



SHAWNEE MISSION
SCHOOL DISTRICT

Project Manual

**New Scoreboard Structure for:
SMSD District Stadium, North Location
Shawnee Mission School District**

January 23, 2018

ACI / Boland, Inc.
Architects & Planners

Project No. 3-17582



New Scoreboard Structure for:
SMSD District Stadium, North Location
Shawnee Mission School District

3-17582

**New Scoreboard Structure for:
SMSD District Stadium, North Location**

For the:

**BOARD OF EDUCATION:
SHAWNEE MISSION SCHOOL DISTRICT**

8200 W. 71st St.
Shawnee Mission, Kansas 66204
Office: 913-993-6200

ARCHITECT:

ACI / BOLAND, INC.
1710 Wyandotte St.
Kansas City, Missouri 64108
Office: 816-763-9600

STRUCTURAL ENGINEER:

Bob D. Campbell & Co., Inc.
4338 Belleview Ave
Kansas City MO 64111-3515
Office: 816-531-4144
Fax: 816-531-8572

**MECHANICAL /ELECTRICAL /PLUMBING
ENGINEER:**

Malone, Finkle, Eckhardt, and Collins
7780 W. 119th St.
Overland Park, Kansas 66213
Office: 913-322-1400

Specification Date:

January 23, 2018

Architect's Project No.: 3-17582



SHAWNEE MISSION
SCHOOL DISTRICT

SHAWNEE MISSION UNIFIED SCHOOL
DISTRICT NO. 512

Return sealed envelope to:

Shawnee Mission Unified Schools
Purchasing Department
8200 W. 71st St.
Shawnee Mission, Kansas 66204

ATTN: Mr. Everett Morgan

**E-MAILED OR FAXED BIDS
WILL NOT BE ACCEPTED.**

DATE: **January 26, 2018**

BID NO. **18-007**

BID TITLE: **New Scoreboard Structure for: SMSD
District Stadium, North Location**

Bids will be accepted until and then publicly opened on:

Date: **February 14, 2018**

Day: **Wednesday**

Time: **2:00 p.m.**

**Terms, conditions and specifications under which bids
are requested are included. Please review thoroughly.**

You are invited to bid on: **New Scoreboard Structure for: SMSD District Stadium, North Location** for the Shawnee Mission Unified Schools per the enclosed terms, conditions and specifications, F.O.B. to Destination, Freight Prepaid and Added. **FREIGHT COSTS TO SMSD PROJECT LOCATION MUST BE INCLUDED IN THE BID PRICE(S).**

We are enclosing only one copy of the bid specifications. **Please return (2) completed bid form(s) and one (1) electronic copy on a flash drive.**

Bid price is to be lump sum total including all materials, equipment, labor, insurance, fees, transportation, storage, services and supervision for the work identified per the specification and drawings herein. Payment will be made **ON COMPLETION** of Purchase Order. **DO NOT INCLUDE SALES TAX.**

Any questions regarding the bid documents should be directed to **ACI / Boland, Inc.**, via email to Brad Kramer at bkramer@aciboland.com, or by phone at **(816) 763-9600**, no later than three days prior to the bid opening.

Questions regarding bid procedures may be directed in writing to the Purchasing Department; Attn: Everett Morgan via E-Mail, everettmorgan@smsd.org ; or FAX: 913/993-6225.

THIS BID IS NOT TRANSFERABLE

NOTE: Bid Number and Name of Bidder must appear on the front of sealed envelope. **Faxed bids will not be accepted.** Bids must be received in the Purchasing Office prior to bid opening. If sending by U.S. Postal Service, please allow a minimum of 24 hours for your bid to be processed and delivered to the Purchasing Office by the Administrative Mail Center. It is the responsibility of the bidder to ensure delivery of bids to the Purchasing Department. Bidders shall hold all bid prices firm for acceptance for 90 calendar days after date of bid opening.

Bid results will be posted on the smsd.org website within approximately 5 working days after the bid opening. Go to: Public Information; Purchasing/Bidding; Bids and Bid Summaries.

Additionally, you may review the bid results in the Purchasing Office during the hours of 8:00 AM to 4:30 PM.

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A Geotechnical Report prepared for this project by Kaw Valley Engineering, Inc.
dated July 27, 2017 is included and intended for reference use only.

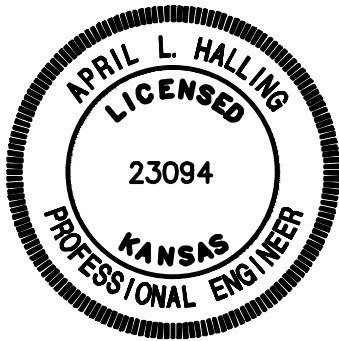
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DISCLAIMER OF RESPONSIBILITY

I HEREBY STATE THAT ALL DOCUMENTS INTENDED TO BE AUTHENTICATED BY MY SEAL ARE LIMITED TO DRAWINGS E1.

AND HEREBY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER SPECIFICATIONS, ESTIMATES, REPORTS OR OTHER DOCUMENTS OR INSTRUMENTS RELATED TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT.

SEAL:



April L. Halling

Digitally signed by April L. Halling
Contact Info: ahalling@mtec.com
Date: 2018.01.23 15:02:47-06'00'

Name: April L. Halling
Registration No.: Kansas No. 23094
Discipline: Electrical
Title: Project Manager
Company Name: Malone, Finkle, Eckhardt & Collins

New Scoreboard Structure for:
SMSD District Stadium, North Location
Shawnee Mission School District

3-17582

DISCLAIMER OF RESPONSIBILITY

I HEREBY STATE THAT ALL DOCUMENTS INTENDED TO BE AUTHENTICATED BY MY SEAL ARE
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AND DRAWING S1.0

AND HEREBY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER SPECIFICATIONS, ESTIMATES,
REPORTS OR OTHER DOCUMENTS OR INSTRUMENTS RELATED TO OR INTENDED TO BE USED
FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT.

