imposed on below-grade walls. Adequate drainage should be provided behind any below grade walls as described in this report. The walls should also be designed for appropriate surcharge pressures such as adjacent traffic, interior building floor slab loads, and construction equipment.

7.4 SYNTHETIC TURF FIELDS & ATHLETIC TRACK RECOMMENDATIONS

CFS understands the project requirements include restricting the synthetic turf fields to less than ½-inch of vertical movement, if possible, and little to no movement tolerance for the athletic track. The in-situ materials encountered beneath the planned synthetic turf fields and the athletic track, generally, consist of Fat Clay (CH) materials. Fat clay is considered highly expansive, and as such, is susceptible to significant volume changes with changes in moisture. To limit movements to tolerable amounts, it is recommended that the synthetic turf fields and the athletic track be supported by a minimum 9-inch-thick Portland cement stabilized subgrade. Where possible, the cement stabilized subgrade layers should extend at least five (5) feet beyond all boundary lines. The surfaces should be sloped accordingly to allow for proper shedding of all water during a precipitation event. Proper drainage and dewatering

measures should be implemented to prevent water infiltration of the subgrade. Additionally, the track and turf manufacturers should be consulted prior to construction and CFS should be allowed to review final design to evaluate potential geotechnical related concerns. Reference Table 4 for the recommended thicknesses of the athletic track.

Table 4: Athletic Track Section

Recommended Thicknesses (inches)	
APWA Type 3-01 AC Surface	2
APWA Type 1-01 AC Base	3
Portland Cement Stabilized Subgrade	9

Portland cement should be thoroughly mixed with the existing subgrade materials to the recommended depths given above at a concentration of 5% by dry unit weight of the in-situ materials dry unit weight. Water should be added, as necessary, to hydrate the cement. The mixture should be compacted to a minimum of 98% of the combined materials dry unit weight at a moisture content between 0 and +3% of the optimum moisture content as determined by ASTM D698. The specified compaction should be achieved within two (2) hours of the materials being combined and hydrated.

It is recommended that the subgrade be hydrated daily and protected from drying for the first five (5) days after stabilization occurs. Additionally, CFS recommends microcracking of the subgrade be completed by a vibratory, sheep's foot roller 36 to 48 hours after completion of stabilization. Microcracking will reduce the risk of water conduits forming in the subgrade as a result of shrinkage cracks that may develop during the cement curing period. Except for water trucks and microcracking equipment, the subgrade should be protected from all loading and construction traffic for a minimum of five (5) days. Reference Appendix C for more information on cement stabilization.

7.5 PAVEMENT RECOMMENDATIONS

The pavement sections presented below are considered typical and minimum for the report basis parameters. The client should be aware that thinner pavement sections might result in increased maintenance costs and lower than anticipated pavement life. The pavement area subgrade consists of moisture sensitive soils.

The soils expected beneath the pavement are fine silty sands to clayey silts to silty clays. Should the clayey silts to silty clays be the pavement subgrade, they tend to expand and contract with changes in moisture and weather conditions and are very moisture susceptible, losing strength quickly. The on-site silts and clays can be stabilized with 5% by weight Portland Type 1/2 Cement for a depth of nine (9) inches, constructed as outlined in Section 7.4, to extend the life of the pavement.

Table 5: Recommended Light Duty Pavement Sections (Parking lots)

Recommended Thicknesses (inches)			
Asphalt		Concrete	
APWA Type 3-01 AC Surface	2	Concrete	5
APWA Type 1-01 AC Base	3	Aggregate Base Course	4
Aggregate Base Course	6	Moisture Conditioned & Recompacted Subgrade (Section 7.4.4)	12
Moisture Conditioned & Recompacted Subgrade (Section 7.4.4)	12		

Table 6: Heavy Duty Pavement Thicknesses (Truck areas and drives)

Recommended Thicknesses (inches)			
Asphalt		Concrete	
APWA Type 3-01 AC Surface	2	Concrete	7
APWA Type 1-01 AC Base	6	Aggregate Base Course	4
Aggregate Base Course	6	Moisture Conditioned & Recompacted Subgrade (Section 7.4.4)	12
Moisture Conditioned & Recompacted Subgrade (Section 7.4.4)	12		

Note: When base is to be placed in the fall and surface in the spring, APWA Type 2-01 is recommended to improve performance of base due to lower permeability. Eight (8) inches of concrete and four (4) inches of base rock is recommended for trash and/or recycling dumpster areas.

7.5.1 Asphalt Pavement Construction

The granular base course should be built at least 2 feet wider than the pavement on each side to support the tracks of the slip form paver. This extra width is structurally beneficial for wheel loads applied at pavement edge.

Asphalt cement (bitumen) used in the manufacture of asphalt pavement should conform to the Performance Grading system. In the project area, the provincial grade asphalt binder course is PG 64-22. The asphaltic mix for conventional roadway should be designed for 4% air voids. During production, the voids can be expected to vary $\pm 1\%$ of the design value of 4%. Under these conditions, the minimum allowable VMA for base and surface course shall be 12% and 14%, respectively.

Immediately after spreading, each course of the pavement mixture should be compacted by rolling. The initial or “breakdown” rolling shall be accomplished with a steel-wheeled vibratory roller. The motion of the roller should be slow enough at all times to avoid displacement of the hot mixture. The surface of the mixture after compaction should be smooth and true to established section and grade. The completed asphalt concrete paving should have a density equal to or greater than 95% for the base and 96% for the surface of theoretical density.

All asphaltic concrete mix designs and Marshall Characteristics should be submitted to our office and reviewed in order to determine if they are consistent with the recommendations given in this report.

All materials to be employed and field operations required in connection with the pavement reconstruction should follow requirements and procedural details as per APWA 2001. In addition, representative of CFS should observe and monitor the pavement construction to assure satisfactory compliance with our engineering recommendations.

7.5.2 Concrete Pavement Construction

The pavement on this site will be subjected to freeze-thaw cycles. Sufficient air entrainment in the range of 6% to 8% is required to provide freeze-thaw durability in the concrete. Concrete with a 28-day specified compressive strength of 4,000 psi is recommended. The concrete mix should contain at least 564 pounds of concrete per cubic yard. A mixture with a maximum slump of 4 inch +/- 1 inch is acceptable. If a water-reducing admixture is specified, slump can be higher. For better performance and crack control, synthetic fiber reinforcement such as Fibermesh® 300 is recommended for the concrete instead of welded wire mesh. Add synthetic fiber reinforcement to concrete mixture in accordance with manufacturer's instructions.

7.5.3 Pavement Subgrade Preparation

The upper 12 inches of exposed subgrade, extended a minimum of two (2) feet laterally beyond all pavement lines, should be moisture conditioned and recompacted, as necessary, to pass a proofroll evaluation as described in Section 6.1, "Site preparation" of this report.

Any localized soft, wet, or loose areas identified during the proof rolling should be repaired prior to paving. Fill material should be placed in loose lifts up to a maximum of eight (8) inches in thickness and compacted to at least 95% of the maximum dry density in accordance with ASTM D698 at moisture contents outlined in the Earthwork section. Construction traffic, including foot traffic, should be minimized to prevent unnecessary disturbance of the pavement subgrade. Disturbed areas, as verified by CFS's geotechnical engineer, should be removed and replaced with properly compacted material.

Fat clays (CH) with Liquid Limits of greater than 55 should not be used in the upper one (1) foot beneath the pavement without being treated with a nine (9) inch layer of cement as outlined previously in this report. Consideration should be given to treating all non-LVC clays so as to extend the life of the pavement, improve performance and reduce maintenance costs.

The granular base should be placed in loose lifts up to a maximum of twelve (12) inches in thickness a minimum lateral distance of two (2) feet beyond the pavement, and compacted to at least 98% of the maximum dry density in accordance with ASTM D698.

If open graded stone is used under the pavement, the pavement subgrade should be graded to provide positive drainage of the granular base section. Provision should be made to provide drainage into the storm water system. The use of a granular blanket drain near storm water inlets that provides weep holes from the drain to the inlets is recommended.

8 GENERAL COMMENTS

When the plans and specifications are complete, or if significant changes are made in the character or location of the proposed building, a consultation should be arranged to review the changes with respect to the prevailing soil conditions. At that time, it may be necessary to submit supplementary recommendations.

It is recommended that the services of Cook, Flatt & Strobel Engineers be engaged to test and evaluate the compaction of any additional fill materials and to test and evaluate the bearing value of the soils in the footing excavations.

Respectfully submitted,

COOK, FLATT & STROBEL ENGINEERS, P.A.

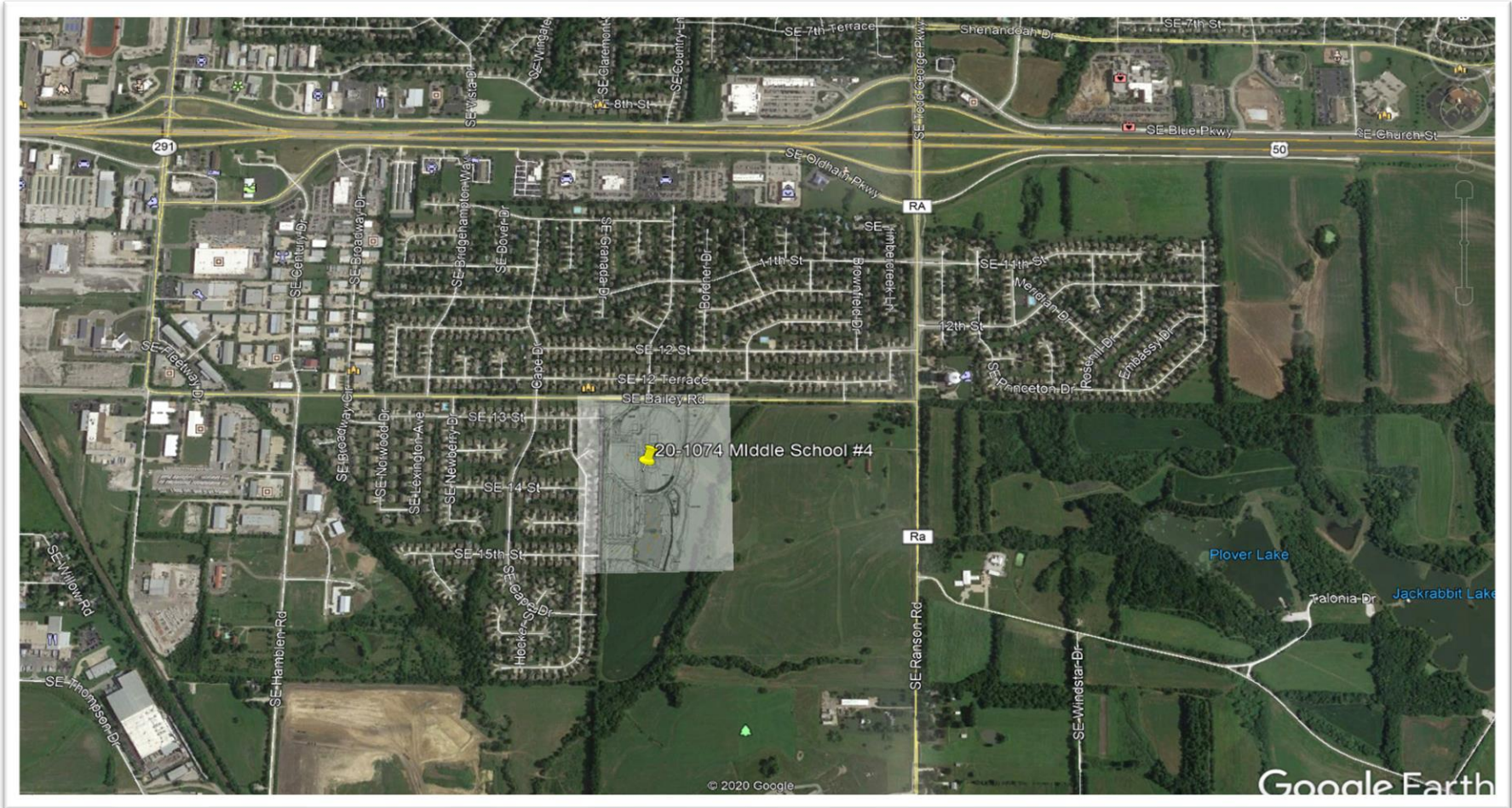


Jacob Engler, P.E.
Geotechnical Engineer



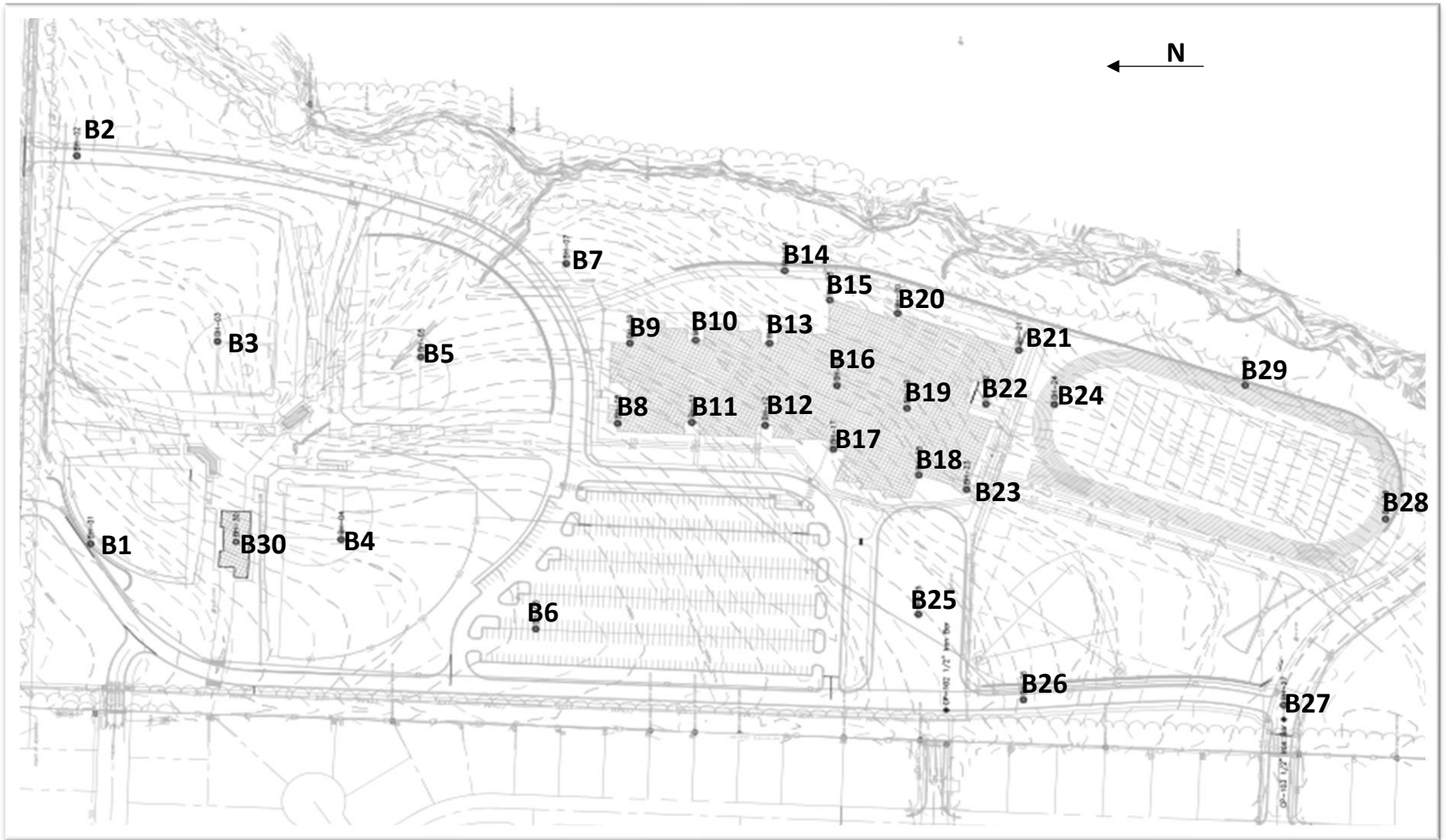
Adam McEachron, P.E.
Senior Geotechnical Engineer

Appendix A: Figures



1100 W. Cambridge Circle Dr, Ste 700
 Kansas City, Kansas 66103

Project:	LEE'S SUMMIT MIDDLE SCHOOL #4	Project #:	20-1074	Figure 1:	SITE LOCATION PLAN
Project Location:	Lee's Summit, MO	Comments:			
Client:	Lee's Summit R7 School District				
Date:	5/19/2020				



1100 W. Cambridge Circle Dr, Ste 700
 Kansas City, Kansas 66103

Project: **LEE'S SUMMIT MIDDLE
 SCHOOL #4**

Project Location: Lee's Summit, MO

Client: Lee's Summit R7 School District

Date: 5/19/2020

Project #: 20-1074

Comments:

Figure 2: **BORING LOCATION
 PLAN**

Appendix B: Boring Logs



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B2

CLIENT Lee's Summit R-7 School District **PROJECT NAME** Lee's Summit Middle School #4
PROJECT NUMBER 20-1074 **PROJECT LOCATION** Lee's Summit, Missouri
DATE STARTED 04/30/20 **COMPLETED** 04/30/20 **GROUND ELEVATION** 1012.351 ft **HOLE SIZE** 3.25 inches
DRILLING CONTRACTOR CFS Engineers **GROUND WATER LEVELS:**
DRILLING METHOD 3.25-inch Continuous Flight **AT TIME OF DRILLING** --- No Free Water Encountered
LOGGED BY TP **CHECKED BY** JE **AT END OF DRILLING** --- No Free Water Encountered
NOTES _____ **AFTER DRILLING** --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown and gray mottled reddish brown, medium stiff FAT CLAY with iron nodules	SPT 1	100	1-2-4 (6)	3.25		25				
5			SPT 2	100	2-3-4 (7)	2		27				

Bottom of borehole at 5.0 feet.




CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B3

CLIENT Lee's Summit R-7 School District **PROJECT NAME** Lee's Summit Middle School #4
PROJECT NUMBER 20-1074 **PROJECT LOCATION** Lee's Summit, Missouri
DATE STARTED 04/30/20 **COMPLETED** 04/30/20 **GROUND ELEVATION** 1016.143 ft **HOLE SIZE** 3.25 inches
DRILLING CONTRACTOR CFS Engineers **GROUND WATER LEVELS:**
DRILLING METHOD 3.25-inch Continuous Flight **AT TIME OF DRILLING** --- No Free Water Encountered
LOGGED BY TP **CHECKED BY** JE **AT END OF DRILLING** --- No Free Water Encountered
NOTES _____ **AFTER DRILLING** --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown and gray, medium stiff FAT CLAY with iron nodules	SPT 1	94	1-2-4 (6)	3.5		27				
5			SPT 2	100	2-3-4 (7)	4.25		25				

Bottom of borehole at 5.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B5

CLIENT Lee's Summit R-7 School District **PROJECT NAME** Lee's Summit Middle School #4
PROJECT NUMBER 20-1074 **PROJECT LOCATION** Lee's Summit, Missouri
DATE STARTED 04/30/20 **COMPLETED** 04/30/20 **GROUND ELEVATION** 1010.145 ft **HOLE SIZE** 3.25 inches
DRILLING CONTRACTOR CFS Engineers **GROUND WATER LEVELS:**
DRILLING METHOD 3.25-inch Continuous Flight **AT TIME OF DRILLING** --- No Free Water Encountered
LOGGED BY TP **CHECKED BY** JE **AT END OF DRILLING** --- No Free Water Encountered
NOTES _____ **AFTER DRILLING** --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown and gray, medium stiff FAT CLAY with iron nodules	SPT 1	97	2-4-4 (8)	3.25		22				
			SPT 2	100	2-2-4 (6)			17				
5												

Bottom of borehole at 5.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B7

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/10/20 **COMPLETED** 05/10/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1005.888 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) dark gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	89	2-3-5 (8)	3		25				
		gray-brown, gray and reddish brown below 3.5'	SPT 2	89	2-3-4 (7)	2.75		25				
5		Bottom of borehole at 5.0 feet.										



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B8

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 04/30/20 **COMPLETED** 04/30/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1015.079 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown, stiff FAT CLAY with iron nodules	SPT 1	100	2-3-5 (8)	3		26				
		gray-brown, gray and reddish brown, medium stiff below 3.5'	SPT 2	100	2-3-4 (7)	3.5		20				
5		stiff below 6'	SPT 3	100	2-3-5 (8)	4.5		25				
		medium stiff below 8.5'	SPT 4	100	2-2-3 (5)	3.5		25				
10		trace of fine sand below 13.5'	SPT 5	88	3-5-50/5"	4.5		22				
15		highly weathered SANDSTONE										
		highly weathered LIMESTONE										

Refusal at 15.2 feet.
 Bottom of borehole at 15.2 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B9

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/10/20 **COMPLETED** 05/10/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1009.821 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CL) gray-brown, medium stiff LEAN CLAY with iron nodules	SPT 1	100	2-4-5 (9)	3.5		23	38	13	25	
		(CH) gray-brown, gray and reddish brown, stiff FAT CLAY with iron nodules	SPT 2	100	2-3-5 (8)	4.25		21				
5			SPT 3	100	2-3-5 (8)	4.5		25				
			SPT 4	100	2-3-12 (15)	4.5		23				
10		highly weathered limestone fragments below 10'										
		highly weathered LIMESTONE										

Refusal at 10.5 feet.
 Bottom of borehole at 10.5 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B10

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/10/20 **COMPLETED** 05/10/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1008.964 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) dark gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	100	1-3-4 (7)	2.5		30				
		gray-brown, gray and reddish brown and stiff below 3.5'	SPT 2	100	2-3-5 (8)	4.5		21				
5			SPT 3	100	2-4-5 (9)	4.5		25				
10			SPT 4	100	2-3-5 (8)	3		27				
		tan and gray, highly weathered SHALE	SPT 5	100	4-50/3"			20				
15		highly weathered LIMESTONE										
Refusal at 15.0 feet. Bottom of borehole at 15.0 feet.												



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B11

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 04/30/20 **COMPLETED** 04/30/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1014.085 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
0 - 3.5		(CH) dark gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	78	2-3-4 (7)	2.5		27				
3.5 - 14.3		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	100	2-3-5 (8)	2.75		25				
			SPT 3	100	2-3-5 (8)	4		21				
			SPT 4	100	2-3-4 (7)	2.5		32				
			SPT 5	100	3-50/1"	3.5		27				

Refusal at 14.3 feet.
 Bottom of borehole at 14.3 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B12

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/07/20 **COMPLETED** 05/07/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1010.193 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	100	1-2-4 (6)	3		28				
5		gray-brown, gray and reddish brown below 3.5'	SPT 2	100	2-2-3 (5)	3		23				
			SPT 3	100	2-2-4 (6)	2.25		31				
10			SPT 4	100	2-3-4 (7)	2.25		29				

Refusal at 13.5 feet.
 Bottom of borehole at 13.5 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B13

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/10/20 **COMPLETED** 05/10/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1004.54 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- Not Recorded
AT END OF DRILLING --- Not Recorded
▼ AFTER DRILLING 8.50 ft / Elev 996.04 ft

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
0 - 3.5		(CH) gray-brown, stiff FAT CLAY with iron nodules	SPT 1	100	2-4-4 (8)	3.75		22				
3.5 - 6		gray-brown, gray and reddish brown below 3.5'	SPT 2	100	2-3-6 (9)	4.25		23				
6 - 8.5		medium stiff below 6'	SPT 3	100	1-3-4 (7)	4.25		25				
8.5 - 14.5			SPT 4	100	1-2-3 (5)	2.5		34				
14.5 - 18.0		tan and gray, highly weathered SHALE	SPT 5	100	9-13-15 (28)			23				
18.0 - 18.0		highly weathered LIMESTONE										

Refusal at 18.0 feet.
 Bottom of borehole at 18.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B14

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/10/20 **COMPLETED** 05/10/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 999.561 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) dark gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	78	1-3-3 (6)	2.5		29				
		gray-brown, gray and reddish brown below 3.5'	SPT 2	94	2-2-3 (5)	3		26				
5			SPT 3	100	2-2-4 (6)	3.5		26				
		stiff and shaley below 8.5'	SPT 4	100	2-4-8 (12)			27				
10												
		highly weathered LIMESTONE										

Refusal at 13.2 feet.
 Bottom of borehole at 13.2 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B15

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/10/20 **COMPLETED** 05/10/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 999.6 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) dark gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	97	2-3-4 (7)	3.5		26				
		gray-brown, gray and reddish brown below 3.5'	SPT 2	89	1-2-3 (5)	2.75		29				
5			SPT 3	100	2-2-3 (5)	2.75		34				
		shaley below 8.5'	SPT 4	94	2-3-4 (7)	4.5+		30				
10												

Refusal at 13.0 feet.
 Bottom of borehole at 13.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B17

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/07/20 **COMPLETED** 05/07/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1008.754 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
0 - 3.5		(CH) gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	89	2-3-3 (6)	3		28				
3.5 - 5		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	100	2-4-6 (10)	3		24				
5 - 6		medium stiff below 6'	SPT 3	100	2-3-4 (7)	2.5		27				
6 - 13.5		trace of fine sand below 13.5'	SPT 4	100	1-3-4 (7)	3.5		25				
13.5 - 15		shaley below 15'	SPT 5	100	2-2-4 (6)	2		40				
15 - 20		tan, highly weathered SHALE	SPT 6	100	8-13-16 (29)			27				

Bottom of borehole at 20.0 feet.

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B18

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/07/20 **COMPLETED** 05/07/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1005.996 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	78	1-3-3 (6)	3.75		27				
		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	100	2-3-5 (8)	3.75		22				
5			SPT 3	100	3-3-6 (9)	3.25		23				
		medium stiff below 8.5'	SPT 4	100	3-3-4 (7)	2.75		25				
10			SPT 5	100	2-4-5 (9)	3.75		29				
15		shaley below 13.5'										

Refusal at 18.5 feet.
 Bottom of borehole at 18.5 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B19

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/10/20 **COMPLETED** 05/10/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1004.232 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
~1.5		(CH) gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	89	2-2-4 (6)	2.75		30				
~3.5		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	94	3-4-7 (11)	4.5		22				
~6.5			SPT 3	100	3-3-5 (8)	3		28				
~9.5			SPT 4	100	2-3-5 (8)	2.5		26				
~13.5		shaley below 13.5'	SPT 5	100	3-4-10 (14)	4.5		28				
15		tan and gray, highly weathered SHALE										
15		highly weathered LIMESTONE										

Refusal at 15.5 feet.
 Bottom of borehole at 15.5 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B20

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/10/20 **COMPLETED** 05/10/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 999.381 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
0 - 3.5		(CH) dark gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	100	1-3-4 (7)	3.5		24				
3.5 - 5		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	89	2-2-4 (6)	2.75		27				
5 - 10			SPT 3	100	2-4-5 (9)	3.25		26				
10 - 11.5		SPT 4	100	3-3-5 (8)	4.5		21					
11.5		highly weathered LIMESTONE										

Refusal at 11.5 feet.
 Bottom of borehole at 11.5 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B21

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/07/20 **COMPLETED** 05/07/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 996.623 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEO TECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEO TECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	100	1-2-3 (5)	2.5		26				
5		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	89	1-2-4 (6)	3		29				
			SPT 3	100	2-3-5 (8)	3.75		25				
10		gray-brown, highly weathered SHALE	SPT 4	100	2-4-35 (39)	3.5		30				

Refusal at 12.0 feet.
 Bottom of borehole at 12.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B22

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/07/20 **COMPLETED** 05/07/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1001.695 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) dark gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	78	1-2-3 (5)	3.5		30				
		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	89	2-4-6 (10)	3.75		22				
5			SPT 3	100	2-5-6 (11)	3.75		23				
10			SPT 4	100	2-3-5 (8)	3.25		28				
		highly weathered LIMESTONE										

Refusal at 13.0 feet.
 Bottom of borehole at 13.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B24

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/07/20 **COMPLETED** 05/07/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 997.526 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEO TECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEO TECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	83	1-3-4 (7)	2.75		26				
		gray-brown, gray and reddish brown below 3.5'	SPT 2	100	2-2-4 (6)	3.25		27				
5		stiff below 6'	SPT 3	100	2-3-5 (8)	2.5		25				
		shaley below 10'	SPT 4	100	2-3-10 (13)	4		26				
10												

Refusal at 12.0 feet.
 Bottom of borehole at 12.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B25

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/11/20 **COMPLETED** 05/11/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1011.671 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown, medium stiff LEAN TO FAT CLAY with iron nodules	SPT 1	100	2-3-4 (7)	3.5		26				
		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	100	2-4-5 (9)	3.5		27	43	19	24	

Bottom of borehole at 5.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B27

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/11/20 **COMPLETED** 05/11/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1000.457 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- Not Recorded
AT END OF DRILLING --- Not Recorded
▼ AFTER DRILLING 13.50 ft / Elev 986.96 ft

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) dark gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	100	1-3-3 (6)	2.25		30				
		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	100	2-4-5 (9)	3.25		27				
5		medium stiff below 6'	SPT 3	100	2-2-4 (6)	2.75		28				
		stiff below 8.5'	SPT 4	100	2-4-4 (8)	3.25		29				
10		tan, weathered SHALE	SPT 5	100	50			13				

Refusal at 14.0 feet.
 Bottom of borehole at 14.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B28

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/07/20 **COMPLETED** 05/07/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 993.991 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) reddish brown, stiff LEAN TO FAT CLAY	SPT 1	94	2-3-5 (8)	2.5		23				
		hard, highly weathered LIMESTONE fragments and CLAY	SPT 2	100	14-10-15 (25)			30				
5		orangish brown, very stiff, highly weathered SANDSTONE with clay seams	SPT 3	100	6-10-8 (18)			38				
		tan, very stiff, highly weathered SHALE	SPT 4	100	3-10-13 (23)			21				
10												

Refusal at 11.0 feet.
 Bottom of borehole at 11.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B29

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 05/07/20 **COMPLETED** 05/07/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 988.686 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	83	1-3-4 (7)	2		31	55	23	32	
		gray-brown, gray and reddish brown, stiff below 3.5'	SPT 2	83	2-3-5 (8)	3		30				
5		highly weathered LIMESTONE										

Refusal at 7.0 feet.
 Bottom of borehole at 7.0 feet.



CFS Engineers, Inc
 1100 W. Cambridge Circle Drive, Suite 700
 Kansas City, Kansas 66103

BORING NUMBER B30

CLIENT Lee's Summit R-7 School District
PROJECT NUMBER 20-1074
DATE STARTED 04/30/20 **COMPLETED** 04/30/20
DRILLING CONTRACTOR CFS Engineers
DRILLING METHOD 3.25-inch Continuous Flight
LOGGED BY TP **CHECKED BY** JE
NOTES _____

PROJECT NAME Lee's Summit Middle School #4
PROJECT LOCATION Lee's Summit, Missouri
GROUND ELEVATION 1022.919 ft **HOLE SIZE** 3.25 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING --- No Free Water Encountered
AT END OF DRILLING --- No Free Water Encountered
AFTER DRILLING --- No Free Water Encountered

GEOTECH BH COLUMNS - GINT STD US LAB.GDT - 05/19/20 15:10 - G:\SHARED DRIVES\201074\GEOTECH\EXPLORATION REPORTS\20-1074 LOGS V2.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		TOPSOIL with vegetation										
		(CH) gray-brown, medium stiff FAT CLAY with iron nodules	SPT 1	97	1-3-4 (7)	3.75		24	55	21	34	
		gray-brown, gray and reddish brown below 3.5'	SPT 2	100	1-3-4 (7)	2.5		22				
5		stiff below 6'	SPT 3	100	2-4-5 (9)	3.5		22				
			SPT 4	100	3-3-4 (7)	4		28				
10												
		shaley below 13.5'										
		orangish-brown, hard, highly weathered SANDSTONE	SPT 5	100	3-50	3.25		29				

Refusal at 14.5 feet.
 Bottom of borehole at 14.5 feet.

Appendix C: Portland Cement Stabilization

GUIDELINE FOR CEMENT STABILIZATION

Cement stabilized soils should not be constructed without the presence of the geotechnical engineer's designated representative.

MATERIALS. The material used in stabilization should meet the chemical and physical characteristics of Type I cement ASTM C150. Cement should be kept free from moisture prior to use. Cement stored on the project should be placed in weatherproof bins or buildings with adequate protection from ground dampness.

CONSTRUCTION. The cement stabilized soil should be constructed as described herein. The cement should be spread uniformly across the prepared soil surface at the full application rate by using an agricultural seed spreader, mechanical bulk cement spreader, or other equipment acceptable to the geotechnical engineer's designated representative.

Cement stabilized material should be placed in approximately horizontal layers not to exceed 9 inches in uncompacted thickness.

Subgrade Preparation. Prior to the beginning of cement treatment, the Contractor should construct the subgrade to an elevation which will provide a subgrade surface conforming to the contract documents upon completion of the cement treatment.

The clay soils should be scarified and pulverized prior to application of the cement. A disc should be used to break up the surface of the material to be stabilized. The mixer or tiller should be used for the full depth of stabilization to break up the clay.

Application. Cement should be spread only on those areas where mixing operations can be completed during the same working day. Mixing and spreading should not be performed during freezing temperatures. When the temperature is below 40 degrees F, the completed stabilized fill should be protected against freezing by a sufficient covering of straw, or by other approved methods. Any areas of completed stabilized subgrade course that are damaged by freezing, rainfall, or other weather conditions should be repaired by the contractor.

The cement should be applied with an approved spreader at an application rate that has been established by the geotechnical engineer, based on laboratory tests with the site soils.

The cement should be distributed at a uniform rate and in such a manner to prevent the scattering of cement by wind. Cement should not be added when wind or weather conditions are not favorable in the opinion of the geotechnical engineer's designated representative. A motor grader should not be used to spread the cement.

Mixing. The cement, material, and required water should be thoroughly mixed, blended, and pulverized by approved road mixers or by a depth-controlled rotary tiller. Except as provided hereinafter, the Contractor should continue mixing and drying the

GUIDELINE FOR CEMENT STABILIZATION

soil until all material will pass a 1/2-inch screen. Scarifying and mixing should be controlled to provide uniform depth within 0.1 ft of the depth specified. If, in the opinion of the geotechnical engineer's designated representative the material was mixed to a depth greater than indicated on the drawing or as specified herein, additional cement should be added to achieve the desired application rate. If in the opinion of the geotechnical engineer's designated representative, the material was mixed to a depth less than indicated on the drawing or specified, the material should be remixed.

Moisture content of the mixture should be determined in preparation for final mixing. Moisture in the mixture following final mixing should not be less than the water content determined to be optimum based on dry weight of soil and should not exceed the optimum water content by more than 5 percentage points. Water may be added in increments as large as the equipment will permit; however, such increment of water should be partially incorporated in the mix to avoid concentration of water near the surface. After the last increment of water has been added, mixing should be continued until the water is uniformly distributed throughout the full depth of the mixture, including satisfactory moisture distribution along the edges of the section.

Compaction. The cement stabilized subgrade should be compacted in accordance with the requirements for controlled fill. The compaction should be a minimum of 95% of the maximum density in accordance with ASTM D698 and within +0% to +5% of the optimum moisture content of the cement-stabilized soil.

Not more than 60 minutes should elapse between the time of final mixing and the beginning of compaction.