SEAL:



Name: Christopher W. Boos
Registration No.: Kansas/17210
Discipline: Structural
Title: P.E., Principal
Company Name: Bob D. Campbell & Co.

DISCLAIMER OF RESPONSIBILITY

I HEREBY STATE THAT ALL DOCUMENTS INTENDED TO BE AUTHENTICATED BY MY SEAL ARE LIMITED TO SPECIFICATION SECTIONS 02050, 02100, 02210, 02400, 02460, 02850, 033000, 061053, 079200, 312000, and 329200.

AND DRAWINGS A0.0, A1.0.

AND HEREBY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER SPECIFICATIONS, ESTIMATES, REPORTS OR OTHER DOCUMENTS OR INSTRUMENTS RELATED TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT.

SEAL:



Name: Michael Glen Kautz

Registration No.: Kansas/License #2744

Discipline: Architecture

Title: Principal

Company Name: ACI/Boland, Inc.

**SUMMARY OF THE BID PACKAGE
AND
SUPPLEMENTAL INSTRUCTIONS TO BIDDERS FOR**

New Scoreboard Structure for:
SMSD District Stadium, North Location
Shawnee Mission School District

DEFINITIONS

1. Owner - Wherever the term "Owner" is used, it shall mean, Shawnee Mission School District. The Architect shall act on behalf of the Owner and shall receive all papers/documents required to be delivered to the Owner, except where specifically directed otherwise in writing.
2. Architect - Wherever the term "Architect" is used, it shall mean ACI Boland, Inc. 1710 Wyandotte Street, Kansas City, Missouri 64108, who is authorized to prepare all drawings, specifications, and details for this project and periodically observe the construction after award of construction contract.

DESCRIPTION OF THE WORK

General construction for the new scoreboard structure and erection of the scoreboard including, but not limited to excavation, steel fabrication, and electrical work.

The SMSD is scheduled to be in session. There will be other SMSD staff activities on the building grounds during the working period. The Contractor must cooperate and work with the SMSD.

WORK BY OWNER

1. Items noted "NIC" (Not in Contract) will be furnished and installed under future Bid Packages. Refer to drawings for specific locations and references to items that will be NIC.
2. Items to be furnished by Owner for final installation by Contractor will be noted on the drawings (OFICI) Owner Furnished, Contractor Installed.

CONTRACTOR USE OF SITE AND PREMISES

1. Access to Sites is limited and shall be as approved by the Owner. During summer break, each Contractor may use owner designated parking lots to stage the work.
2. Utility Outages and Shutdown:
 - a. The General Contractor shall be responsible for coordinating all disruptions of existing services and work required in existing facilities with approval of the Architect and the Owner. Forty-eight (48) hours prior notice to such disruptions shall be provided minimum.

EXISTING CONDITIONS

1. Bidders are advised that existing "As-Built" conditions may vary from those shown on the Contract Documents. Bidders shall not request after the bid, nor expect to receive, additional payment for work related to variations from the Contract Documents which can be determined by examination of the existing construction or site prior to the date set for receipt of bids for this Contract.

The General Contractor **shall** visit the site prior to the bid date for the purpose of verifying the actual location of the utilities and site conditions with the information shown on the drawings. If the Contractor is of the opinion a discrepancy exists between drawings and actual conditions, the Contractor shall notify the Architect's office at once.

No additional charges will be permitted for any temporary utility relocation problems the Contractor might encounter which are not reflected on the drawings, without notification to the Architect before the bid date, and approval by the Architect based on the Architect's evaluation of the problem at hand.

2. The work shall be confined to the areas of the site as shown on the drawings.

. . .

BID FORM

BID NO. 18-007

LUMP SUM PROPOSAL

SHAWNEE MISSION SCHOOL DISTRICT
General Construction for
New Scoreboard Structure for: SMSD District Stadium, North Location
Shawnee Mission School District

PROPOSAL OF: _____
(Hereinafter called "Bidder"),

A CORPORATON* ORGANIZED AND EXISTING UNDER THE LAWS

OF THE STATE OF _____

A PARTNERSHIP* CONSISTING OF _____

AN INDIVIDUAL* TRADING AS _____

*Complete applicable designation.

TO: SHAWNEE MISSION PUBLIC SCHOOLS
ATTN: MR. EVERETT MORGAN
8200 W. 71st St.
SHAWNEE MISSION KS 66204

1. The undersigned, having familiarized itself with local conditions affecting the cost of the work at the place where the work is to be done and with all Bidding Documents, including the Instructions to Bidders, Plans, Project Manual and Specifications, General and Supplementary Conditions, the Standard Form of Agreement and the other Contract Documents, prepared ACI Boland, Inc., and BHC Rhodes, and having examined the location of the proposed work and considered the availability of labor and materials, hereby proposes and agrees to perform everything required to be performed, and to provide and furnish any and all labor, materials, supervision, necessary tools, equipment, and all utility and transportation service necessary to perform and complete in a workmanlike and timely manner all of the work required for the project, all in strict conformance with the Instructions to Bidders and other Contract Documents (including Addenda Nos. _____, through _____, the receipt of which is hereby acknowledged), for the lump sums hereinafter specified.

2. LUMP SUM BASE BID

The Lump Sum of _____
_____ Dollars (\$_____).

BID PRICE IS THE LUMP SUM TOTAL FOR ALL WORK AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS. AMOUNT OF BASE BID SHALL BE SHOWN IN BOTH WRITTEN FORM AND NUMERICAL FORM. IN THE EVENT OF A DISCREPANCY BETWEEN THE TWO, THE WRITTEN AMOUNT WILL GOVERN.

All Cash allowances included in the specifications are included in the Bid.

3. ALTERNATES

(Not Used)

4. TAX EXEMPTION

This project shall be considered Tax Exempt. Federal, State and local taxes shall not be included with the Bid. Subsequent to the award of the construction contract, the School District will obtain from the State of Kansas a sales tax exemption certificate number. The sales tax exemption certificate will permit the Contractor to purchase materials for incorporation into this project without paying sales tax, provided that the Contractor furnishes the certificate number to the material supplier.

5. CHANGES IN THE WORK

Changes in the work shall be as established in the Contract Documents. The following fees shall be used for lump sum pricing and actual cost pricing of additions and deletions to the work included in the Bid, Namely:

	<u>Not to Exceed</u>
A. To Contractor for work performed by his own forces	10%
B. To Contractor for work performed by other than his own forces	5%
C. To Subcontractor for work performed by his own forces	10%
D. To Subcontractor for work performed by other than his own forces	5%

Percentages for overhead and profit will not be allowed on bond premiums.

6. UNIT PRICES

The undersigned further agrees if the quantities of work shall change, the Contractor amount will be adjusted for extras or credits in the amounts indicated below. The unit prices shall be based upon the specified materials and shall include necessary labor, equipment, materials, supervision, overhead, profit, bond and other expenses to fabricate and install in place. There shall be no more than 20% difference between extra and credit amounts.

NATURE OF WORK:

- | | | |
|----------------|--------------|---------------|
| A. Excavation: | <u>EXTRA</u> | <u>CREDIT</u> |
|----------------|--------------|---------------|
1. Normal earth including hard clays and shale, plus loose rocks that can be removed by hand, trenching machines, backhoes, rock rippers on bulldozers, etc. All rock or boulders that can be loosened without use of air powered tools.
 - i. The unit price is to include excavation, backfill, hauling, costs and fees.
 - ii. Dig-able rock shall not be considered additional cost to the Owner as it can be removed by conventional equipment, without the use of a concrete breaker. If material is encountered which the contractor believes cannot be excavated by conventional equipment, the Architect and/or Owner shall be immediately notified.

C.Y. \$ _____ \$ _____

2. Excavation (Rock) - Tightly bound boulders and ledge rock which cannot be removed or penetrated with any of the equipment listed above for earth removal, but must be broken up by use of air powered tools.

C.Y. \$ _____ \$ _____

3. Excavation Trenching (rock)
for piping

C.Y. \$ _____ \$ _____

7. NON-DISCRIMINATION

- A. In the execution of the Agreement, no person shall on the grounds of race, color, religion, sex, disability, or national origin be excluded from full employment rights, be denied the benefits of, or otherwise subject to discrimination under any program, service or activity under the provisions of any and all applicable Federal and state laws against discrimination. Bidder shall furnish all information and reports required by the rules, regulations, and order of the Secretary of Labor for purposes of investigating to determine compliance with such laws.
- B. Bidder shall observe the provisions of the Kansas Acts Against Discrimination and shall not discriminate against any person in the performance of work under the Agreement because of race, religion, color, sex, physical handicap unrelated to such person's ability to engage in the particular work, national origin or ancestry.
- C. In all solicitations or advertisements for employees, Bidder shall include the phrase, "equal opportunity employer", or similar phrase approved by the Owner.
- D. If bidder fails to comply with the provisions of K.S.A. 441031, bidder shall be deemed to have breached the Agreement and it may be canceled, terminated or suspended in whole or in part, by Owner.
- E. If bidder is found guilty of a violation of the Kansas Acts Against Discrimination under a decision or order of Owner that has become final, bidder shall be deemed to have breached the present Agreement and it may be canceled, terminated, or suspended in whole or in part, by Owner.
- F. Bidder shall include the provisions of paragraphs A through E above in every subcontract or purchase order so that such provisions shall be binding upon all subcontractors and vendors.

8. COMPLETION AND DAMAGES

The undersigned hereby proposes and agrees to substantially and/or finally complete the work or segments of the work on or before the scheduled dates listed in Section 01 01 00-Summary of Work, and to pay as liquidated damages the corresponding amount stipulated in Section 01 01 00 -Summary of Work for each consecutive calendar day thereafter that the work or segment of the work remains substantially and/or finally incomplete in accordance with the Contract Documents. This provision shall be applied, and the daily liquidated damages amount(s) shall be calculated separately as to each substantial and/or final complete date stated.

9. BID SECURITY

Accompanying the Bid is Bid Security of at least 5% of the bid in the form of a Bid Bond in the amount of _____ Dollars (\$_____), payable without condition to the Owner, which it is agreed shall be retained as liquidated damages for the delay and extra expense caused the Owner, if the undersigned fails to execute the Contract and furnish the bonds required by the Contract Documents, within the time stated in the Contract Documents.

10. In submitting the Bid it is understood that the right to reject any and all bids has been reserved by the Owner and that this bid may not be withdrawn for a period of sixty (60) days from the opening.

11. The undersigned has checked all of the above figures, and understands that the Owner will not be responsible for any errors or omissions on the part of the undersigned in preparing this Bid.

12. In submitting this Bid, it is understood that the right is reserved by the Owner to reject any or all Bids and waive all informalities in connection therewith. It is agreed that this Bid may not be withdrawn for a period of sixty (60) days from time of opening.

It is agreed that no person or company other than the firm listed below, or as otherwise indicated, has any interest whatsoever in this Bid or the Contract that may be entered into as a result of this Bid, and that in all respects the Bid is legal and firm, submitted in good faith without collusion or fraud.

13. It is agreed that the undersigned has complied or will comply with all requirements of local, state and national laws and that no legal requirements have been or will be violated in making or accepting this Bid.

14. If written Notice of Acceptance of this Bid is mailed, electronically transmitted or delivered to the undersigned within sixty (60) days after the date of opening of Bids, the undersigned will then execute the formal Contract and deliver, within ten (10) days, otherwise the undersigned will be considered as having abandoned the Contract.

15. The undersigned designates as his office to which such Notice of Acceptance may be mailed or delivered.

16. The bid may be withdrawn at any time prior to the scheduled time for the opening of bids or any valid postponement thereof.