Protection and Curing. The Contractor should protect the finished treated subgrade from rapid drying, for 7 days, by sprinkling with water as often as is necessary to prevent drying of the surface of the cement-treated subgrade, or by application of the overlying base course. The Contractor should not allow any vehicles or operations which will distort the surface onto the treated surface during the curing period.

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Work covered by the Contract Documents.
 - 2. Specification formats and conventions.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Lee's Summit Middle School #4 Package 2 Structural & Site Utilities.
 - 1. Project Location: South of intersection of SE Bailey Road and Country Lane; Lee's Summit, MO; 1001 SE Bailey Road, Lee's Summit, MO 64081.
- B. Owner: Lee's Summit R-7 School District; Tony L. Stansberry Leadership Center; 301 NE Tudor Road; Lee's Summit, MO 64086.
 - 1. Owner's Representative: Kyle Gorrell, Director of Facility Services; Lee's Summit R-7 School District; 502 SE Transport Drive; Lee's Summit, MO 64081; phone 816-986-2420.
- C. Architect: DLR Group inc., a Missouri corporation.
 - 1. Architect's Representative: Dana M. Schwartz, AIA; DLR Group inc., a Missouri corporation; 7290 West 133rd Street; Overland Park KS 66213.
- D. The Work consists of the following:
 - 1. Rough grading of the site in preparation for the building package and associated site amenities and utilities.
 - 2. Construction documents for the building package and site amenities will be issued at a later date.

1.4 TYPE OF CONTRACT

- A. Project will be constructed under a Construction Manager as Constructor contract.

1.5 WORK SEQUENCE

- A. The Work will be conducted in one phase. Work shall be substantially complete on the date established in the Construction Manager's Manual.
 - 1. If the Contractor fails to complete the Work on or before the Substantial Completion date, Contractor will be liable for liquidated damages as defined in Paragraphs 2.2.10 and 2.2.11 of Document A133 Standard Form of Agreement Between Owner and Construction Manager as Constructor.

1.6 USE OF PREMISES

- A. Use of Site: Contractors must limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits: Confine constructions operations to areas indicated on the Drawings.

1.7 WORK RESTRICTIONS

- A. On-Site Work Hours: Work hours must comply with regulations and laws of authorities having jurisdiction.
 - 1. Hours for Utility Shutdowns: As approved by the Owner, with a minimum of three (3) business days' advance notice.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect, Construction Manager and Owner not less than three days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Owner's written permission.

1.8 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 50-division format and CSI/CSC's "MasterFormat" numbering system.
 - 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are

- not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
2. Division 01: Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit each request to the Architect and Construction Manager as directed in Portable Data Format (PDF) for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use Form 012500A Request for Substitution Form and Form 012500B Contractor's Statement of Conformance, provided in Project Manual.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

- b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor through Construction Manager of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Requested substitution provides sustainable design characteristics that specified product provided.
 - c. Substitution request is fully documented and properly submitted.
 - d. Requested substitution will not adversely affect Contractor's construction schedule.
 - e. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - f. Requested substitution is compatible with other portions of the Work.
 - g. Requested substitution has been coordinated with other portions of the Work.
 - h. Requested substitution provides specified warranty.
 - i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.
 - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect

will return requests without action, except to record noncompliance with these requirements:

- a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
- b. Requested substitution does not require extensive revisions to the Contract Documents.
- c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- d. Substitution request is fully documented and properly submitted.
- e. Requested substitution will not adversely affect Contractor's construction schedule.
- f. Requested substitution has received necessary approvals of authorities having jurisdiction.
- g. Requested substitution is compatible with other portions of the Work.
- h. Requested substitution has been coordinated with other portions of the Work.
- i. Requested substitution provides specified warranty.
- j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

**CONTRACTOR'S STATEMENT OF CONFORMANCE
OF PROPOSED SUBSTITUTION TO CONTRACT DOCUMENTS
MUST BE SUBMITTED WITH FORM 012500A REQUEST FOR SUBSTITUTION**

Email in PDF format to kwalbert@dlrgroup.com and dschwartz@dlrgroup.com

I / We have investigated the proposed substitution. I / We

1. believe that it is equal or superior in all respects to the originally specified product, except as stated in Paragraph C of the Post-Bid Request for Substitution Form;
2. will provide the same warranty as required in AIA A201 General Conditions 3.5.1;
3. will provide the same special warranty or guaranty as specified;
4. have included all cost data and cost implications of the proposed substitution;
5. will pay redesign and special inspection costs caused by the use of this product;
6. will pay additional costs to other contractors caused by the substitution;
7. will coordinate the incorporation of the proposed substitution in the Work;
8. will modify other parts of the Work as may be needed, to make all parts of the Work complete and functioning;
9. waive future claims for added cost to Contractor caused by the proposed substitution.

Contractor: _____
Signature _____ Date _____

Firm _____ Telephone _____

Address _____

City, State Zip _____

ARCHITECT/ENGINEER'S REVIEW AND ACTION

- Provide more information in the following categories. Resubmit.

- Sign Contractor's Statement of Conformance. Resubmit.
- The proposed substitution is approved with the following conditions:

- The proposed substitution request is rejected.

The following changes will be made by Change Order:

Addition to / deduction from the Contract Sum: \$ _____

Addition to / deduction from the Contract Time: _____ days.

DLR Group

By: _____ Date: _____
Architect

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Architect are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.

- d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
- C. Proposal Request Form: Use form acceptable to the Architect.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Work Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

LEE'S SUMMIT MIDDLE SCHOOL #4
PACKAGE 2 – STRUCTURAL & SITE UTILITIES
LEE'S SUMMIT, MISSOURI

13-20102-00
28 AUGUST 2020
PERMIT SET

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 2. Section 013200 "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with Continuation Sheets.
 - b. Submittals Schedule.
 - c. Contractor's Construction Schedule.
 - 2. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section.
1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location.
 - b. Name of Architect.
 - c. Architect's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 2. Submit draft of AIA Document G703 Continuation Sheets.
 3. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value.
 - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate. Include separate line items under required principal subcontracts for operation and maintenance manuals, punch list activities, Project Record Documents, and demonstration and training in the amount of 5 percent of the Contract Sum.
 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
 6. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
 7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
 8. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
 9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

- a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
10. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit one electronic copy in PDF of each Application for Payment with all attachments to Architect via email as instructed by Architect. Include waivers of lien and similar attachments if required. Combine files into one PDF. Do not submit multiple electronic files.
 1. Confirm receipt of pay application by response email or other method as instructed by the Architect.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.

3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
- G. Certified Payroll: With each Application for Payment, submit certified payroll in conformance with the provisions and requirements at the time of submission, of the State of Missouri, Division of Labor Standards, Annual Wage Order, in accordance with Section 290.262 CUM. Supp. RSMo (1994) and any other statutes or requirements that may be in effect at the time of submission.
1. Public Works During Excessive Unemployment: Submit all documentation showing compliance in accordance with the provisions and requirements of the Missouri Prevailing Wage Law Sections 290.550 to 290.580 Public Works During Excessive Unemployment, if such provision applies to this Project.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Schedule of unit prices.
 6. Submittals Schedule (preliminary if not final).
 7. List of Contractor's staff assignments.
 8. List of Contractor's principal consultants.
 9. Copies of building permits.
 10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 11. Initial progress report.
 12. Report of preconstruction conference.
 13. Certificates of insurance and insurance policies.
 14. Performance and payment bonds.
 15. Data needed to acquire Owner's insurance.
 16. Initial settlement survey and damage report if required.
- I. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.

2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. Updated final statement, accounting for final changes to the Contract Sum.
4. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
5. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
6. AIA Document G707, "Consent of Surety to Final Payment."
7. Evidence that claims have been settled.
8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
9. Final, liquidated damages settlement statement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
 - 4. Requests for Interpretation (RFIs).
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Related Sections include the following:
 - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's Construction Schedule.
 - 2. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Preparation of the Schedule of Values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Project closeout activities.
 - 7. Startup and adjustment of systems.
 - 8. Project closeout activities.

1.4 SUBMITTALS

- A. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
 - 1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 - 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 10 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Critical work sequencing and long-lead items.
 - c. Designation of key personnel and their duties.
 - d. Procedures for processing field decisions and Change Orders.
 - e. Procedures for RFIs.
 - f. Procedures for testing and inspecting.
 - g. Procedures for processing Applications for Payment.
 - h. Distribution of the Contract Documents.
 - i. Submittal procedures.
 - j. Preparation of Record Documents.
 - k. Use of the premises.
 - l. Work restrictions.
 - m. Owner's occupancy requirements.
 - n. Responsibility for temporary facilities and controls.
 - o. Construction waste management and recycling.
 - p. Parking availability.
 - q. Office, work, and storage areas.
 - r. Equipment deliveries and priorities.
 - s. First aid.
 - t. Security.
 - u. Progress cleaning.
 - v. Working hours.
 3. Minutes: Record and distribute meeting minutes.
- C. Progress Meetings: Conduct progress meetings at biweekly intervals. Coordinate dates of meetings with preparation of payment requests.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

- a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
- b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Status of correction of deficient items.
 - 14) Field observations.
 - 15) RFIs.
 - 16) Status of proposal requests.
 - 17) Pending changes.
 - 18) Status of Change Orders.
 - 19) Pending claims and disputes.
 - 20) Documentation of information for payment requests.
3. Minutes: Record the meeting minutes.
4. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.
 - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

1.6 REQUESTS FOR INTERPRETATION (RFIs)

- A. Procedure: Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.
 1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.

2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing interpretation and the following:
1. Project name.
 2. Date.
 3. Name of Contractor.
 4. Name of Architect.
 5. RFI number, numbered sequentially.
 6. Specification Section number and title and related paragraphs, as appropriate.
 7. Drawing number and detail references, as appropriate.
 8. Field dimensions and conditions, as appropriate.
 9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 10. Contractor's signature.
 11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
 - a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C. Submittal to Architect: Submit RFI's in Adobe Acrobat PDF electronic file format via web-based project management software as directed by the Architect.
1. Attachments shall be electronic files in Adobe Acrobat PDF format appended to the RFI PDF electronic file so that it is a single electronic file, and named as directed by the Architect. Multiple files will be returned without response. Files that are not compliant with the agreed upon file nomenclature will be returned without response.
- D. Architect's Action: Architect will review each RFI, determine action required, and return it. Allow seven working days for Architect's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for coordination information already indicated in the Contract Documents.
 - d. Requests for adjustments in the Contract Time or the Contract Sum.
 - e. Requests for interpretation of Architect's actions on submittals.
 - f. Incomplete RFIs or RFIs with numerous errors.
 - g. RFIs submitted in a format or manner not compliant with the requirements stated herein.

2. Architect's action may include a request for additional information, in which case Architect's time for response will start again.
 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 013200 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within five days of receipt of the RFI response.
- E. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log at every progress meeting. Software log with not less than the following:
1. Project name.
 2. Name and address of Contractor.
 3. Name and address of Architect.
 4. RFI number including RFIs that were dropped and not submitted.
 5. RFI description.
 6. Date the RFI was submitted.
 7. Date Architect's response was received.
 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Preliminary construction schedule.
 - 2. Contractor's construction schedule.
 - 3. Submittals schedule.
 - 4. Daily construction reports.
 - 5. Material location reports.
 - 6. Field condition reports.
 - 7. Special reports.
- B. Related Sections include the following:
 - 1. Section 012900 "Payment Procedures" for submitting the Schedule of Values.
 - 2. Section 013100 "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
 - 3. Section 013300 "Submittal Procedures" for submitting schedules and reports.
 - 4. Section 014000 "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 SUBMITTALS

- A. Submittals Schedule: Submit to Architect in Excel and PDF format. Arrange the following information in a tabular format:
 - 1. Scheduled date for first submittal.
 - 2. Specification Section number and title.
 - 3. Submittal category (action or informational).
 - 4. Name of subcontractor.
 - 5. Description of the Work covered.
 - 6. Scheduled date for Architect's final release or approval.
- B. Preliminary Construction Schedule: Submit in PDF format; one file.

- C. Contractor's Construction Schedule: Submit initial schedule in PDF format, large enough to show entire schedule for entire construction period.
 - 1. Submit an electronic copy of schedule in PDF format, labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date.
- D. Daily Construction Reports: Submit at weekly intervals.
- E. Field Condition Reports: Submit at time of discovery of differing conditions.
- F. Special Reports: Submit at time of unusual event.

1.4 QUALITY ASSURANCE

- A. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to the Preliminary Construction Schedule and Contractor's Construction Schedule, including, but not limited to, the following:
 - 1. Review software limitations and content and format for reports.
 - 2. Verify availability of qualified personnel needed to develop and update schedule.
 - 3. Discuss constraints, including phasing, work stages, area separations, interim milestones and partial Owner occupancy.
 - 4. Review delivery dates for Owner-furnished products.
 - 5. Review schedule for work of Owner's separate contracts.
 - 6. Review time required for review of submittals and resubmittals.
 - 7. Review time required for completion and startup procedures.
 - 8. Review and finalize list of construction activities to be included in schedule.
 - 9. Review submittal requirements and procedures.
 - 10. Review procedures for updating schedule.

1.5 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from parties involved.
 - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals in Excel and PDF format, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
 2. Initial Submittal: Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 60 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 - a. At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

- D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - 1. Phasing: Arrange list of activities on schedule by phase.
 - 2. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
 - 3. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.
- F. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.

2.3 PRELIMINARY CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit preliminary horizontal bar-chart-type construction schedule within seven days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.4 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. List of separate contractors at Project site.
 - 3. Approximate count of personnel at Project site.
 - 4. Equipment at Project site.
 - 5. Material deliveries.
 - 6. High and low temperatures and general weather conditions.
 - 7. Accidents.
 - 8. Meetings and significant decisions.
 - 9. Unusual events (refer to special reports).
 - 10. Stoppages, delays, shortages, and losses.
 - 11. Meter readings and similar recordings.
 - 12. Emergency procedures.
 - 13. Orders and requests of authorities having jurisdiction.
 - 14. Change Orders received and implemented.
 - 15. Construction Change Directives received and implemented.

16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial Completions and occupancies.
19. Substantial Completions authorized.

- B. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

- A. General: Submit special reports directly to Owner and Architect within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.
- B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner and Architect in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

LEE'S SUMMIT MIDDLE SCHOOL #4
PACKAGE 2 – STRUCTURAL & SITE UTILITIES
LEE'S SUMMIT, MISSOURI

13-20102-00
28 AUGUST 2020
PERMIT SET

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
 - 1. Division 01 Sections for the following:
 - a. Submittal of Applications for Payment and the schedule of values.
 - b. Submittal of schedules and reports, including Contractor's construction schedule.
 - c. Submittal of operation and maintenance manuals.
 - d. Submittal of record Drawings, record Specifications, and record Product Data.
 - e. Submittal of materials related to demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's and Construction Manager's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's and Construction Manager's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and Construction Manager and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's and Construction Manager's final release or approval.
 - g. Scheduled date of fabrication.
 - h. Scheduled dates for purchasing.
 - i. Scheduled dates for installation.
 - j. Activity or event number.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Comply with requirements of Section 013333 "Electronic Drawings."
1. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect and Construction Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Construction Manager will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
- D. Paper Submittals: Paper submittals will not be accepted unless specifically requested by the Construction Manager and Architect.
- E. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number, including revision identifier, as follows:
 - a. File name shall use Specification Section number followed by a dash and then a sequential two-digit number (e.g., 061000-01). Resubmittals shall include an sequential suffix after another dash (e.g., 061000-01-1).
 3. Provide adequate space for insertion to permanently record Contractor's review and approval markings and action taken by Architect and Construction Manager.
 4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Construction Manager, containing the following information:
 - a. Project name.
 - b. Date.
 - c. Name and address of Architect.

- d. Name of Construction Manager.
 - e. Name of Contractor.
 - f. Name of firm or entity that prepared submittal.
 - g. Names of subcontractor, manufacturer, and supplier.
 - h. Category and type of submittal.
 - i. Submittal purpose and description.
 - j. Specification Section number and title.
 - k. Specification paragraph number or drawing designation and generic name for each of multiple items.
 - l. Drawing number and detail references, as appropriate.
 - m. Location(s) where product is to be installed, as appropriate.
 - n. Related physical samples submitted directly.
 - o. Indication of full or partial submittal.
 - p. Transmittal number, numbered consecutively.
 - q. Submittal and transmittal distribution record.
 - r. Other necessary identification.
 - s. Remarks.
5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
- a. Project name.
 - b. Number and title of appropriate Specification Section.
 - c. Manufacturer name.
 - d. Product name.
- F. Options: Identify options requiring selection by Architect.
- G. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect and Construction Manager on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- H. Resubmittals: Make resubmittals in same form as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked as "Reviewed" or "Furnish As Corrected" with Architect's action stamp.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's and Construction Manager's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
1. Upload electronic submittals as single PDF electronic files directly to Architect's secure web-based site specifically established for Project.
 - a. Architect will return annotated file to Construction Manager. Annotate and retain one copy of file as an electronic Project record document file.
 2. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
 - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams showing factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
 6. Submit Product Data in the following format:
 - a. Single PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data, unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
 3. Submit Shop Drawings in the following format:
 - a. Single PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
 2. Identification: Attach label on unexposed side of Samples that includes the following:
 - a. Generic description of Sample.
 - b. Product name and name of manufacturer.
 - c. Sample source.
 - d. Number and title of applicable Specification Section.
 - e. Specification paragraph number and generic name of each item.
 3. Upload corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

- a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
- a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect, through Construction Manager, will return submittal with options selected.
6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
- a. Number of Samples: Submit three sets of Samples. Architect and Construction Manager will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 2. Manufacturer and product name, and model number if applicable.
 3. Number and name of room or space.
 4. Location within room or space.
 5. Submit product schedule in the following format:
 - a. Single PDF electronic file.
- F. Coordination Drawing Submittals: Comply with requirements in Division 01 Sections.