17. The undersigned declares that the person or persons signing this Bid is/are fully authorized to sign on behalf of the firm listed and to fully bind the firm listed to all conditions and provisions.

Date this _____ day of February, 2018

Name of Bidder

New Scoreboard Structure for:
SMSD District Stadium, North Location
Shawnee Mission School District

3-17582

Address of Bidder

Authorized Officer

Title

Telephone Number

e-mail address

(Seal)

If bidder is a Corporation, identify State of Incorporation; if a Partnership, give full name of all partners.

Envelopes containing Bids must be opaque, sealed, identified and addressed to:

Shawnee Mission Public Schools
Purchasing Department
Attn: Mr. Everett Morgan
8200 W. 71st St.
Shawnee Mission, Kansas 66204

Bid No. 18-007
New Scoreboard Structure for: MSD District Stadium, North Location
Shawnee Mission School District

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we the undersigned _____
_____, as Principal; and _____ as Surety, are
hereby held and firmly bound unto _____ hereinafter called
the "Owner" in the sum of _____ Dollars (\$_____)
for the payment of which sum, well and truly to be made, we hereby jointly and severally bind ourselves,
our heirs, executors, administrators, successors, and assigns.

The condition of the above obligation is such that whereas the Principal has submitted to the Owner a
certain Bid, attached hereto and hereby made a part hereof, to enter into a contract in writing, for the
_____.

NOW THEREFORE,

- (a) If said Bid shall be rejected, or, in the alternate.
- (b) If said Bid shall be accepted and Principal shall execute and deliver a contract in the Form
of Agreement attached hereto and shall execute and deliver Performance and Payment
Bonds in the Forms attached hereto (all properly completed in accordance with said Bid),
and shall in all other respects perform the agreement created by the acceptance of said
Bid.

Then, this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly
understood and agreed that the liability of the Surety for any and all default of the Principal hereunder shall
be the amount of this obligation as herein stated.

The Surety, for value received, thereby stipulates and agrees that the obligations of said Surety and its
bond shall be in no way impaired or affected by any extension of time within which the Owner may accept
such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several
seals this _____ day of _____ 201_, the name and corporate seal of each
corporate party being hereto affixed and these presents duly signed by its undersigned representative,
pursuant to authority of its governing body.

In the presence of

(Individual Principal) _____ (Seal)

(Address) _____ (Business Address)

(Surety/Title) _____ (Seal)

(Address)

(Business Address)

Attest:

(Corporate Principal)

(Business Address)

By: _____
(Affix Corporate Seal)

The rate of premium on this bond is _____ per thousand.

Total amount of premium charged, \$_____.

(The above must be filled in by corporate surety.)

CONSTRUCTION AGREEMENT

This Agreement is by and between the Shawnee Mission Public Schools Unified School District (“Owner”) and _____ (“Contractor”).
ACI Boland, Inc. (“Architect”) has been retained by Owner to serve as Architect on the project.

The Provisions found in Contractual Provisions Attachment (Form DA-146a, Rev. 06-12), which is attached hereto, are hereby incorporated in this contract and made a part thereof.

The parties, in consideration of the mutual covenants agree as follows:

Article 1 – Work

1.01 Description

The Work is generally described as follows: General construction for new Scoreboard structure, including sitework, concrete, structural steel fabrication, erection, installation of the scoreboard, and electrical as shown in the contract documents dated January 23, 2018.

1.02 Scope

Contractor shall complete all work specified in the Agreement Documents in Article 6.

Article 2 – Time

2.01 Time of the Essence

All time limits for milestones, substantial completion, and completion and readiness for final payment as stated in the Agreement Documents are of the essence of the Contract.

2.02 Dates for Substantial Completion and Final Payment

The Work will commence no sooner than **May 17, 2018**

The Work will be substantially complete on or before **July 27, 2018**.

The Work will be complete and ready for final payment on or before **August 10, 2018**

2.03 Liquidated Damages

A. Contractor and Owner recognize that time is of the essence of this Agreement and that Owner will suffer financial loss if the Work is not completed within the times specified in

paragraph 2.02 above, plus any extensions thereof allowed under other terms of this Agreement. The parties also recognize the delays, expenses and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time.

B. Instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner **\$500** for each day that expires after the time specified in paragraph 2.02 for substantial completion until the Work is substantially complete.

C. After substantial completion, if Contractor shall neglect, refuse, or fail to complete the remaining work within the contract time or any proper extension thereof granted by Owner, Contractor shall pay Owner **\$500** for each day that expires after the time specified in paragraph 2.02 for completion and readiness for final payment until the Work is completed and ready for final payment.

Article 3 – Agreement Sum

3.01 Sum and payments

Owner shall pay Contractor for completion of the Work under the Agreement Documents in current funds equal to the amounts determined under paragraph 4.02 below:

The Agreement Sum is \$_____.

The Agreement Sum includes the following alternates: (not applicable).

The Agreement Sum includes the following allowances: \$10,000 for unforeseen conditions.

The Agreement Sum is subject to adjustments under this Agreement.

Article 4 – Payment Procedures

4.01 Submittal and Processing of Payments

The Contractor will submit applications for payment to the Architect for processing. With each application for payment, Contractor will also submit a Lien Waiver for the previous payments received.

4.02 Progress Payments; Retainage

Owner shall make progress payments for the Agreement price based on Contractor's

applications for payment and the Engineer's certificates for payment. Contractor must apply for payment on or before the 25th day of each month. Owner shall make progress payments certified by the Engineer within 30 days of submittal, except that if work is continuing, Owner may withhold up to 150 percent of the value of that portion of the retainage attributable to the ongoing work until 45 days after that work is complete. Prior to final completion, progress payments will be made for the Work completed less five percent retainage and less such amounts as Owner may dispute or withhold, including but not limited to liquidated damages.