- G. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Sections.
- H. Application for Payment and Schedule of Values: Comply with requirements specified in Division 01 Sections.
- I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Division 01 Sections.
- J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Division 01 Sections.
- K. Maintenance Data: Comply with requirements specified in Division 01 Sections.
- L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
- M. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
- O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
- P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
- Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
- R. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
- S. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- T. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

1. Name of evaluation organization.
 2. Date of evaluation.
 3. Time period when report is in effect.
 4. Product and manufacturers' names.
 5. Description of product.
 6. Test procedures and results.
 7. Limitations of use.
- U. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
- V. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- W. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
- X. Design Data: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect and Construction Manager.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Division 01 Sections.
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S AND CONSTRUCTION MANAGER'S ACTION

- A. Action Submittals: Architect and Construction Manager will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect and Construction Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Architect and Construction Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect and Construction Manager will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect and Construction Manager.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300

SECTION 013333 – ELECTRONIC DRAWINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. The Architect-Engineer, if requested, may provide electronic copies of the Drawings in AutoCAD format as determined by the Architect-Engineer. The files, if provided, are for the Receiving Party's convenience in performing the Work.
- B. Architect-Engineer, at its sole discretion and without penalty, reserves the right to deny electronic files to any contractor, subcontractor, supplier or other firm.
- C. Receiving Party must complete, sign and transmit to Architect AIA Document C106-2013 Digital Data Licensing Agreement found at the end of this Section. Files will not be compiled or transmitted until completed and signed document is received.
- D. Receiving Party shall allow the Architect-Engineer a minimum of fourteen business days to compile and transmit electronic drawings after signed Digital Data Licensing Agreement is received. Receiving Party shall also allow an additional time period of seven business days to determine that the files are compatible with the Contractor's computer operating systems and software, and to allow for corrections to be made if necessary. Receiving Party is solely responsible for requesting files in a timely manner so as to ensure there is no delay in the Work.
- E. Under no circumstances is Architect-Engineer responsible in whole or in part for any delay in the Work due to timeliness or functionality of electronic documents transmitted to or received by any party.

1.3 REFERENCES

- A. A copy of the Architect's AIA Document C106-2013 Digital Licensing Agreement is included at the end of the Section.

LEE'S SUMMIT MIDDLE SCHOOL #4
PACKAGE 2 – STRUCTURAL & SITE UTILITIES
LEE'S SUMMIT, MISSOURI

13-20102-00
28 AUGUST 2020
PERMIT SET

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013333



AIA[®] Document C106™ – 2013

Digital Data Licensing Agreement

AGREEMENT made as of the _____ day of _____ in the year _____
(In words, indicate day, month and year.)

BETWEEN the Party transmitting Digital Data ("Transmitting Party"):
(Name, address and contact information, including electronic addresses)

DLR Group inc.
7290 West 133rd Street
Overland Park, KS 66213

and the Party receiving the Digital Data ("Receiving Party"):
(Name, address and contact information, including electronic addresses)

for the following Project:
(Name and location or address)

Lee's Summit Middle School #4
Lee's Summit R-7 School District
Lee's Summit, Missouri

The Transmitting Party and Receiving Party agree as follows.

TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 TRANSMISSION OF DIGITAL DATA
- 3 LICENSE CONDITIONS
- 4 LICENSING FEE OR OTHER COMPENSATION
- 5 DIGITAL DATA

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 The purpose of this Agreement is to grant a license from the Transmitting Party to the Receiving Party for the Receiving Party's use of Digital Data on the Project, and to set forth the license terms.

§ 1.2 This Agreement is the entire and integrated agreement between the parties. Except as specifically set forth herein, this Agreement does not create any other contractual relationship between the parties.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

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

§ 1.3 For purposes of this Agreement, the term Digital Data is defined to include only those items identified in Article 5 below.

§ 1.3.1 Confidential Digital Data is defined as Digital Data containing confidential or business proprietary information that the Transmitting Party designates and clearly marks as "confidential."

ARTICLE 2 TRANSMISSION OF DIGITAL DATA

§ 2.1 The Transmitting Party grants to the Receiving Party a nonexclusive limited license to use the Digital Data identified in Article 5 solely and exclusively to perform services for, or construction of, the Project in accordance with the terms and conditions set forth in this Agreement.

§ 2.2 The transmission of Digital Data constitutes a warranty by the Transmitting Party to the Receiving Party that the Transmitting Party is the copyright owner of the Digital Data, or otherwise has permission to transmit the Digital Data to the Receiving Party for its use on the Project in accordance with the terms and conditions of this Agreement.

§ 2.3 If the Transmitting Party transmits Confidential Digital Data, the transmission of such Confidential Digital Data constitutes a warranty to the Receiving Party that the Transmitting Party is authorized to transmit the Confidential Digital Data. If the Receiving Party receives Confidential Digital Data, the Receiving Party shall keep the Confidential Digital Data strictly confidential and shall not disclose it to any other person or entity except as set forth in Section 2.3.1.

§ 2.3.1 The Receiving Party may disclose the Confidential Digital Data as required by law or court order, including a subpoena or other form of compulsory legal process issued by a court or governmental entity. The Receiving Party may also disclose the Confidential Digital Data to its employees, consultants or contractors in order to perform services or work solely and exclusively for the Project, provided those employees, consultants and contractors are subject to the restrictions on the disclosure and use of Confidential Digital Data as set forth in this Agreement.

§ 2.4 The Transmitting Party retains its rights in the Digital Data. By transmitting the Digital Data, the Transmitting Party does not grant to the Receiving Party an assignment of those rights; nor does the Transmitting Party convey to the Receiving Party any right in the software used to generate the Digital Data.

§ 2.5 To the fullest extent permitted by law, the Receiving Party shall indemnify and defend the Transmitting Party from and against all claims arising from or related to the Receiving Party's modification to, or unlicensed use of, the Digital Data.

ARTICLE 3 LICENSE CONDITIONS

The parties agree to the following conditions on the limited license granted in Section 2.1:

(State below rights or restrictions applicable to the Receiving Party's use of the Digital Data, requirements for data format, transmission method or other conditions on data to be transmitted.)

§ 3.1 Architect-Engineer of Record (AER) makes no representation as to the compatibility of the Computer Aided Drafting/Building Information Model (CAD/BIM) files with any hardware or software.

§ 3.2 AER makes no representation regarding the accuracy, completeness, or permanence of CAD/BIM files, or for their merchantability or fitness for a particular purpose. Addenda information or revisions made after the date indicated on the CAD/BIM files may not have been incorporated. In the event of a conflict between the AER's sealed Contract Drawings and CAD/BIM files, the sealed Contract Drawings shall govern. It is the Contractor or Third Party's (OCT) responsibility to determine if any conflicts exist. The CAD/BIM files shall not be considered to be Contract Documents as defined by the General Conditions of the Contract for Construction.

§ 3.3 The use of CAD/BIM files prepared by the AER shall not in any way obviate the OCT's responsibility for the proper checking and coordination of dimensions, details, member sizes and gage, and quantities of materials as required to facilitate complete and accurate fabrication and erection.

§ 3.4 This Agreement shall be governed by the laws of the State of Missouri.

ARTICLE 4 LICENSING FEE OR OTHER COMPENSATION

(Paragraph deleted)

§ 4.1 Parties agree that there will be no compensation for files transmitted for the Work of this Project. Receiving Party agrees that under no circumstances will any claim for additional time or contract sum be allowed due to the transmission of the files under this Agreement. Furthermore, while Transmitting Party will attempt to transmit files requested in the time frame requested by the Receiving Party, Transmitting Party is under no obligation to meet any such schedule requirement. The Receiving Party is solely responsible for submitting a request for files in within a time period such that any delay in transmission does not impact the project schedule.

ARTICLE 5 DIGITAL DATA

The Parties agree that the following items constitute the Digital Data subject to the license granted in Section 2.1: *(Identify below, in detail, the information created or stored in digital form the parties intend to be subject to this Agreement.)*

All files transmitted for the Work of this Project.

This Agreement is entered into as of the day and year first written above and will terminate upon Substantial Completion of the Project, as that term is defined in AIA Document A201™-2007, General Conditions of the Contract for Construction.

(Indicate when this Agreement will terminate, if other than the date of Substantial Completion.)

TRANSMITTING PARTY *(Signature)*

Scott T. Pashia, AIA, Vice President, DLR Group
inc.

(Printed name and title)

RECEIVING PARTY *(Signature)*

(Printed name and title)

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections include the following:
 - 1. Section 013200 "Construction Progress Documentation" for developing a schedule of required tests and inspections.
 - 2. Section 017329 "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.
 - 3. Divisions 02 through 49 Sections for specific test and inspection requirements.
 - 4. Lee's Summit Design Criteria and Standard Specifications

1.3 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.4 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
1. Specification Section number and title.
 2. Description of test and inspection.
 3. Identification of applicable standards.
 4. Identification of test and inspection methods.
 5. Number of tests and inspections required.
 6. Time schedule or time span for tests and inspections.
 7. Entity responsible for performing tests and inspections.
 8. Requirements for obtaining samples.
 9. Unique characteristics of each quality-control service.
- C. Reports: Prepare and submit certified written reports that include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:

- a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 6. Demolish and remove mockups when directed, unless otherwise indicated.

1.6 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
 2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
 3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

- B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.

5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- G. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for the Notice to Proceed.
1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.7 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
- B. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
 - 2. Comply with the Contract Document requirements for Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

3.3 SCHEDULES

- A. Testing is required by applicable code. See the following Sections and the Drawings:
 - 1. Section 033000 "Cast-in-Place Concrete."
 - 2. Section 034100 "Precast Structural Concrete."
 - 3. Section 042000 "Unit Masonry."
 - 4. Section 051200 "Structural Steel Framing."
 - 5. Section 052100 "Steel Joist Framing"
 - 6. Section 053100 "Steel Decking."
 - 7. Section 312000 "Earthwork."
- B. Special inspections are specified in the following sections, and shall be performed by the indicated party:
 - 1. LS Section 2100 "Grading and Site Preparation"
 - 2. LS Section 2150 "Erosion and Sediment Control"

3. LS Section 2200 "Paving."
4. LS Section 2600 "Storm Sewers."
5. LS Section 3500 "Sanitary Sewers."
6. LS Section 3900 "Water Mains."

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if

REFERENCES

014200 - 1

bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

AABC	Associated Air Balance Council www.aabc.com	(202) 737-0202
AAMA	American Architectural Manufacturers Association www.aamanet.org	(847) 303-5664
AASHTO	American Association of State Highway and Transportation Officials www.transportation.org	(202) 624-5800
AATCC	American Association of Textile Chemists and Colorists www.aatcc.org	(919) 549-8141
ABMA	American Bearing Manufacturers Association www.americanbearings.org	(202) 367-1155
ACI	American Concrete Institute (Formerly: ACI International) www.concrete.org	(248) 848-3700
ACPA	American Concrete Pipe Association www.concrete-pipe.org	(972) 506-7216

REFERENCES

014200 - 2

AEIC	Association of Edison Illuminating Companies, Inc. (The) www.aeic.org	(205) 257-2530
AF&PA	American Forest & Paper Association www.afandpa.org	(800) 878-8878 (202) 463-2700
AGA	American Gas Association www.aga.org	(202) 824-7000
AHAM	Association of Home Appliance Manufacturers www.aham.org	(202) 872-5955
AHRI	Air-Conditioning, Heating, and Refrigeration Institute (The) www.ahrinet.org	(703) 524-8800
AI	Asphalt Institute www.asphaltinstitute.org	(859) 288-4960
AIA	American Institute of Architects (The) www.aia.org	(800) 242-3837 (202) 626-7300
AISC	American Institute of Steel Construction www.aisc.org	(800) 644-2400 (312) 670-2400
AISI	American Iron and Steel Institute www.steel.org	(202) 452-7100
AITC	American Institute of Timber Construction www.aitc-glulam.org	(303) 792-9559
AMCA	Air Movement and Control Association International, Inc. www.amca.org	(847) 394-0150
ANSI	American National Standards Institute www.ansi.org	(202) 293-8020
AOSA	Association of Official Seed Analysts, Inc. www.aosaseed.com	(607) 256-3313
APA	APA - The Engineered Wood Association www.apawood.org	(253) 565-6600
APA	Architectural Precast Association www.archprecast.org	(239) 454-6989
API	American Petroleum Institute www.api.org	(202) 682-8000

REFERENCES

014200 - 3

ARI	Air-Conditioning & Refrigeration Institute (See AHRI)	
ARI	American Refrigeration Institute (See AHRI)	
ARMA	Asphalt Roofing Manufacturers Association www.asphaltroofing.org	(202) 207-0917
ASCE	American Society of Civil Engineers www.asce.org	(800) 548-2723 (703) 295-6300
ASCE/SEI	American Society of Civil Engineers/Structural Engineering Institute (See ASCE)	
ASHRAE	American Society of Heating, Refrigerating and Air- Conditioning Engineers www.ashrae.org	(800) 527-4723 (404) 636-8400
ASME	ASME International (American Society of Mechanical Engineers) www.asme.org	(800) 843-2763 (973) 882-1170
ASSE	American Society of Safety Engineers (The) www.asse.org	(847) 699-2929
ASSE	American Society of Sanitary Engineering www.asse-plumbing.org	(440) 835-3040
ASTM	ASTM International (American Society for Testing and Materials International) www.astm.org	(610) 832-9500
ATIS	Alliance for Telecommunications Industry Solutions www.atis.org	(202) 628-6380
AWEA	American Wind Energy Association www.awea.org	(202) 383-2500
AWI	Architectural Woodwork Institute www.awinet.org	(571) 323-3636
AWMAC	Architectural Woodwork Manufacturers Association of Canada www.awmac.com	(403) 453-7387
AWPA	American Wood Protection Association (Formerly: American Wood-Preservers' Association)	(205) 733-4077

REFERENCES

014200 - 4

	www.awpa.com	
AWS	American Welding Society www.aws.org	(800) 443-9353 (305) 443-9353
AWWA	American Water Works Association www.awwa.org	(800) 926-7337 (303) 794-7711
BHMA	Builders Hardware Manufacturers Association www.buildershardware.com	(212) 297-2122
BIA	Brick Industry Association (The) www.gobrick.com	(703) 620-0010
BICSI	BICSI, Inc. www.bicsi.org	(800) 242-7405 (813) 979-1991
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association) www.bifma.com	(616) 285-3963
BISSC	Baking Industry Sanitation Standards Committee www.bissc.org	(866) 342-4772
BOCA	BOCA (Building Officials and Code Administrators International Inc.) (See ICC)	
BWF	Badminton World Federation (Formerly: International Badminton Federation) www.bwfbadminton.org	60 3 9283 7155
CDA	Copper Development Association www.copper.org	(800) 232-3282 (212) 251-7200
CEA	Canadian Electricity Association www.electricity.ca	(613) 230-9263
CEA	Consumer Electronics Association www.ce.org	(866) 858-1555 (703) 907-7600
CFFA	Chemical Fabrics & Film Association, Inc. www.chemicalfabricsandfilm.com	(216) 241-7333
CFSEI	Cold-Formed Steel Engineers Institute www.cfsei.org	(866) 465-4732 (202) 263-4488

REFERENCES

014200 - 5

CGA	Compressed Gas Association www.cganet.com	(703) 788-2700
CIMA	Cellulose Insulation Manufacturers Association www.cellulose.org	(888) 881-2462 (937) 222-2462
CISCA	Ceilings & Interior Systems Construction Association www.cisca.org	(630) 584-1919
CISPI	Cast Iron Soil Pipe Institute www.cispi.org	(404) 622-0073
CLFMI	Chain Link Fence Manufacturers Institute www.chainlinkinfo.org	(301) 596-2583
CPA	Composite Panel Association www.pbmdf.com	(703) 724-1128
CRI	Carpet and Rug Institute (The) www.carpet-rug.org	(706) 278-3176
CRRC	Cool Roof Rating Council www.coolroofs.org	(866) 465-2523 (510) 485-7175
CRSI	Concrete Reinforcing Steel Institute www.crsi.org	(800) 328-6306 (847) 517-1200
CSA	Canadian Standards Association www.csa.ca	(800) 463-6727 (416) 747-4000
CSA	CSA International (Formerly: IAS - International Approval Services) www.csa-international.org	(866) 797-4272 (416) 747-4000
CSI	Construction Specifications Institute (The) www.csinet.org	(800) 689-2900 (703) 684-0300
CSSB	Cedar Shake & Shingle Bureau www.cedarbureau.org	(604) 820-7700
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute) www.cti.org	(281) 583-4087
CWC	Composite Wood Council (See CPA)	
DASMA	Door and Access Systems Manufacturers Association www.dasma.com	(216) 241-7333

REFERENCES

014200 - 6

DHI	Door and Hardware Institute www.dhi.org	(703) 222-2010
ECA	Electronic Components Association www.ec-central.org	(703) 907-8024
ECAMA	Electronic Components Assemblies & Materials Association (See ECA)	
EIA	Electronic Industries Alliance (See TIA)	
EIMA	EIFS Industry Members Association www.eima.com	(800) 294-3462 (703) 538-1616
EJMA	Expansion Joint Manufacturers Association, Inc. www.ejma.org	(914) 332-0040
ESD	ESD Association (Electrostatic Discharge Association) www.esda.org	(315) 339-6937
ESTA	Entertainment Services and Technology Association (See PLASA)	
EVO	Efficiency Valuation Organization www.evo-world.org	(415) 367-3643 44 20 88 167 857
FIBA	Fédération Internationale de Basketball (The International Basketball Federation) www.fiba.com	41 22 545 00 00
FIVB	Fédération Internationale de Volleyball (The International Volleyball Federation) www.fivb.org	41 21 345 35 45
FM Approvals	FM Approvals LLC www.fmglobal.com	(781) 762-4300
FM Global	FM Global (Formerly: FMG - FM Global) www.fmglobal.com	(401) 275-3000
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc. www.floridarooft.com	(407) 671-3772
FSA	Fluid Sealing Association	(610) 971-4850

REFERENCES

014200 - 7

	www.fluidsealing.com	
FSC	Forest Stewardship Council U.S. www.fscus.org	(612) 353-4511
GA	Gypsum Association www.gypsum.org	(301) 277-8686
GANA	Glass Association of North America www.glasswebsite.com	(785) 271-0208
GS	Green Seal www.greenseal.org	(202) 872-6400
HI	Hydraulic Institute www.pumps.org	(973) 267-9700
HI/GAMA	Hydronics Institute/Gas Appliance Manufacturers Association (See AHRI)	
HMMA	Hollow Metal Manufacturers Association (See NAAMM)	
HPVA	Hardwood Plywood & Veneer Association www.hpva.org	(703) 435-2900
HPW	H. P. White Laboratory, Inc. www.hpwhite.com	(410) 838-6550
IAPSC	International Association of Professional Security Consultants www.iapsc.org	(415) 536-0288
IAS	International Approval Services (See CSA)	
ICBO	International Conference of Building Officials (See ICC)	
ICC	International Code Council www.iccsafe.org	(888) 422-7233 (202) 370-1800
ICEA	Insulated Cable Engineers Association, Inc. www.icea.net	(770) 830-0369
ICPA	International Cast Polymer Alliance www.icpa-hq.org	(703) 525-0511
ICRI	International Concrete Repair Institute, Inc.	(847) 827-0830

REFERENCES

014200 - 8

	www.icri.org	
IEC	International Electrotechnical Commission www.iec.ch	41 22 919 02 11
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The) www.ieee.org	(212) 419-7900
IES	Illuminating Engineering Society (Formerly: Illuminating Engineering Society of North America) www.ies.org	(212) 248-5000
IESNA	Illuminating Engineering Society of North America (See IES)	
IEST	Institute of Environmental Sciences and Technology www.iest.org	(847) 981-0100
IGMA	Insulating Glass Manufacturers Alliance www.igmaonline.org	(613) 233-1510
IGSHPA	International Ground Source Heat Pump Association www.igshpa.okstate.edu	(405) 744-5175
ILI	Indiana Limestone Institute of America, Inc. www.iliai.com	(812) 275-4426
Intertek	Intertek Group (Formerly: ETL SEMCO; Intertek Testing Service NA) www.intertek.com	(800) 967-5352
ISA	International Society of Automation (The) (Formerly: Instrumentation, Systems, and Automation Society) www.isa.org	(919) 549-8411
ISAS	Instrumentation, Systems, and Automation Society (The) (See ISA)	
ISFA	International Surface Fabricators Association (Formerly: International Solid Surface Fabricators Association) www.isfanow.org	(877) 464-7732 (801) 341-7360
ISO	International Organization for Standardization www.iso.org	41 22 749 01 11
ISSFA	International Solid Surface Fabricators Association	

REFERENCES

014200 - 9

(See ISFA)

ITU	International Telecommunication Union www.itu.int/home	41 22 730 51 11
KCMA	Kitchen Cabinet Manufacturers Association www.kcma.org	(703) 264-1690
LMA	Laminating Materials Association (See CPA)	
LPI	Lightning Protection Institute www.lightning.org	(800) 488-6864
MBMA	Metal Building Manufacturers Association www.mbma.com	(216) 241-7333
MCA	Metal Construction Association www.metalconstruction.org	(847) 375-4718
MFMA	Maple Flooring Manufacturers Association, Inc. www.maplefloor.org	(888) 480-9138
MFMA	Metal Framing Manufacturers Association, Inc. www.metalframingmfg.org	(312) 644-6610
MHIA	Material Handling Industry of America www.mhia.org	(800) 345-1815 (704) 676-1190
MIA	Marble Institute of America www.marble-institute.com	(440) 250-9222
MMPA	Moulding & Millwork Producers Association (Formerly: Wood Moulding & Millwork Producers Association) www.wmmpa.com	(800) 550-7889 (530) 661-9591
MPI	Master Painters Institute www.paintinfo.com	(888) 674-8937 (604) 298-7578
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc. www.mss-hq.org	(703) 281-6613
NAAMM	National Association of Architectural Metal Manufacturers www.naamm.org	(630) 942-6591
NACE	NACE International (National Association of Corrosion Engineers International)	(800) 797-6223 (281) 228-6200

REFERENCES

014200 - 10

	www.nace.org	
NADCA	National Air Duct Cleaners Association www.nadca.com	(202) 737-2926
NAIMA	North American Insulation Manufacturers Association www.naima.org	(703) 684-0084
NBGQA	National Building Granite Quarries Association, Inc. www.nbgqa.com	(800) 557-2848
NCAA	National Collegiate Athletic Association (The) www.ncaa.org	(317) 917-6222
NCMA	National Concrete Masonry Association www.ncma.org	(703) 713-1900
NEBB	National Environmental Balancing Bureau www.nebb.org	(301) 977-3698
NECA	National Electrical Contractors Association www.necanet.org	(301) 657-3110
NeLMA	Northeastern Lumber Manufacturers Association www.nelma.org	(207) 829-6901
NEMA	National Electrical Manufacturers Association www.nema.org	(703) 841-3200
NETA	InterNational Electrical Testing Association www.netaworld.org	(888) 300-6382 (269) 488-6382
NFHS	National Federation of State High School Associations www.nfhs.org	(317) 972-6900
NFPA	NFPA (National Fire Protection Association) www.nfpa.org	(800) 344-3555 (617) 770-3000
NFPA	NFPA International (See NFPA)	
NFRC	National Fenestration Rating Council www.nfrc.org	(301) 589-1776
NHLA	National Hardwood Lumber Association www.nhla.com	(800) 933-0318 (901) 377-1818
NLGA	National Lumber Grades Authority	(604) 524-2393

REFERENCES

014200 - 11

	www.nlga.org	
NOFMA	National Oak Flooring Manufacturers Association (See NWFA)	
NOMMA	National Ornamental & Miscellaneous Metals Association www.nomma.org	(888) 516-8585
NRCA	National Roofing Contractors Association www.nrca.net	(800) 323-9545 (847) 299-9070
NRMCA	National Ready Mixed Concrete Association www.nrmca.org	(888) 846-7622 (301) 587-1400
NSF	NSF International (National Sanitation Foundation International) www.nsf.org	(800) 673-6275 (734) 769-8010
NSPE	National Society of Professional Engineers www.nspe.org	(703) 684-2800
NSSGA	National Stone, Sand & Gravel Association www.nssga.org	(800) 342-1415 (703) 525-8788
NTMA	National Terrazzo & Mosaic Association, Inc. (The) www.ntma.com	(800) 323-9736
NWFA	National Wood Flooring Association www.nwfa.org	(800) 422-4556 (636) 519-9663
PCI	Precast/Prestressed Concrete Institute www.pci.org	(312) 786-0300
PDI	Plumbing & Drainage Institute www.pdionline.org	(800) 589-8956 (978) 557-0720
PLASA	PLASA (Formerly: ESTA - Entertainment Services and Technology Association) www.plasa.org	(212) 244-1505
RCSC	Research Council on Structural Connections www.boltcouncil.org	
RFCI	Resilient Floor Covering Institute www.rfci.com	(706) 882-3833
RIS	Redwood Inspection Service www.redwoodinspection.com	(925) 935-1499

REFERENCES

014200 - 12

SAE	SAE International (Society of Automotive Engineers) www.sae.org	(877) 606-7323 (724) 776-4841
SBCCI	Southern Building Code Congress International, Inc. (See ICC)	
SCTE	Society of Cable Telecommunications Engineers www.scte.org	(800) 542-5040 (610) 363-6888
SDI	Steel Deck Institute www.sdi.org	(847) 458-4647
SDI	Steel Door Institute www.steeldoor.org	(440) 899-0010
SEFA	Scientific Equipment and Furniture Association www.sefalabs.com	(877) 294-5424 (516) 294-5424
SEI/ASCE	Structural Engineering Institute/American Society of Civil Engineers (See ASCE)	
SIA	Security Industry Association www.siaonline.org	(866) 817-8888 (703) 683-2075
SJI	Steel Joist Institute www.steeljoist.org	(843) 293-1995
SMA	Screen Manufacturers Association www.smainfo.org	(773) 636-0672
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association www.smacna.org	(703) 803-2980
SMPTE	Society of Motion Picture and Television Engineers www.smpte.org	(914) 761-1100
SPFA	Spray Polyurethane Foam Alliance www.sprayfoam.org	(800) 523-6154
SPIB	Southern Pine Inspection Bureau www.spib.org	(850) 434-2611
SPRI	Single Ply Roofing Industry www.spri.org	(781) 647-7026

SRCC	Solar Rating and Certification Corporation www.solar-rating.org	(321) 638-1537
SSINA	Specialty Steel Industry of North America www.ssina.com	(800) 982-0355 (202) 342-8630
SSPC	SSPC: The Society for Protective Coatings www.sspc.org	(877) 281-7772 (412) 281-2331
STI	Steel Tank Institute www.steeltank.com	(847) 438-8265
SWI	Steel Window Institute www.steelwindows.com	(216) 241-7333
SWPA	Submersible Wastewater Pump Association www.swpa.org	(847) 681-1868
TCA	Tilt-Up Concrete Association www.tilt-up.org	(319) 895-6911
TCNA	Tile Council of North America, Inc. (Formerly: Tile Council of America) www.tileusa.com	(864) 646-8453
TEMA	Tubular Exchanger Manufacturers Association, Inc. www.tema.org	(914) 332-0040
TIA	Telecommunications Industry Association (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance) www.tiaonline.org	(703) 907-7700
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance (See TIA)	
TMS	The Masonry Society www.masonrysociety.org	(303) 939-9700
TPI	Truss Plate Institute www.tpinst.org	(703) 683-1010
TPI	Turfgrass Producers International www.turfgrassod.org	(800) 405-8873 (847) 649-5555
TRI	Tile Roofing Institute www.tilerroofing.org	(312) 670-4177

UBC	Uniform Building Code (See ICC)	
UL	Underwriters Laboratories Inc. www.ul.com	(877) 854-3577
UNI	Uni-Bell PVC Pipe Association www.uni-bell.org	(972) 243-3902
USAV	USA Volleyball www.usavolleyball.org	(888) 786-5539 (719) 228-6800
USGBC	U.S. Green Building Council www.usgbc.org	(800) 795-1747
USITT	United States Institute for Theatre Technology, Inc. www.usitt.org	(800) 938-7488 (315) 463-6463
WASTEC	Waste Equipment Technology Association www.wastec.org	(800) 424-2869 (202) 244-4700
WCLIB	West Coast Lumber Inspection Bureau www.wclib.org	(800) 283-1486 (503) 639-0651
WCMA	Window Covering Manufacturers Association www.wcmanet.org	(212) 297-2122
WDMA	Window & Door Manufacturers Association www.wdma.com	(800) 223-2301 (312) 321-6802
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California) www.wicnet.org	(916) 372-9943
WMMPA	Wood Moulding & Millwork Producers Association (See MMPA)	
WSRCA	Western States Roofing Contractors Association www.wsrca.com	(800) 725-0333 (650) 938-5441
WWPA	Western Wood Products Association www.wwpa.org	(503) 224-3930

- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

DIN	Deutsches Institut für Normung e.V. www.din.de	49 30 2601-0
IAPMO	International Association of Plumbing and Mechanical Officials www.iapmo.org	(909) 472-4100
ICC	International Code Council www.iccsafe.org	(888) 422-7233
ICC-ES	ICC Evaluation Service, LLC www.icc-es.org	(800) 423-6587 (562) 699-0543

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

COE	Army Corps of Engineers www.usace.army.mil	(202) 761-0011
CPSC	Consumer Product Safety Commission www.cpsc.gov	(800) 638-2772 (301) 504-7923
DOC	Department of Commerce National Institute of Standards and Technology www.nist.gov	(301) 975-4040
DOD	Department of Defense http://dodssp.daps.dla.mil	(215) 697-2664
DOE	Department of Energy www.energy.gov	(202) 586-9220
EPA	Environmental Protection Agency www.epa.gov	(202) 272-0167
FAA	Federal Aviation Administration www.faa.gov	(866) 835-5322
FG	Federal Government Publications www.gpo.gov	(202) 512-1800
GSA	General Services Administration www.gsa.gov	(800) 488-3111 (202) 619-8925
HUD	Department of Housing and Urban Development www.hud.gov	(202) 708-1112

LBL	Lawrence Berkeley National Laboratory Environmental Energy Technologies Division http://eetd.lbl.gov	(510) 486-4000
OSHA	Occupational Safety & Health Administration www.osha.gov	(800) 321-6742
SD	Department of State www.state.gov	(202) 647-4000
TRB	Transportation Research Board National Cooperative Highway Research Program www.trb.org	(202) 334-2934
USDA	Department of Agriculture Agriculture Research Service U.S. Salinity Laboratory www.ars.usda.gov	(202) 720-3656
USDA	Department of Agriculture Rural Utilities Service www.usda.gov	(202) 720-2791
USDJ	Department of Justice Office of Justice Programs National Institute of Justice www.ojp.usdoj.gov	(202) 307-0703
USP	U.S. Pharmacopeia www.usp.org	(800) 227-8772 (301) 881-0666
USPS	United States Postal Service www.usps.com	(202) 268-2000

- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web sites are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

CFR	Code of Federal Regulations Available from Government Printing Office www.gpo.gov/fdsys	(866) 512-1800 (202) 512-1800
DOD	Department of Defense Military Specifications and Standards Available from Department of Defense Single Stock Point http://dodssp.daps.dla.mil	(215) 697-2664

(Formerly: California Department of Health Services)
(See CCR)

CDPH	California Department of Public Health Indoor Air Quality Program www.cal-iaq.org	
CPUC	California Public Utilities Commission www.cpuc.ca.gov	(800) 848-5580 (415) 703-2782
SCAQM D	South Coast Air Quality Management District www.aqmd.gov	(909) 396-2000
TFS	Texas Forest Service Forest Resource Development and Sustainable Forestry http://txforests-service.tamu.edu	(979) 458-6606

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.
 - 2. Section 014200 "References" for applicable industry standards for products specified.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor through Construction Manager of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 012500 "Substitution Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.
2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. **Manufacturer's Warranty:** Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 2. **Special Warranty:** Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. **Special Warranties:** Prepare a written document that contains appropriate terms and identification, ready for execution.
1. **Manufacturer's Standard Form:** Modified to include Project-specific information and properly executed.
 2. **Specified Form:** When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. **Submittal Time:** Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
- B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

- b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.
 - D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:
 1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.

LEE'S SUMMIT MIDDLE SCHOOL #4
PACKAGE 2 – STRUCTURAL & SITE UTILITIES
LEE'S SUMMIT, MISSOURI

13-20102-00
28 AUGUST 2020
PERMIT SET

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

PRODUCT REQUIREMENTS

016000 - 6

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. General installation of products.
 - 2. Construction layout.
 - 3. Field engineering and surveying.
 - 4. General installation of products.
 - 5. Coordination of Owner-installed products.
 - 6. Progress cleaning.
 - 7. Starting and adjusting.
 - 8. Protection of installed construction.
 - 9. Correction of the Work.
- B. Related Sections include the following:
 - 1. Section 013100 "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
 - 2. Section 013300 "Submittal Procedures" for submitting surveys.
 - 3. Section 017329 "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
 - 4. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work.
 - b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 4. Examine roofs for suitable conditions where products and systems are to be installed.
 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before

fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Allow for building movement, including thermal expansion and contraction.
 - 2. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 OWNER-INSTALLED PRODUCTS

- A. Site Access: Provide access to Project site for Owner's construction forces.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces.
 - 1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.
 - 2. Preinstallation Conferences: Include Owner's construction forces at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction forces if portions of the Work depend on Owner's construction.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

- F. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- G. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- H. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Section 014000 "Quality Requirements."

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.8 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Section 017329 "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. Related Sections include the following:
 - 1. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Section 017900 "Demonstration and Training" for requirements for instructing Owner's personnel.
 - 4. Divisions 02 through 49 Sections for specific closeout and special cleaning requirements for the Work in those Sections.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

5. Prepare and submit Project Record Documents, operation and maintenance manuals, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
 6. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 7. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 8. Complete startup testing of systems.
 9. Submit test/adjust/balance records.
 10. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 11. Advise Owner of changeover in heat and other utilities.
 12. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 13. Complete final cleaning requirements, including touchup painting.
 14. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 01 Section "Payment Procedures."
 2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report and warranty.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Architect and Construction Manager will either proceed with inspection or notify Contractor of

unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.5 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit copy of list to Architect for review. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Page number.

1.6 WARRANTIES

- A. Submittal Time: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 1. Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.
 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 4. Provide CD with electronic files of all warranties in PDF format, indexed and organized same as warranty binder in an orderly manner acceptable to the Owner.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals as instructed by Architect or Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.

- g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - m. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to unusual operating conditions.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - s. Leave Project clean and ready for occupancy.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests. Prepare a report.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Emergency manuals.
 - 3. Operation manuals for systems, subsystems, and equipment.
 - 4. Maintenance manuals for the care and maintenance of products, materials, finishes, systems, and equipment.
- B. Related Sections include the following:
 - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Section 017700 "Closeout Procedures" for submitting operation and maintenance manuals.
 - 3. Section 017839 "Project Record Documents" for preparing Record Drawings for operation and maintenance manuals.
 - 4. Divisions 02 through 49 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

1.3 SUBMITTALS

- A. Initial Submittal: Submit 1 draft copy of each manual at least 15 days before requesting inspection for Substantial Completion. Include a complete operation and maintenance directory. Architect will return one copy of draft and mark whether general scope and content of manual are acceptable.
 - 1. Submit CD of electronic files of each document included in the Operation and Maintenance Manual, indexed and ordered same as Operations and Maintenance Manual.
- B. Final Submittal: Submit one copy of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 15 days after final inspection.