4.03 Final Payment

Upon final completion and acceptance of the Work by the Owner, Owner shall pay the remainder of the contract price.

Article 5 – Contractor's Representations

5.01 Contractor makes the following representations

- a. Contractor examined and carefully studied the Agreement Documents and any other related data identified in the bidding documents;
- b. Contractor visited the site and become familiar with and is satisfied as to the general, local, and site conditions that may affect cost, progress and performance of the Work;
- c. Contractor is familiar with and is satisfied on all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work;
- d. Contractor does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for performing the Work at the contract price, within the contract times, and under the other terms and conditions of the Agreement Documents;
- e. Contractor knows of the general nature of the Work to be performed by Owner and others at the site that relates to the Work as stated in the Agreement Documents;
- f. Contractor has correlated the information known to Contractor, information and observations obtained from visits to the site, reports and drawings identified in the Agreement Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Agreement Documents;
- g. The Agreement Documents convey understanding of all terms and conditions for performance and furnishing of the Work; and

- h. Contractor warrants and guarantees to Owner that all work will be in accordance with the Agreement Documents and will not be defective. Contractor's obligation to perform and complete the Work in accordance with the Agreement Documents shall be absolute.

Article 6 – Agreement Documents

6.01 Contents

The Agreement Documents comprise the following documents in order of precedence:

1. Form DA-146a, Contractual Provisions Attachment;
2. Written Change Orders or Construction Change Directives issued after execution of this Agreement;
3. This Agreement;
4. Special Conditions;
5. General Conditions;
6. Project Manual, **dated January 23, 2018**
7. Addendum ____;
8. Kansas Statutory Bond (K.S.A. 60-1111);
9. Performance Bond;
10. Payment Bond;
11. Contractor's bid.

If any inconsistent or incompatible provisions arise between the Agreement Documents, the order of precedence shall be followed. The Agreement Documents may only be amended, modified or supplemented with the written agreement of the Owner and Contractor.

Article 7 – Bonds and Insurance

7.01 Performance, Payment and Statutory Bonds

A. Contractor shall furnish a Statutory Bond as required under K.S.A. 60-1111 with good and sufficient sureties in a sum not less than the sum total in this Agreement, conditioned that such contractor or the subcontractor of such contractor shall pay all indebtedness incurred for labor

furnished, materials, equipment or supplies, used or consumed in connection with the Work. The Statutory Bond shall be filed with the clerk of the district court of Johnson County.

B. Contractor shall furnish a Performance Bond in an amount at least equal to the Agreement price as security for the faithful performance of all of Contractor's obligations under the Agreement Documents. These Bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period except as provided otherwise by laws or regulations or by the Agreement Documents.

7.02 Certificates of Insurance

A. Contractor shall deliver to Owner Certificates of Insurance (and other evidence of insurance requested by Owner or any other additional insured) this Agreement requires.

7.03 Contractor's Liability Insurance

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and also will provide protection from claims which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Agreement Documents, whether it is to be performed by Contractor, any Sub-Contractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable. Contractor's liability insurance must be for at least \$2,000,000 in coverage.

7.04 Permits

A. Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which apply at the time of opening of bids, or, if there are no bids, on the effective date of the Agreement.

Article 8 – Indemnification

To the fullest extent permitted by laws and regulations, Contractor shall indemnify and hold harmless Owner, and the board members, officers, directors, partners, employees, agents, consultants and Sub-Contractors of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals in all courts or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss or damage is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible

property, including the loss of use resulting therefrom, but only to the extent caused by any act or omission of Contractor, any Sub-Contractor, any supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable.

Article 9 – Completion of the Work

9.01 Contractor's Construction Schedule

A. Contractor, promptly after being awarded the Agreement, shall prepare and submit for the Owner's information a Contractor's construction schedule for the Work, and a schedule for the critical path for the construction of the Project. Contractor shall provide an updated schedule for construction every 60 days thereafter and anytime upon request of Owner or Architect.

9.02 Delays

A. If Owner or other contractors or utility owners performing other work for Owner, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Agreement Price or the Agreement Times, or both if a Claim is made therefore. Contractor's entitlement to an adjustment of the Agreement Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Agreement Times.

B. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal unforeseen weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Agreement Times if a Claim is made therefore, if such adjustment is essential to Contractor's ability to complete the Work within the Agreement Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph.

C. Owner shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or for any other project or anticipated project.

D. Contractor shall not be entitled to an adjustment in Agreement Price or Agreement Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed delays within the control of Contractor.

E. Contractor shall make written request, with supporting documentation, to Owner for a requested adjustment in the Agreement Price or Agreement time as discussed in this Section.

Failure to make said request within 10 days of the occurrence giving rise to the request constitutes a waiver of the claim for any adjustment.

9.03 Correction or Removal of Defective Work

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under this Paragraph, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee on the Work.

9.04 Change Orders

A. If modifications other than field changes are made in the plans or specifications related to the contract between the Contractor and the District, the District will be notified immediately of those modifications and the reasons for them. Field changes are defined as those minor modifications required to accommodate actual conditions that do not affect contract completion time or total contract cost. (Board Policy FEG.)

B. Changes in the Work may be accomplished after execution of this Agreement, and without invalidating the Agreement, by Change Order or Construction Change Directive.

C. A Change Order is a written instrument prepared by the Architect and signed by the Owner, Architect and Contractor, stating their agreement upon all the following:

1. A change in the Work;
2. The amount of the adjustment in the Agreement Sum, if any; and
3. The extent of the adjustment in the Agreement Time, if any.

The architect will approve no change order without prior authority of the district.

D. A Construction Change Directive is a written order prepared by the Engineer and signed by the Owner and Architect directing a change in the Work and stating a proposed basis for

adjustment in the Agreement Sum or Agreement Time, or both. The Owner may by Construction Change Directive, without invalidating the Agreement, order changes in the Work within the general scope of the Agreement comprising additions, deletions or other revisions, the Agreement Sum and Agreement Time being adjusted accordingly.