1. Correct or modify each manual to comply with Architect's comments. Submit 1 copy of each corrected manual within 15 days of receipt of Architect's comments.
2. Submit CD of electronic files of each document included in the Operation and Maintenance Manuals, indexed and ordered same as Operations and Maintenance Manual, organized in an orderly manner acceptable to the Owner.

1.4 COORDINATION

- A. Where operation and maintenance documentation includes information on installations by more than one factory-authorized service representative, assemble and coordinate information furnished by representatives and prepare manuals.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Organization: Include a section in the directory for each of the following:
 1. List of documents.
 2. List of systems.
 3. List of equipment.
 4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 1. Title page.

2. Table of contents.
 3. Manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. Include the following information:
1. Subject matter included in manual.
 2. Name and address of Project.
 3. Name and address of Owner.
 4. Date of submittal.
 5. Name, address, and telephone number of Contractor.
 6. Name and address of Architect.
 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
 - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software diskettes for computerized electronic equipment.
 4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

- b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
 1. System, subsystem, and equipment descriptions.
 2. Performance and design criteria if Contractor is delegated design responsibility.
 3. Operating standards.
 4. Operating procedures.
 5. Operating logs.
 6. Wiring diagrams.
 7. Control diagrams.
 8. Piped system diagrams.
 9. Precautions against improper use.
 10. License requirements including inspection and renewal dates.
- B. Descriptions: Include the following:
 1. Product name and model number.
 2. Manufacturer's name.
 3. Equipment identification with serial number of each component.
 4. Equipment function.
 5. Operating characteristics.
 6. Limiting conditions.
 7. Performance curves.
 8. Engineering data and tests.
 9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include the following, as applicable:
 1. Startup procedures.
 2. Equipment or system break-in procedures.
 3. Routine and normal operating instructions.
 4. Regulation and control procedures.
 5. Instructions on stopping.
 6. Normal shutdown instructions.
 7. Seasonal and weekend operating instructions.
 8. Required sequences for electric or electronic systems.
 9. Special operating instructions and procedures.
- D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

- E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.4 PRODUCT MAINTENANCE MANUAL

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.
- C. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- D. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

2.5 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product,

list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual.

- C. **Manufacturers' Maintenance Documentation:** Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard printed maintenance instructions and bulletins.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- D. **Maintenance Procedures:** Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
 6. Demonstration and training videotape, if available.
- E. **Maintenance and Service Schedules:** Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
1. **Scheduled Maintenance and Service:** Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 2. **Maintenance and Service Record:** Include manufacturers' forms for recording maintenance.
- F. **Spare Parts List and Source Information:** Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. **Maintenance Service Contracts:** Include copies of maintenance agreements with name and telephone number of service agent.
- H. **Warranties and Bonds:** Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
 - 1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 - 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - 1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.
 - 2. Comply with requirements of newly prepared Record Drawings in Section 017839 "Project Record Documents."
- G. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

OPERATION AND MAINTENANCE DATA

017823 - 7

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Sections include the following:
 - 1. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Divisions 02 through 49 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up Record Prints.
 - 2. Submit CD with electronic files in PDF format of all record drawings organized as stated herein and as acceptable to the Owner.
- B. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications.
 - 1. Submit CD with electronic files in PDF format of all Project specifications, including addenda and contract modifications organized as stated herein and as acceptable to the Owner.
- C. Record Product Data: Submit one copy of each Product Data submittal.

1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.
2. Submit CD with electronic files in PDF format of all Record Product Data organized as stated herein and as acceptable to the Owner.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations below first floor.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Transparencies: Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Architect. When authorized, prepare a full set of corrected transparencies of the Contract Drawings and Shop Drawings.
1. Incorporate changes and additional information previously marked on Record Prints. Erase, redraw, and add details and notations where applicable.
 2. Refer instances of uncertainty to Architect for resolution.
 3. Owner will furnish Contractor one set of transparencies of the Contract Drawings for use in recording information.
 4. Print the Contract Drawings and Shop Drawings for use as Record Transparencies. Architect will make the Contract Drawings available to Contractor's print shop.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
 3. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.

5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839

SECTION 031230 – GEOFOAM CONCRETE FORMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. System Description:
 - 1. Provide Geo-foam blocks to provide supporting formwork for concrete floor slabs.
- B. Related Sections include the following:
 - 1. Section 033000 "Cast-in-Place Concrete" for concrete reinforcing and slabs poured on top of permanent form system.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect plastic insulation as follows:
 - 1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
 - 2. Protect against ignition at all times. Do not deliver plastic insulating materials to project site before installation time.
 - 3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, manufacturers offering cold-formed metal framing that may be incorporated into the work include, but are not limited to, the following:

1. ACH Foam Technologies, Inc.; phone 913-321-4114; www.achfoam.com.
2. Foam Products Corporation; St. Louis, MO; phone 314-739-8100; www.fpcfoam.com.
3. Insulfoam, a Carlisle Company.
4. NoArk Enterprises, Inc.; Little Rock, AR; phone 501-945-1114; www.noarkcontrol.com.
5. Universal Construction Foam; phone 410-285-8300;
www.universalconstructionfoam.com.

2.2 MATERIALS

- A. Molded, Rigid Cellular Polystyrene Geo-foam Blocks: Comply with manufacturer's requirements, ASTM D6817 for Type EPS15, and the following:
1. Minimum Density: 0.90 pounds per cubic foot.
 2. Flame-Spread and Smoke-Developed Indexes: 25 and 450 or less, respectively, per ASTM E 84.
 3. Minimum Compressive Resistance: at 1% deformation = 3.6 pounds per square inch (518 pounds per square foot).
 4. Blocks shall contain no CFC's, HCFC's, HFC's, or formaldehyde.

2.3 FABRICATION

- A. Fabricate geo-foam blocks, square, and true to dimension.
- B. Factory cut individual blocks for delivery to site and installation without the need for subsequent field cutting.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting substrates and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Install system in compliance with Drawings and manufacturer's recommendations.

END OF SECTION 031230

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - 1. Footings.
 - 2. Slabs-on-grade.
 - 3. Walls.
 - 4. Slabs on metal decks.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with fly ash; subject to compliance with requirements.
- B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures each with its own identification number when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Indicate the minimum following information:
 - 1. Mix Identification Number.
 - 2. Mix-use type.
 - 3. Required 28-day compressive strength.
 - 4. Cement content.
 - 5. Coarse aggregate type and quantity.
 - 6. Fine aggregate type and quantity.
 - 7. Total aggregate gradation.
 - 8. Water quantity.

9. Admixture types and quantity.
 10. Slump measurement.
 11. Air content.
 12. 28-day shrinkage rate.
 13. 28-day concrete strength test.
 14. Alkali Silicate Reactivity (ASR).
 15. Chloride-ion content.
 16. Amounts of mixing water to be withheld for later addition at Project site.
- D. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
- E. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer, licensed in the state which the project is located, detailing fabrication, assembly, and support of formwork.
- F. Concrete Slab Plans:
1. Indicate all construction, contraction, control and expansion joints, as well as proposed start and stop of concrete pour joints.
 2. Indicate all sloped slab areas at floor drains. Label depth of floor drain and shape/ extent of sloped area surrounding drain.
 3. Indicate all slab recess areas. Dimension extents in plan, and depth of recess.
- G. Welding certificates.
- H. Qualification Data: For manufacturer and testing agency.
- I. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
- J. Material Certificates: For each of the following, signed by manufacturers:
1. Cementitious materials.
 2. Admixtures.
 3. Form materials and form-release agents.
 4. Steel reinforcement and accessories.
 5. Waterstops.
 6. Curing compounds.
 7. Bonding agents.
 8. Adhesives.
 9. Vapor retarders.
 10. Semi-rigid joint filler.
 11. Joint-filler strips.

12. Repair materials.

- K. Floor surface flatness and levelness measurements to determine compliance with specified tolerances.
- L. Field quality-control test reports.
- M. Minutes of preinstallation conference.

1.5 QUALITY ASSURANCE

- A. Installer of concrete topping slabs indicated to receive polished concrete finish and structural cast-in-place concrete slab shall be the same as installer for polished concrete finishes.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.
 - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
 - 2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- D. Moisture Vapor Reduction Admixture Testing Agent Qualifications:
 - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
- E. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
- F. Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel."
- G. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
 - 1. ACI 301, "Specification for Structural Concrete," Sections 1 through 5."

2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- H. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- I. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Sections.
1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixtures.
 - c. Ready-mix concrete manufacturer.
 - d. Concrete subcontractor.
 - e. Architect.
 2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, forms and form removal limitations, shoring and reshoring procedures, anchor rod and anchorage device installation tolerances, steel reinforcement installation, concrete repair procedures, and concrete protection.
- J. Protection: No satisfactory chemical or cleaning procedure is available to remove petroleum stains from the concrete surface. Prevention is therefore essential. Protect areas to receive a sealed concrete finish during construction to prevent oils, dirt, metal, excessive water and other damaging materials from affecting the finished concrete surface. Protection measures listed below shall begin immediately after the concrete slab is poured:
1. Hydraulic powered equipment shall be diapered to avoid staining of the concrete.
 2. Vehicle parking shall be prohibited on the finish slab area. If necessary to complete their scope of work, drop cloths shall be placed under vehicles at all times.
 3. No pipe cutting machine shall be used on the finish floor slab.
 4. Steel shall not be placed on the finish slab to avoid rusting.
 5. Acids and acidic detergents will not come in contact with slab.
 6. All equipment used on the finish slab shall be equipped with non-marking tires.
 7. Painters shall use drop cloths on the concrete. Remove paint stains immediately.
 8. Construction trades shall be informed that the slab must be protected at all times.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

1.7 WARRANTY

A. Moisture Vapor Reduction Admixture (MVRA):

1. MVRA must be installed according to, and in compliance with, the manufacturer's published data sheet to include, but not limited to:
 - a. Dosing instructions.
 - b. Onsite representation requirements.
 - c. Use of an ASTM E 1745 vapor retarder installed following ASTM E 1643 and ASTM F710 guidelines; slabs on deck do not require a vapor retarder.
2. Manufacturer's Warranty: To include:
 - a. Term: Life of the concrete.
 - b. Repair and/or removal of failed flooring or roofing.
 - c. Placement of a topical moisture remediation system.
 - d. Replacement of flooring/roofing materials like original installed to include material and labor.
3. Adhesion Warranty: MVRA Manufacturer shall provide an adhesion warranty to match the term of the adhesive and/or primer manufacturer's material defect warranty upon MVRA manufacturer's acceptance of field bond test.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
 2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 CONCRETE, GENERAL

- A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:
 1. ACI 301.
 2. ACI 117.

2.3 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, or other approved panel materials.
 - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - a. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Forms for Pedestals and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that will produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.
- D. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch (19 by 19 mm), minimum.
- E. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- F. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- G. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that will leave no corrodible metal closer than 1 inch (25 mm) to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, will leave holes no larger than 1 inch (25 mm) in diameter in concrete surface.
 - 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.4 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- C. Plain-Steel Wire: ASTM A 82, as drawn.

- D. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.

2.5 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel bars, cut bars true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete.
 - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.6 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 - 1. Portland Cement: ASTM C 150, Type I/II, gray Supplement with the following at contractor's option for concrete other than slabs and flatwork:
 - a. Fly Ash: ASTM C 618, Class C.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials. Coarse aggregate shall be from a source and ledge approved by Missouri Department of Transportation.
 - 1. Maximum Coarse-Aggregate Size: As indicated.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M and potable.

2.7 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
- C. Moisture Vapor Reduction Admixture: For use in all interior slabs on ground and elevated floor slabs on metal deck.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Barrier One Incorporated; High Performance Concrete Admixture or comparable product by one of the following:
 - a. Concure Systems; High Performance Concrete Admixture.
 - b. ISE Logik Industries; MVRA 900 Admixture.
 - c. Moxie; Shield 1800 Admixture.
 - d. The Specialty Products Group; Vapor Lock 20/20.
 - e. Failure to provide a product that meets or exceeds the MVRA warranty requirements of Part 1 and the MVRA field quality control requirements of Part 3 will result in all subsequent testing and slab remediation costs being born by the ready mix supplier.
 2. Description: Concrete moisture vapor reduction admixture for all interior slabs on ground and elevated floor slabs on metal deck shall be a non-toxic liquid admixture specifically designed to have a natural chemical reaction with pre-existing elements inside the concrete to eliminate the route of moisture vapor emission through the slab by restricting the integral capillary system. Chemical reaction shall form a permanent barrier (capillary break) that is integral to the concrete, insoluble, and irremovable.

2.8 WATERSTOPS

- A. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch (19 by 25 mm).
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Colloid Environmental Technologies Company; Volclay Waterstop-RX.
 - b. Concrete Sealants Inc.; Conseal CS-231.
 - c. Greenstreak; Swellstop.
 - d. Henry Company, Sealants Division; Hydro-Flex.
 - e. JP Specialties, Inc.; Earthshield Type 20.
 - f. Progress Unlimited, Inc.; Superstop.
 - g. TCMiraDRI; Mirastop.

2.9 VAPOR RETARDERS

- A. Plastic Vapor Retarder: ASTM E 1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Fortifiber Corporation; Moistop Ultra, 15 mils.
 - b. Insulation Solutions, Inc.: Viper Vaporcheck, 16 mils.
 - c. Raven Industries Inc.; Vapor Block, 15 mils.
 - d. Stego Industries, LLC; Stego Wrap, 15 mils.
- B. Granular Fill: Clean mixture of crushed stone or crushed or uncrushed gravel; ASTM D 448, Size 57, with 100 percent passing a 1-1/2-inch (37.5-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve placed below the vapor retarder.
1. Install and compact at 4 inches minimum depth, unless otherwise indicated on the Drawings.

2.10 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Axim Concrete Technologies; Cimfilm.
 - b. Burke by Edoco; BurkeFilm.
 - c. ChemMasters; Spray-Film.
 - d. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Aquafilm.
 - e. Dayton Superior Corporation; Sure Film.
 - f. Euclid Chemical Company (The); Eucobar.
 - g. Kaufman Products, Inc.; Vapor Aid.
 - h. Lambert Corporation; Lambco Skin.
 - i. L&M Construction Chemicals, Inc.; E-Con.
 - j. MBT Protection and Repair, Div. of ChemRex; Confilm.
 - k. Meadows, W. R., Inc.; Sealtight Evapre.
 - l. Metalcrete Industries; Waterhold.
 - m. Nox-Crete Products Group, Kinsman Corporation; Monofilm.
 - n. Sika Corporation, Inc.; SikaFilm.
 - o. Spec Chem; Spec Film RTU.
 - p. Symons Corporation, a Dayton Superior Company; Finishing Aid.
 - q. Unitex; Pro-Film.
 - r. US Mix Products Company; US Spec Monofilm ER.
 - s. Vexcon Chemicals, Inc.; Certi-Vex EnvioAssist.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

- C. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
 - b. Burke by Edoco; Aqua Resin Cure.
 - c. ChemMasters; Safe-Cure Clear.
 - d. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; W.B. Resin Cure.
 - e. Dayton Superior Corporation; Day Chem Rez Cure (J-11-W).
 - f. Euclid Chemical Company (The); Kurez DR VOX.
 - g. Kaufman Products, Inc.; Thinfilm 420.
 - h. Lambert Corporation; Aqua Kure-Clear.
 - i. L&M Construction Chemicals, Inc.; L&M Cure R.
 - j. Meadows, W. R., Inc.; 1100 Clear.
 - k. Nox-Crete Products Group, Kinsman Corporation; Resin Cure E.
 - l. Spec Chem; Spec REZ.
 - m. Symons Corporation, a Dayton Superior Company; Resi-Chem Clear Cure.
 - n. Tamms Industries, Inc.; Horncure WB 30.
 - o. Unitex; Hydro Cure 309.
 - p. US Mix Products Company; US Spec Maxcure Resin Clear.
 - q. Vexcon Chemicals, Inc.; Certi-Vex Enviocure 100.

2.11 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1752, cork or self-expanding cork.
- B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- C. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
 1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- D. Reglets: Fabricate reglets of not less than 0.0217-inch- (0.55-mm-) thick, galvanized steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.

2.12 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by underlayment manufacturer.
 4. Compressive Strength: Not less than 4100 psi (29 MPa) at 28 days when tested according to ASTM C 109/C 109M.
- B. Repair Overlay: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3.2 to 6 mm) or coarse sand as recommended by topping manufacturer.
 4. Compressive Strength: Not less than 5000 psi (34.5 MPa) at 28 days when tested according to ASTM C 109/C 109M.

2.13 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
1. Fly Ash: 15 percent.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.3 percent by weight of cement.
- D. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
 3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.

2.14 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Proportion normal-weight concrete mixtures to equal or exceed the minimum 28 day concrete compressive strength and other specified criteria indicated on the drawings.
- B. Slabs-on-grade and elevated floor slabs-on-metal deck: Comply with Paragraph 2.16.A and as follows:
 - 1. Moisture Vapor Reduction Admixture: Dose at 14 ounces per 100 pounds of total cementitious materials. Remove an equal amount of water from the mix. Add separately from other admixtures at the tail end of the load.

2.15 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.16 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and furnish batch ticket information.
 - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
 - 1. Class A, 1/8 inch (3.2 mm) for smooth-formed finished surfaces.
 - 2. Class B, 1/4 inch (6 mm) for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.

1. Install keyways, reglets, recesses, and the like, for easy removal.
 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
 2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.

3.3 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.
1. Leave formwork for structural elements that supports weight of concrete in place until concrete has achieved at least 75 percent of its 28-day design compressive strength.

2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 VAPOR RETARDERS

A. Plastic Vapor Retarders: Place, protect, and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions.

1. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended tape.
2. Seal around all penetrations with manufacturer's recommended tape.