E. Upon receipt of a Change Order or Construction Change Directive, Contractor shall proceed promptly, unless otherwise notified, with the Work.

F. Contractor may submit a Request for Information to Architect for clarification of any portion of the Agreement Documents, including Change Orders or Construction Change Directives. Architect shall respond to all requests for information promptly.

9.05 Contractor's Warranty of Title

A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

B. Contractor makes the following warranties to the Owner:

1. Materials and equipment furnished under the Agreement will be new and of good quality unless otherwise required or permitted by the Agreement Documents;
2. The Work will be free from defects not inherent in the quality required or permitted; and
3. The Work will conform to the Agreement Documents.

9.06 Waiver of Claims

A. The making and acceptance of final payment will constitute:

1. A waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection, from failure to comply with the Agreement Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Agreement Documents; and
2. A waiver of all Claims by Contractor against Owner other than those previously made under the requirements of this Agreement and acknowledged by Owner in writing as still unsettled.

Article 10 – Waiver of Consequential Damages

A. Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Agreement to the extent allowed by law.

Article 11 – Substantial Completion and Final Completion

11.01 Substantial Completion

A. Substantial completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete under the Agreement Documents so the Owner can occupy or utilize the Work for its intended use.

B. When the Work or designated portion thereof is substantially complete, the Owner will make an inspection to determine whether the Work is substantially complete. When the Owner determines that the Work is substantially complete the Owner shall prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish the responsibilities of the Owner and Contractor, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Agreement 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.

11.02 Final Completion

A. Upon receipt of a final Application for Payment, the Owner will inspect the Work. When the Owner finds the Work acceptable and the Agreement fully performed, the Owner will promptly issue a final Certificate for Payment.

B. Final payment shall not become due until 30 days after Contractor finally completes the Work, submits to the Owner all required documents including, but not limited to, releases and waivers of liens, and data establishing payment or satisfaction of obligations, such as receipts, claims, security interests or encumbrances arising out of the Agreement, and the Owner issues a final Certificate for Payment.

Article 12 – Suspension and Termination

12.01 Owner May Suspend Work

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not over 90 consecutive days by notice in writing to Contractor that will fix the date on

which Work will be resumed.

B. Contractor shall resume the Work on the date so fixed.

C. Contractor shall be granted an adjustment in the Agreement Price or an extension of the Agreement Times, or both, directly attributable to any such suspension.

12.02 Owner May Terminate for Cause

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's failure to perform the Work in accordance with the Agreement Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule as adjusted from time to time);
2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
3. Contractor's violation in any substantial way of any provisions of the Agreement Documents.

B. If one or more of the events identified in Paragraph 12.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. Exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),
2. Incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and
3. Complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 12.02.B, Contractor shall receive no further payment until the Work is completed. If the unpaid balance of the Agreement Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be

paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 12.02.B and 12.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within 30 days of receipt of the notice.

E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

F. If Contractor has provided a performance bond under Paragraph 7.01, the termination procedures of that bond shall supersede Paragraphs 12.02.B, and 12.02.C.

12.03 Owner May Terminate For Convenience

A. Upon seven days written notice to Contractor, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for the following items without duplication of any items:

1. Completed and acceptable Work executed under the Agreement Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work; and
2. Expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Agreement Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses.

B. Contractor shall not be paid for loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

Article 13 – Dispute Resolution

A. Owner and Contractor shall make a good faith effort to resolve all disputes with an informal meeting between representatives of both parties before resorting to other means of resolution.

B. Owner and Contractor may agree to participate in mediation or arbitration

proceedings to resolve a dispute, but this Agreement requires neither proceeding.

C. Nothing in this paragraph shall limit the ability of Owner or Contractor to sue in a court of law regarding a dispute.

Article 14 – Representatives

Owner's Representative:

8200 W. 71st St.
Shawnee Mission, KS 66204
(913) 993-8516

Contractor's Representative:

ADDRESS _____
ADDRESS _____
PHONE NUMBER _____

Architect:

ACI Boland, Inc.
1710 Wyandotte
Kansas City, MO 64108
816 763-9600

Article 15 – Miscellaneous Provisions

15.01 Nondiscrimination in Employment

Contractor will be required to comply with the President's Executive Order No. 11246, Title VI and Section 3 of the 1968 HUD Act as pertaining to Equal Employment Opportunity through Affirmative Action. Contractor must comply with all requirements of federal and state civil rights law and rehabilitation statutes and shall not discriminate based on race, religion, color, sex, national origin, age or disability.

15.03 Taxes

The Owner is a public entity exempt from payment of state sales taxes and will furnish the Contractor with all required information to allow Contractor to benefit from this status. The Contractor shall apply the exemption under state law for purchases required for the Work. The Contractor shall pay all other required sales, consumer, use and other similar taxes, if any. The Contractual Provisions Attachment controls any terms of this Agreement to the contrary.

15.04 Student Safety

Contractor and its employees shall not interact with, contact, or otherwise access students on District premises without express approval by the District. District may require Contractor and its employees undergo criminal background checks before entering areas of the District premises occupied by students or before interacting with students. District reserves the right to exclude persons from its premises.

15.05 Giving Notice

A. Whenever any provision of the Agreement Documents requires giving written notice, it will be deemed to have been validly given if:

1. Delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or
2. Delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

15.06 Computation of Times

When the Agreement Documents refer to any period of time by days, it will be computed to exclude the first and include the last day of such period except that if the last day is Saturday, Sunday, or day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

15.07 Cumulative Remedies

The duties and obligations imposed by this Agreement and the rights and remedies available to the parties hereto are in addition to, and are not to be construed as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations, by special warranty or guarantee, or by other provisions of the Agreement Documents. This Paragraph will be as effective as if repeated specifically in the Agreement Documents for each duty, obligation, right, and remedy to which they apply.