3.5 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

1. Weld reinforcing bars according to AWS D1.4, where indicated.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset

F. laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.6 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
 2. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 3. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 4. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
 5. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 6. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3.2 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3.2-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface unless otherwise indicated.
 2. Terminate full-width joint-filler strips not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished concrete surface where joint sealants, specified in Section 079200 "Joint Sealants," are indicated.
 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.7 WATERSTOPS

- A. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

3.8 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 and if specifically approved by the Architect.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
 - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 4. Slope surfaces uniformly to drains where required.
 - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

- F. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below 40 deg F (4.4 deg C) for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- G. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.9 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Apply to concrete surfaces not exposed to public view such as mechanical rooms and storage rooms where cast-in-place concrete walls occur.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.
1. Apply to concrete surfaces exposed to public view.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.10 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch (6 mm) in 1 direction.
1. Apply scratch finish to surfaces to receive concrete floor toppings.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces to receive trowel finish.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
 2. Finish surfaces to the following tolerances, according to ASTM E 1155 (ASTM E 1155M), for a randomly trafficked floor surface:
 - a. Specified overall values of flatness, F(F) 35; and of levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and of levelness, F(L) 17; for slabs-on-grade with carpet, ceramic tile, sheet flooring, vinyl tile and other thin flooring materials, and at areas with no floor covering.
 - b. Specified overall values of flatness, F(F) 50; and of levelness, F(L) 40; with minimum local values of flatness, F(F) 40; and of levelness, F(L) 35; for gymnasiums.
 - c. Specified overall values of flatness, F(F) 35; with minimum local values of flatness, F(F) 20; for elevated slabs and toppings.
- E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces indicated where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom
- F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

3.11 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.
 - 1. Construct concrete bases 4 inches ((100 mm)) high unless otherwise indicated; and extend base not less than 6 inches (150 mm) in each direction beyond the maximum dimensions of supported equipment unless otherwise indicated or unless required for seismic anchor support.
- D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel-finish concrete surfaces.

3.12 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less

than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

- a. Cure concrete surfaces to receive floor coverings with a moisture-retaining cover.
2. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
 - a. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.

3.13 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
- B. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.
- C. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- D. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches (50 mm) deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.14 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 (1.18-mm) sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension in solid concrete, but not less than 1 inch (25 mm) in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch (6 mm) to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch (19-mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 7. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.15 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner shall engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Inspections:
1. Steel reinforcement placement.
 2. Steel reinforcement welding.
 3. Headed bolts and studs.
 4. Verification of use of required design mixture.
 5. Concrete placement, including conveying and depositing.
 6. Curing procedures and maintenance of curing temperature.
 7. Verification of concrete strength before removal of shores and forms from beams and slabs.
- C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 - b. Either 6-inch diameter by 12-inch cylinders or 4-inch diameter by 8-inch cylinders are acceptable.
 - c. Cylinder diameter shall be at least three times the nominal maximum coarse aggregate size if the mix being tested.
 - d. All cylinders of a class of concrete shall be the same size.
 2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
 3. Air Content: ASTM C 231, pressure method at point of placement, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
 5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 6. Compression Test Specimens: ASTM C 31/C 31M.
 - a. A set of test cylinders shall consist of a minimum of four standard cylinder specimens for each composite sample. The number per set may be greater depending on the cylinder sizes.

7. Compressive-Strength Tests: ASTM C 39/C 39M; test one cylinder of the laboratory-cured specimens at 7 days and one set of at least two cylinders at 28 days.
 - a. Test one cylinder of a set at 7 days and one set of two 6" by 12" cylinders or three 4" by 8" cylinders at 28 days.
 - b. One cylinder shall be retained in reserve to be tested as directed by the Engineer.
 - c. A compressive-strength test shall be the average compressive strength from a set of at least two cylinders obtained from the same composite sample and tested at age indicated.
8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa). Maintenance of test data records required for evaluation and acceptance of concrete strengths per ACI 318 shall be by the Contractor.
9. When the aforementioned acceptance criteria are not met the Contractor shall evaluate operations and steps shall be taken to increase the average of subsequent strength test results.
10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
14. Correct deficiencies in the Work that test reports and inspections indicate does not comply with the Contract Documents.

D. Testing of Slabs Containing MVRA:

1. The moisture vapor reduction admixture (MVRA) manufacturer will perform all moisture testing in accordance with this specification and will issue project specific warranties prior to installation of any slab finishes; no further field slab moisture nor pH testing shall be required.
 - a. Failure to provide a product that meets or exceeds these requirements will result in all subsequent testing and slab remediation costs being borne by the contractor.

2. A representative or agent of the moisture vapor reduction admixture (MVRA) manufacturer must be present at the jobsite during placement of all MVRA treated concrete. Do not proceed without this representative being present.
3. Field testing technician shall, at the expense of the MVRA Manufacturer, procure at least one 4 inch (102 mm) cylinder from every day of placement of MVRA dosed concrete for the purpose of subsequent hydraulic conductivity/coefficient of permeability testing.
4. All cylinders shall be independently lab tested in accordance with ASTM D 5084 at the expense of the MVRA manufacturer.
5. Test results must conform to specified limits.
 - a. Should any cylinder from any day of placement deliver results in excess of $6.0 \text{ E-}08$ cm/sec, the concrete moisture vapor reduction admixture manufacturer shall procure, at their expense, a core (or cores) from that day of placement. This core (cores) shall be sent to an independent laboratory for hydraulic conductivity (coefficient or permeability) per ASTM D 5084.
 - b. Should any core deliver results in excess of $6.0 \text{ E-}08$ cm/sec per ASTM D 5084, the concrete moisture vapor reduction admixture manufacturer shall provide, at their expense, a topical moisture mitigation system for all areas not meeting the stated limit.
6. Proceeding with placement of concrete dosed with the MVRA without the required representation will result in the contractor bearing the cost to core and ship appropriate material for testing per ASTM D 5084.

END OF SECTION 033000

SECTION 051200 – STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Structural steel.
- 2. Grout.

- B. Related Sections:

- 1. Division 01 Sections for independent testing agency procedures and administrative requirements.
- 2. Section 053100 "Steel Decking" for field installation of shear connectors through deck.
- 3. Section 055000 "Metal Fabrications" for miscellaneous steel fabrications and other metal items not defined as structural steel.
- 4. Section 055100 "Metal Stairs."

1.3 DEFINITIONS

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

- B. Heavy Sections: Rolled and built-up sections as follows:

- 1. Shapes included in ASTM A 6/A 6M with flanges thicker than 1-1/2 inches (38 mm).
- 2. Welded built-up members with plates thicker than 2 inches (50 mm).
- 3. Column base plates thicker than 2 inches (50 mm).

1.4 PERFORMANCE REQUIREMENTS

- A. Connections: Provide details of simple shear connections required by the Contract Documents to be selected or completed by structural-steel fabricator, including comprehensive engineering design by a qualified professional engineer licensed in the state which the project is located, to withstand loads indicated and comply with other information and restrictions indicated.

- 1. Select and complete connections using schematic details indicated and AISC 360

2. Use LRFD; data are given at factored-load level.
3. For beams where no factored shear reaction is indicated, design connections to sustain one half the maximum uniform load for span length indicated in AISC 360, Table 3-6.

B. Moment Connections: Type FR, fully restrained.

C. Construction: As indicated.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
2. Include embedment drawings.
3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.
5. For structural-steel connections indicated to comply with design loads, include structural design data signed and sealed by the qualified professional engineer, licensed in the state in which the project is located, responsible for their preparation.
 - a. Calculations must be submitted with the shop drawings for review.
 - b. Indicate all applicable piece marks on calculations sheets.
 - c. Design simple shear connections for maximum factored reaction indicated. If no reaction has been indicated, design simple shear connections to withstand one-half the maximum uniform load for the given beam span noted in the AISC Steel Construction Manual Table.
 - d. Design moment connections for factored reactions indicated. If no reaction is provided, design the moment connection for the maximum available moment capacity of the smaller beam member framing into the joint.
 - e. Design axial loaded members of trusses and bracing for the factored reactions indicated. If no reaction is indicated, design the member for the maximum tension and compression forces available to the member based on size and length. All bolted connection design shall account for net area reduction of the members.

C. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing, including the following:

1. Power source (constant current or constant voltage).
2. Electrode manufacturer and trade name, for demand critical welds.

D. Qualification Data: For qualified Installer, fabricator, professional engineer, and testing agency.

1. Qualification Data must be submitted to Engineer prior to commencing work.
- E. Welding certificates.
- F. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
- G. Mill test reports for structural steel, including chemical and physical properties.
- H. Product Test Reports: For the following:
 1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
 2. Direct-tension indicators.
 3. Tension-control, high-strength bolt-nut-washer assemblies.
 4. Shear stud connectors.
 5. Shop primers.
 6. Nonshrink grout.
- I. Source quality-control reports.

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.
 1. As an exception, non-AISC certified fabricators will be accepted provided the fabricator includes in their bid the services of the owner's special inspection and testing agency to provide inspection/testing services for in-shop work to meet the requirements of IBC Section 1704 and any additional requirements noted in the construction documents. Final costs of these services will be as required by the owner's special inspection and testing agency, which may or may not be hired at the time of bidding the project. It will be the fabricator's responsibility for estimating these costs. Cost will be withheld from the fabricator to pay for these services. Refer to IBC Section 1705 for verification and inspection requirements.
 2. All inspection costs incurred by the Owner's inspection and testing agency for this exception will be tracked and invoiced to the owner independently of other special inspection costs to allow withholding from the relevant contractor's regular payments.
- B. Installer Qualifications: Engage an experienced Installer who has completed structural steel work similar in material, design and extent to that indicated for this Project and with a record of continuous successful in-service performance for a minimum of 5 years. Installer shall provide a list of projects completed within the last 5 years and shall include the names of the Architect, Engineer and General Contractor with contact information for each.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.

D. Comply with applicable provisions of the following specifications and documents:

1. AISC 303.
2. AISC 341 and AISC 341s1.
3. AISC 360.
4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

E. Preinstallation Conference: Conduct conference at Project site.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.

1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.

C. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.

D. Clean and relubricate bolts and nuts that become dry or rusty before use.

E. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

1.8 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

- A. W-Shapes: ASTM A 992/A 992M.
- B. Channels, Angles, S-Shapes: ASTM A 36/A 36M.
- C. Plate and Bar: ASTM A 36/A 36M, unless otherwise indicated on Drawings.
- D. Plate and Bar for Plate Girders: ASTM A 992 (Grade 50). ASTM A 572, Grade 50 is an acceptable substitute.
- E. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.
- F. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
 - 1. Weight Class: Standard, unless otherwise indicated.
 - 2. Finish: Black except where indicated to be galvanized.
- G. Steel Castings: ASTM A 216/A 216M, Grade WCB with supplementary requirement S11.
- H. Steel Forgings: ASTM A 668/A 668M.
- I. Welding Electrodes: Comply with AWS requirements.

2.2 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.
 - 1. Direct-Tension Indicators: ASTM F 959, Type 325 (ASTM F 959M, Type 8.8), compressible-washer type with plain finish.
- B. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, heavy-hex head assemblies consisting of steel structural bolts with splined ends, heavy-hex carbon-steel nuts, and hardened carbon-steel washers.
 - 1. Finish: Plain.
- C. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.
- D. Headed Anchor Rods: ASTM F 1554, Grade 55, weldable, straight.
 - 1. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.

2. Plate Washers: ASTM A 36/A 36M carbon steel.
3. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
4. Finish: Plain.

E. Threaded Rods: ASTM A 36/A 36M.

1. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
2. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
3. Finish: Plain, unless otherwise indicated.

F. Clevises and Turnbuckles: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1035.

G. Eye Bolts and Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1030.

H. Sleeve Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1018.

2.3 PRIMER

- A. Primer: Fabricator's standard gray color, lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.
- B. Galvanizing Repair Paint: ASTM A 780.

2.4 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

2.5 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
 1. Camber structural-steel members where indicated.
 2. Fabricate beams with rolling camber up.
 3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
 4. Mark and match-mark materials for field assembly.
 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.
- C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 1, "Solvent Cleaning" and at architecturally exposed steel SSPC SP 3, "Power Tool Cleaning."
- F. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.
- G. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.
 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
 2. Baseplate Holes: Cut, drill, or punch holes perpendicular to steel surfaces.
 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.6 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 1. Joint Type: Snug tightened, unless otherwise indicated.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.

2.7 SHOP PRIMING

- A. Shop prime steel surfaces except the following:
 1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
 2. Surfaces to be field welded.
 3. Surfaces to be high-strength bolted with slip-critical connections.
 4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
 5. Galvanized surfaces.

- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

2.8 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
 - 1. Fill vent and drain holes that will be exposed in the finished Work unless they will function as weep holes, by plugging with zinc solder and filing off smooth.
 - 2. Galvanize lintels and shelf angles attached to structural-steel frame and located in exterior walls. Galvanize all structural steel not located in conditioned space in the final construction.

2.9 SOURCE QUALITY CONTROL

- A. This article is not applicable if fabricator is an "approved fabricator" by the Jurisdiction Having Authority in accordance with the building code. All shop testing and inspections costs incurred by the Owner's inspection and testing agency will be made payable by the fabricator. See Drawing Sheet S0.1 for further information and requirements. Submit approval certification to Architect/Engineer prior to commencing work.
- B. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
 - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
- C. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- D. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

- E. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
1. Liquid Penetrant Inspection: ASTM E 165.
 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 3. Ultrasonic Inspection: ASTM E 164.
 - a. Test all Complete Joint Penetration (CJP) welds.
 4. Radiographic Inspection: ASTM E 94.
- F. In addition to visual inspection, shop-welded shear connectors will be tested and inspected according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
1. Bend tests will be performed if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 2. Tests will be conducted on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 - 2. Weld plate washers to top of baseplate.
 - 3. Snug tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
 - 4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
- C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure.
 - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.
- E. Splice members only where indicated.
- F. Do not use thermal cutting during erection.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.
- H. Shear Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1/D1.1M and manufacturer's written instructions.

3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - 1. Joint Type: Snug-tightened.

- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
 - 2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
 - 3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.
- B. Bolted Connections: Bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- C. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.
 - 1. In addition to visual inspection, field welds will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - c. Ultrasonic Inspection: ASTM E 164.
 - 1) Test all Complete Joint Penetration (CJP) welds.
 - d. Radiographic Inspection: ASTM E 94.
 - 2. Ultrasonic Inspection shall be performed on all complete joint penetration welds and other welds indicated.
- D. In addition to visual inspection, test and inspect field-welded shear connectors according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
 - 1. Perform bend tests if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
 - 2. Conduct tests on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.
- E. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780.
- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
 - 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
- C. Touchup Painting: Cleaning and touchup painting are specified in Division 09 painting Sections.

END OF SECTION 051200

SECTION 052100 - STEEL JOIST FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. K-series steel joists.
- 2. LH- and DLH-series long-span steel joists.
- 3. Joist accessories.

- B. Related Requirements:

- 1. Section 033000 "Cast-in-Place Concrete" for installing bearing plates in concrete.
- 2. Section 051200 "Structural Steel Framing" for field-welded shear connectors.

1.3 DEFINITIONS

- A. SJI's "Specifications": Steel Joist Institute's "Standard Specifications, Load Tables and Weight Tables for Steel Joists and Joist Girders."
- B. Special Joists: Steel joists or requiring modification by manufacturer to support nonuniform, unequal, or special loading conditions that invalidate load tables in SJI's "Specifications."

1.4 SUBMITTALS

- A. Product Data: For each type of joist, accessory, and product.

- B. Shop Drawings:

- 1. Include layout, designation, number, type, location, and spacing of joists.
- 2. Include joining and anchorage details, bracing, bridging, and joist accessories; splice and connection locations and details; and attachments to other construction.
- 3. Indicate locations and details of bearing plates to be embedded in other construction.
- 4. Comprehensive engineering analysis of special joists signed and sealed by the qualified professional engineer licensed in the state which the project is located, responsible for its preparation, and included with the shop drawing submittal. Shop drawings without signed and sealed calculations will be considered incomplete and grounds for rejection.

- C. Qualification Data: For manufacturer and professional engineer.
- D. Welding certificates.
- E. Manufacturer certificates: Signed by manufacturer certifying that joist comply with requirements.
- F. Mill Certificates: Signed by bolt manufacturer certifying that bolts comply with requirements.
- G. Field quality-control test and inspection reports.
- H. Research/Evaluation Reports: For joists.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A manufacturer certified by SJI to manufacture joists complying with applicable standard specifications and load tables in SJI's "Specifications."
 - 1. Manufacturer's responsibilities include providing professional engineering services for designing special joists to comply with performance requirements.
- B. SJI Specifications: Comply with standard specifications in SJI's "Specifications" that are applicable to types of joists indicated.
- C. Welding Qualifications: Qualify field-welding procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle joists as recommended in SJI's "Specifications."
- B. Protect joists from corrosion, deformation, and other damage during delivery, storage, and handling.

1.7 SEQUENCING

- A. Deliver steel bearing plates to be built into cast-in-place concrete and masonry construction.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide special joists and connections capable of withstanding design loads indicated.

- B. Design special joists to withstand design loads with live-load deflections no greater than the following:

- 1. Roof Joists: Vertical deflection of $1/360$ of the span.

2.2 K-SERIES STEEL JOISTS

- A. Manufacture steel joists of type indicated according to "Standard Specifications for Open Web Steel Joists, K-Series" in SJI's "Specifications," with steel-angle top- and bottom-chord members, underslung ends, and parallel top chord.
 - 1. Joist Type: K-series steel joists and KCS-type K-series steel joists.
- B. Steel Joist Substitutes: Manufacture according to "Standard Specifications for Open Web Steel Joists, K-Series" in SJI's "Specifications," with steel-angle or -channel members.
- C. Comply with AWS requirements and procedures for shop welding, appearance, quality of welds, and methods used in correcting welding work.
- D. Provide holes in chord members for connecting and securing other construction to joists.
- E. Top-Chord Extensions: Extend top chords of joists with SJI's Type S top-chord extensions where indicated, complying with SJI's "Specifications."
- F. Extended Ends: Extend bearing ends of joists with SJI's Type R extended ends where indicated, complying with SJI's "Specifications."
- G. Camber joists according to SJI's "Specifications."
- H. Equip bearing ends of joists with manufacturer's standard beveled ends or sloped shoes if joist slope exceeds $1/4$ inch per 12 inches.

2.3 LONG-SPAN STEEL JOISTS

- A. Manufacture steel joists according to "Standard Specifications for Longspan Steel Joists, LH-Series and Deep Longspan Steel Joists, DLH-Series" in SJI's "Specifications," with steel-angle top- and bottom-chord members; of joist type and end and top-chord arrangements as indicated.
- B. Comply with AWS requirements and procedures for shop welding, appearance, quality of welds, and methods used in correcting welding work.
- C. Provide holes in chord members for connecting and securing other construction to joists.
- D. Camber long-span steel joists according to SJI's "Specifications."
- E. Equip bearing ends of joists with manufacturer's standard beveled ends or sloped shoes if joist slope exceeds $1/4$ inch per 12 inches.

2.4 PRIMERS

- A. Primer: SSPC-Paint 15, or manufacturer's standard shop primer complying with performance requirements in SSPC-Paint 15.
- B. Primer: Provide shop primer that complies with Division 09 painting Sections.

2.5 JOIST ACCESSORIES

- A. Bridging: Provide bridging anchors and number of rows of horizontal or diagonal bridging of material, size, and type required by SJI's "Specifications" for type of joist, chord size, spacing, and span. Furnish additional erection bridging if required for stability.
- B. Fabricate steel bearing plates from ASTM A 36/A 36M steel with integral anchorages of sizes and thicknesses indicated. Shop prime paint.
- C. Steel bearing plates with integral anchorages are specified in Section 051200 "Structural Steel Framing."
- D. Furnish ceiling extensions, either extended bottom-chord elements or a separate extension unit of enough strength to support ceiling construction. Extend ends to within 1/2 inch of finished wall surface unless otherwise indicated.
- E. Carbon-Steel Bolts and Threaded Fasteners: ASTM A 307, Grade A, carbon-steel, hex-head bolts and threaded fasteners; carbon-steel nuts; and flat, unhardened steel washers.
 - 1. Finish: Plain, uncoated, unless otherwise noted.
- F. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.
 - 1. Finish: Plain, unless otherwise indicated.
- G. Welding Electrodes: Comply with AWS standards.
- H. Furnish miscellaneous accessories including splice plates and bolts required by joist manufacturer to complete joist assembly.

2.6 CLEANING AND SHOP PAINTING

- A. Clean and remove loose scale, heavy rust, and other foreign materials from fabricated joists and accessories by hand-tool cleaning, SSPC-SP 2 or power-tool cleaning, SSPC-SP 3.
- B. Do not prime paint joists and accessories to receive sprayed fire-resistive materials.
- C. Apply one coat of shop primer to joists and joist accessories to be primed to provide a continuous, dry paint film not less than 1 mil thick.

- D. Shop priming of joists and joist accessories is specified in Division 09 Painting Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting substrates, embedded bearing plates, and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Do not install joists until supporting construction is in place and secured.
- B. Install joists and accessories plumb, square, and true to line; securely fasten to supporting construction according to SJI's "Specifications," joist manufacturer's written recommendations, and requirements in this Section.
 - 1. Before installation, splice joists delivered to Project site in more than one piece.
 - 2. Space, adjust, and align joists accurately in location before permanently fastening.
 - 3. Install temporary bracing and erection bridging, connections, and anchors to ensure that joists are stabilized during construction.
 - 4. Delay rigidly connecting bottom-chord extensions to columns or supports until dead loads are applied.
- C. Field weld joists to supporting steel bearing plates and framework. Coordinate welding sequence and procedure with placement of joists. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
- D. Bolt joists to supporting steel framework using carbon-steel bolts.
- E. Bolt joists to supporting steel framework using high-strength structural bolts. Comply with Research Council on Structural Connection's "Specification for Structural Joints Using ASTM A 325 or ASTM A 490 Bolts" for high-strength structural bolt installation and tightening requirements.
- F. Install and connect bridging concurrently with joist erection, before construction loads are applied. Anchor ends of bridging lines at top and bottom chords if terminating at walls or beams.

3.3 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and bolted connections and to perform field tests and inspections and prepare test and inspection reports.
- B. Visually inspect field welds according to AWS D1.1/D1.1M.
 - 1. In addition to visual inspection, test field welds according to AWS D1.1/D1.1M and the following procedures, as applicable:
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709.
 - c. Ultrasonic Testing: ASTM E 164.
 - d. Radiographic Testing: ASTM E 94.
- C. Visually inspect bolted connections.
- D. High-strength, field-bolted connections will be tested and verified according to procedures in RCSC's "Specification for Structural Joints Using ASTM A 325 or ASTM A 490 Bolts."
- E. Correct deficiencies in Work that test and inspection reports have indicated are not in compliance with specified requirements.
- F. Perform additional testing to determine compliance of corrected Work with specified requirements.

3.4 PROTECTION

- A. Touchup Painting: After installation, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists, bearing plates, abutting structural steel, and accessories.
 - 1. Clean and prepare surfaces by hand-tool cleaning according to SSPC-SP 2, or power-tool cleaning according to SSPC-SP 3.
 - 2. Apply a compatible primer of same type as primer used on adjacent surfaces.
- B. Touchup Painting: Cleaning and touchup painting are specified in Division 09 painting Sections.
- C. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer that ensure that joists and accessories are without damage or deterioration at time of Substantial Completion.

END OF SECTION 052100

SECTION 053100 - STEEL DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Roof deck.
 - 2. Acoustical roof deck.
 - 3. Composite floor deck.
- B. Related Sections include the following:
 - 1. Section 033000 "Cast-in-Place Concrete" for concrete fill on metal decks.
 - 2. Section 051200 "Structural Steel Framing" for shop- and field-welded shear connectors.
 - 3. Section 055000 "Metal Fabrications" for framing deck openings with miscellaneous steel shapes.

1.3 SUBMITTALS

- A. Product Data: For each type of deck, accessory, and product indicated.
- B. Shop Drawings: Show layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.
- C. Product Certificates: For each type of steel deck, signed by product manufacturer.
- D. Welding certificates.
- E. Field quality-control test and inspection reports.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that each of the following complies with requirements:
 - 1. Power-actuated mechanical fasteners.
 - 2. Acoustical roof deck.
- G. Research/Evaluation Reports: For steel deck.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency qualified according to ASTM E 329 for testing indicated.
- B. Welding: Qualify procedures and personnel according to AWS D1.3, "Structural Welding Code - Sheet Steel."
- C. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members."
- D. FMG Listing: Provide steel roof deck evaluated by FMG and listed in its "Approval Guide, Building Materials" for Class 1 fire rating and Class 1-90 windstorm ratings.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or pre-approved equal:
 - 1. Steel Deck:
 - a. ASC Profiles, Inc.
 - b. Canam Steel Corp.;The Canam Manac Group.
 - c. Consolidated Systems, Inc.
 - d. DACS, Inc.
 - e. D-Mac Industries Inc.
 - f. Epic Metals Corporation.
 - g. Marlyn Steel Decks, Inc.
 - h. Metal Dek Group; Unit of Csi.
 - i. New Millennium Building Systems, LLC.
 - j. Nucor Corp.; Vulcraft Division.
 - k. Roof Deck, Inc.
 - l. United Steel Deck, Inc.
 - m. Valley Joist; Division of EBSCO Industries, Inc.
 - n. Verco Manufacturing Co.

- o. Wheeling Corrugating Company; Div. of Wheeling-Pittsburgh Steel Corporation.

2.2 ROOF DECK

- A. Steel Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 30, and with the following:
 1. Prime-Painted Steel Sheet: ASTM A 1008/A 1008M, Structural Steel (SS), Grade 33 (230) minimum, shop primed with manufacturer's standard baked-on, rust-inhibitive primer.
 - a. Color: Manufacturer's standard gray.
 2. Deck Profile: As indicated.
 3. Profile Depth: As indicated.
 4. Design Uncoated-Steel Thickness: As indicated.
 5. Span Condition: Triple or more span.
 6. Side Laps: Overlapped.

2.3 ACOUSTICAL ROOF DECK

- A. Acoustical Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with "SDI Specifications and Commentary for Steel Roof Deck," in SDI Publication No. 31, and with the following:
 1. Prime-Painted Steel Sheet: ASTM A 1008/A 1008M, Structural Steel (SS), Grade 33 minimum, shop primed with manufacturer's standard baked-on, rust-inhibitive primer.
 - a. Color: Manufacturer's standard.
 2. Deck Profile: As indicated.
 3. Profile Depth: As indicated.
 4. Design Uncoated-Steel Thickness: As indicated.
 5. Span Condition: Triple span or more.
 6. Side Laps: Overlapped.
 7. Acoustical Perforations: Deck units with manufacturer's standard perforated vertical webs.
 8. Sound-Absorbing Insulation: Manufacturer's standard premolded roll or strip of glass or mineral fiber. Provide to roofing contractor to install.
- B. Acoustical Performance: NRC 0.70, tested according to ASTM C 423.

2.4 ACOUSTICAL DOVETAIL ROOF DECK

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Epic Metals Corporation; Epicore ER2RA or an approved equal.
- B. Acoustical Dovetail Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with “SDI Specifications and Commentary for Steel Roof Deck,” in SDI Publication No. 30, and with the following
1. The acoustical panels shall be cold-formed from steel coils conforming to ASTM A 653, structural quality, with a minimum yield strength of 40 ksi.
 2. Before forming, the steel coils shall have received a hot-dip protective coating of zinc conforming to ASTM A 924, Class G60, as defined in ASTM A 653.
 3. Deck Profile: As indicated.
 4. Profile Depth: As indicated.
 5. Design Uncoated-Steel Thickness: As indicated.
 6. Span Condition: Triple span.
- C. Fabrication:
1. The acoustical dovetail roof deck and ceiling system panels shall have continuous dovetail shaped ribs.
 2. The acoustical dovetail roof deck and ceiling system panels shall have full depth positive registering sidelaps that can be fastened by welds or screws.
 3. Acoustical dovetail roof deck and ceiling system panels shall be fabricated with perforations. The perforated areas shall be located in the bottom flat areas between the dovetail shaped ribs. Dovetail ribs shall be spaced at nominally 6 inches on center. A minimum NRC value of 0.95 shall be provided. This value shall be established by sound absorption tests without the use of fiberglass insulation above the panels.
 4. Sound-Absorbing Insulation: Manufacturer’s standard premolded roll or strip of glass or mineral fiber.
 - a. Installation of sound-absorbing insulation is specified in Section 075419 “Polyvinyl Chloride (PVC) Roofing”.
 - b. Acoustical Performance: NRC 0.95 tested according to ASTM C 423.
- D. Wedge nut hanging devices shall be installable and relocatable along the length of the interior ribs of the acoustical roof deck panels. The manufacturer’s product data shall be consulted for minimum spacing, load capacities, and proper installation procedure of the wedge nut hanging devices.
- E. The manufacturer’s standard ridge plates, valley plates, transition plates, and closures shall be provided as indicated on the Drawings.
- F. Acoustic elements shall be provided for installation above the perforations in the bottom flat area between the dovetail shaped ribs. To facilitate field painting of the perforated surfaces, the sound absorbing elements shall be supported above the surface by spacers. Sound absorbing elements and spacers shall be furnished under this specification section for installation by the roofing contractor.

2.5 COMPOSITE FLOOR DECK

- A. Composite Steel Floor Deck: Fabricate panels, with integrally embossed or raised pattern ribs and interlocking side laps, to comply with "SDI Specifications and Commentary for Composite Steel Floor Deck," in SDI Publication No. 30, with the minimum section properties indicated, and with the following:
1. Galvanized Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 50 (275), G60 (Z180) zinc coating.
 2. Profile Depth: As indicated.
 3. Design Uncoated-Steel Thickness: As indicated.
 4. Span Condition: Triple or more span.

2.6 ACCESSORIES

- A. General: Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.
- B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.
- C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 (4.8-mm) minimum diameter.
- D. Flexible Closure Strips: Vulcanized, closed-cell, synthetic rubber.
- E. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of 33,000 psi (230 MPa), not less than 0.0359-inch (0.91-mm) design uncoated thickness, of same material and finish as deck; of profile indicated or required for application.
- F. Pour Stops and Girder Fillers: Steel sheet, minimum yield strength of 33,000 psi (230 MPa), of same material and finish as deck, and of thickness and profile recommended by SDI Publication No. 30 for overhang and slab depth.
- G. Column Closures, End Closures, Z-Closures, and Cover Plates: Steel sheet, of same material, finish, and thickness as deck, unless otherwise indicated.
- H. Piercing Hanger Tabs: Piercing steel sheet hanger attachment devices for use with floor deck.
- I. Weld Washers: Uncoated steel sheet, shaped to fit deck rib, 0.0598 inch (1.52 mm) thick, with factory-punched hole of 3/8-inch (9.5-mm) minimum diameter.
- J. Flat Sump Plate: Single-piece steel sheet, 0.0747 inch (1.90 mm) thick, of same material and finish as deck. For drains, cut holes in the field.
- K. Galvanizing Repair Paint: ASTM A 780.
- L. Repair Paint: Manufacturer's standard rust-inhibitive primer of same color as primer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine supporting frame and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance.

3.2 INSTALLATION, GENERAL

- A. Install deck panels and accessories according to applicable specifications and commentary in SDI Publication No. 30, manufacturer's written instructions, and requirements in this Section.
- B. Install temporary shoring before placing deck panels, if required to meet deflection limitations.
- C. Locate deck bundles to prevent overloading of supporting members.
- D. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.
- E. Place deck panels flat and square and fasten to supporting frame without warp or deflection.
- F. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.
- G. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of deck, and support of other work.
- H. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.
- I. Mechanical fasteners may be used in lieu of welding to fasten deck, except at perimeter edges of deck. Locate mechanical fasteners and install according to deck manufacturer's written instructions. Mechanical fasteners must meet the same pull out and shear values as welds. Engineering calculations must be provided for Engineer's review.

3.3 ROOF-DECK INSTALLATION

- A. Fasten roof-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated or arc seam welds with an equal perimeter that is not less than 1-1/2 inches (38 mm) long, and as follows:
 - 1. Weld Diameter: 5/8 inch (16 mm) nominal.
 - 2. Weld Spacing: Space welds As Indicated.
 - 3. Weld Washers: Install weld washers at each weld location.

- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports as indicated:
 - 1. Mechanically fasten with self-drilling, No. 10 (4.8-mm-) diameter or larger, carbon-steel screws.
- C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches (38 mm), with end joints as follows:
 - 1. End Joints: Lapped 2 inches (51 mm) minimum.
- D. Roof Sump Pans and Sump Plates: Install over openings provided in roof deck and weld flanges to top of deck. Space welds not more than 12 inches (305 mm) apart with at least one weld at each corner.
 - 1. Install reinforcing channels or zees in ribs to span between supports and weld.
- E. Miscellaneous Roof-Deck Accessories: Install ridge and valley plates, finish strips, end closures, and reinforcing channels according to deck manufacturer's written instructions. Weld to substrate to provide a complete deck installation.
 - 1. Weld cover plates at changes in direction of roof-deck panels, unless otherwise indicated.
- F. Flexible Closure Strips: Install flexible closure strips over partitions, walls, and where indicated. Install with adhesive according to manufacturer's written instructions to ensure complete closure.

3.4 FLOOR-DECK INSTALLATION

- A. Fasten floor-deck panels to steel supporting members by arc spot (puddle) welds of the surface diameter indicated and as follows:
 - 1. Weld Diameter: 5/8 inch (16 mm) nominal.
 - 2. Weld Spacing: Weld edge ribs of panels at each support. Space additional welds an average of 12 inches (305 mm) apart, but not more than 18 inches (457 mm) apart.
- B. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of half of the span or 36 inches (910 mm), and as follows:
 - 1. Mechanically fasten with self-drilling, No. 10 (4.8-mm-) diameter or larger, carbon-steel screws.
 - 2. Mechanically clinch or button punch.
 - 3. Fasten with a minimum of 1-1/2-inch- (38-mm-) long welds at deck perimeter edge.
- C. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches (38 mm) with end joints as follows:

1. End Joints: Butted.
- D. Pour Stops and Girder Fillers: Weld steel sheet pour stops and girder fillers to supporting structure according to SDI recommendations, unless otherwise indicated.
- E. Floor-Deck Closures: Weld steel sheet column closures, cell closures, and Z-closures to deck, according to SDI recommendations, to provide tight-fitting closures at open ends of ribs and sides of deck.
- F. Install piercing hanger tabs at 14 inches (355 mm) apart in both directions, within 9 inches (228 mm) of walls at ends, and not more than 12 inches (305 mm) from walls at sides, unless otherwise indicated.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Field welds will be subject to inspection.
- C. Testing agency will report inspection results promptly and in writing to Contractor and Architect.
- D. Remove and replace work that does not comply with specified requirements.
- E. Additional inspecting, at Contractor's expense, will be performed to determine compliance of corrected work with specified requirements.

3.6 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Repair Painting: Wire brush and clean rust spots, welds, and abraded areas on both surfaces of prime-painted deck immediately after installation, and apply repair paint.
 1. Apply repair paint, of same color as adjacent shop-primed deck, to bottom surfaces of deck exposed to view.
- C. Provide final protection and maintain conditions to ensure that steel deck is without damage or deterioration at time of Substantial Completion.

END OF SECTION 053100