15.08 Survival of Obligations

All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Agreement Documents, and all continuing obligations stated in the Agreement Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Agreement or termination of the services of Contractor.

15.09 Controlling Law

This Agreement is to be governed by the law of the State of Kansas.

15.10 Venue

Venue of any lawsuit filed regarding the Project or arising out of this Agreement will be in the Johnson County District Court in the 10th Judicial District of Kansas.

15.11 Headings

Article and paragraph headings are inserted for convenience only and do not constitute parts of this Agreement.

15.12 Counterparts

This Agreement may be executed in one or more counterparts that constitute one entire Contract when taken together and shall be fully executed when each party whose signature is required has signed at least one counterpart.

15.13 Electronic Signatures

For this Agreement, a signature page or other document signed and transmitted by fax, email, or similar electronic medium is to be treated as an original document.

15.14 Assignment

Neither party may assign their rights and obligations under this Agreement without the prior written consent of the other party, which consent shall not be unreasonably withheld.

15.15 Entire Agreement

This Agreement constitutes the entire agreement between the parties hereto and there are no other understandings, written or oral, relating to the subject matter, and may not be changed, modified or amended, in whole or in part, except in writing signed by Owner and Contractor.

This Agreement will be effective as of _____, 20__

REMAINDER INTENTIONALLY BLANK

IN WITNESS WHEREOF, Owner and Contractor sign this Agreement.

Owner

By

Board President

Attest

Board Secretary

Contractor

By

Title

Attest

Title

FORM OF PERFORMANCE BOND
(Follows AIA Document A-312)

KNOW ALL MEN BY THESE PRESENTS: That _____
(Contractor)

as Principal, hereinafter called Contractor, and _____
(Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto _____
(Owner)

_____ as Obligee, hereinafter called Owner, in the amount of
_____ Dollars (\$ _____) for the payment whereof

Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has be written agreement dated _____, 2015, entered
into a contract with Owner for _____
(Project)

in accordance with Drawings and Specifications prepared by ACI-Boland, Inc., which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety may promptly remedy the default, or shall promptly

- 1) Complete the Contract in accordance with its terms and conditions, or
- 2) Obtain a bid or bids for completing the contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding including other costs and damages for which the Surety may be liable

hereunder, the amount set forth in the first paragraph hereof, the term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

Signed and Sealed this _____, day of _____, 201_.

(Witness)

(Principal)

(Title)

(Witness)

(Principal)

(Title)

...

FORM OF LABOR AND MATERIAL PAYMENT BOND
(Follows AIA Document A-311)

KNOW ALL MEN BY THESE PRESENTS: That _____
(Contractor)

as Principal hereinafter called Contractor, and _____
(Surety)

as Surety, hereinafter called Surety, are held and firmly bound unto _____
(Owner)

_____ as Oblige, hereinafter called Owner, for the use
and benefit of claimants as herein below defined in the amount of _____ Dollars
(\$ _____), for the payment whereof Principal and Surety bind themselves, their heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these premises.

WHEREAS, Principal has by written agreement dated _____, entered into a
contract with Owner for _____ which
(Project)

contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that , if Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

- 1) A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonable required for use in the performance of the Contract, labor and material being construed to include that part of water, gas power, light heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.
- 2) The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant, prosecute the suite to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any costs or expenses of any such suit.

3) No suit or action shall be commenced hereunder by any claimant:

- a) Unless claimant, other than one having a direct contract with the Principal shall have given written notice to any two of the following: The Principal, the Owner, or the surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
 - b) After the expiration of one (1) year following the date on which Principal ceased work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
- 4) The amount of this bond shall be reduced by and to the extent of payment or any payments made in good faith hereunder, inclusive of the payment by Surety or mechanics' liens which may be filed of record against said improvements, whether or not claim for the amount of such lien by presented under and against this bond.

Signed and sealed this _____, day of _____, 201__.

(Witness)

(Principal)

KANSAS STATUTORY BOND

Executed in conjunction with Consent Bond Number _____, KNOW ALL MEN BY THESE PRESENTS: That We, _____, as Principal, and _____ of _____, a Corporation organized and existing under the laws of the State of _____, and authorized to transact business in the State of Kansas, as Surety, are held and firmly bound unto the STATE OF KANSAS, in the full and just sum of _____ (\$_____) for payment of which, well and truly to be made, we do hereby bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Dated this _____ day of _____, A.D., 201__.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, THAT WHEREAS, on the _____ day of _____, 201__, the said _____ entered into a contract with Shawnee Mission U.S.D. No. 512, 8200 W. 71st St., Shawnee Mission, Kansas 66204, providing for General construction for the new scoreboard structure and erection of the scoreboard including, but not limited to excavation, steel fabrication, and electrical work at Shawnee Mission District Stadium, North Location, 7401 Johnson Dr. Overland Park, KS 66202.

NOW, THEREFORE, if the said _____ or any Subcontractor of _____ shall well and truly pay all indebtedness incurred in supplies, materials, equipment or labor furnished, used or consumed in connection with or in provisions of Section 60-1111 (for public works) or Section 60-1110 (for private works) of the General Statutes of Kansas, 1963, and as amended effective January 1, 1974, then this obligation to be null and void, otherwise to be and remain in full force and effect.

By: _____

By: _____

Whereby certify that the above bond is approved and that said bond has been filed in the records of County, this _____ day of _____, 201__.

Clerk of the District Court

CONTRACTUAL PROVISIONS ATTACHMENT

Important: This form contains mandatory contract provisions and must be attached to or incorporated in all copies of any contractual agreement. If it is attached to the vendor/contractor's standard contract form, then that form must be altered to contain the following provision:

"The Provisions found in Contractual Provisions Attachment (Form DA-146a, Rev. 06-12), which is attached hereto, are hereby incorporated in this contract and made a part thereof."

The parties agree that the following provisions are hereby incorporated into the contract to which it is attached and made a part thereof, said contract being the _____ day of _____, 20_____.

1. **Terms Herein Controlling Provisions:** It is expressly agreed that the terms of each and every provision in this attachment shall prevail and control over the terms of any other conflicting provision in any other document relating to and a part of the contract in which this attachment is incorporated. Any terms that conflict or could be interpreted to conflict with this attachment are nullified.
2. **Kansas Law and Venue:** This contract shall be subject to, governed by, and construed according to the laws of the State of Kansas, and jurisdiction and venue of any suit in connection with this contract shall reside only in courts located in the State of Kansas.
3. **Termination Due To Lack Of Funding Appropriation:** If, in the judgment of the Director of Accounts and Reports, Department of Administration, sufficient funds are not appropriated to continue the function performed in this agreement and for the payment of the charges-hereunder, State may terminate this agreement at the end of its current fiscal year. State agrees to give written notice of termination to contractor at least 30 days prior to the end of its current fiscal year, and shall give such notice for a greater period prior to the end of such fiscal year as may be provided in this contract, except that such notice shall not be required prior to 90 days before the end of such fiscal year. Contractor shall have the right, at the end of such fiscal year, to take possession of any equipment provided State under the contract. State will pay to the contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any such equipment. Upon termination of the agreement by State, title to any such equipment shall revert to contractor at the end of the State's current fiscal year. The termination of the contract pursuant to this paragraph shall not cause any penalty to be charged to the agency or the contractor.
4. **Disclaimer Of Liability:** No provision of this contract will be given effect that attempts to require the State of Kansas or its agencies to defend, hold harmless, or indemnify any contractor or third party for any acts or omissions. The liability of the State of Kansas is defined under the Kansas Tort Claims Act (K.S.A. 75-6101 et seq.).
5. **Anti-Discrimination Clause:** The contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001 et seq.) and the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111 et seq.) and the applicable provisions of the Americans With Disabilities Act (42 U.S.C. 12101 et seq.) (ADA) and to not discriminate against any person because of race, religion, color, sex, disability, national origin or ancestry, or age in the admission or access to, or treatment or employment in, its programs or activities; (b) to include in all solicitations or advertisements for employees, the phrase "equal opportunity employer"; (c) to comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (d) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor; (e) that a failure to comply with the reporting requirements of (c) above or if the contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration; (f) if it is determined that the contractor has violated applicable provisions of ADA, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration.

Contractor agrees to comply with all applicable state and federal anti-discrimination laws.

The provisions of this paragraph number 5 (with the exception of those provisions relating to the ADA) are not applicable to a contractor who employs fewer than four employees during the term of such contract or whose contracts with the contracting State agency cumulatively total \$5,000 or less during the fiscal year of such agency.

6. **Acceptance Of Contract:** This contract shall not be considered accepted, approved or otherwise effective until the statutorily required approvals and certifications have been given.
7. **Arbitration, Damages, Warranties:** Notwithstanding any language to the contrary, no interpretation of this contract shall find that the State or its agencies have agreed to binding arbitration, or the payment of damages or penalties. Further, the State of Kansas and its agencies do not agree to pay attorney fees, costs, or late payment charges beyond those available under the Kansas Prompt Payment Act (K.S.A. 75-6403), and no provision will be given effect that attempts to exclude, modify, disclaim or otherwise attempt to limit any damages available to the State of Kansas or its agencies at law, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.
8. **Representative's Authority To Contract:** By signing this contract, the representative of the contractor thereby represents that such person is duly authorized by the contractor to execute this contract on behalf of the contractor and that the contractor agrees to be bound by the provisions thereof.
9. **Responsibility For Taxes:** The State of Kansas and its agencies shall not be responsible for, nor indemnify a contractor for, any federal, state or local taxes which may be imposed or levied upon the subject matter of this contract.
10. **Insurance:** The State of Kansas and its agencies shall not be required to purchase any insurance against loss or damage to property or any other subject matter relating to this contract, nor shall this contract require them to establish a "self-insurance" fund to protect against any such loss or damage. Subject to the provisions of the Kansas Tort Claims Act (K.S.A. 75-6101 et seq.), the contractor shall bear the risk of any loss or damage to any property in which the contractor holds title.
11. **Information:** No provision of this contract shall be construed as limiting the Legislative Division of Post Audit from having access to information pursuant to K.S.A. 46-1101 et seq.
12. **The Eleventh Amendment:** "The Eleventh Amendment is an inherent and incumbent protection with the State of Kansas and need not be reserved, but prudence requires the State to reiterate that nothing related to this contract shall be deemed a waiver of the Eleventh Amendment."
13. **Campaign Contributions / Lobbying:** Funds provided through a grant award or contract shall not be given or received in exchange for the making of a campaign contribution. No part of the funds provided through this contract shall be used to influence or attempt to influence an officer or employee of any State of Kansas agency or a member of the Legislature regarding any pending legislation or the awarding, extension, continuation, renewal, amendment or modification of any government contract, grant, loan, or cooperative agreement.

- - PERMIT APPLICATION

1.1 Permit Application Information

- 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 the Bidders' own investigations. This Document and its attachments are not part of the Contract Documents.
- B. Permit Application:
 - 1. The building permit for this project has **not** been applied for by Architect. No fee has been paid to the City of Overland Park, Kansas towards the Building Permit Fee for initial reviewing. The costs of permitting all items shall be the responsibility of the General Contractor.

END OF SECTION



AIA[®] Document A201[™] – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

New Scoreboard Structure for
SMSD District Stadium, North Location

THE OWNER:

(Name and address)

Shawnee Mission U.S.D. No. 512
8200 W. 71st St.
Shawnee Mission, KS 66204

THE ARCHITECT:

(Name and address)

ACI/Boland, Inc.
1710 Wyandotte St.
Kansas City, MO 64108

TABLE OF ARTICLES

1	GENERAL PROVISIONS
2	OWNER
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4	ARCHITECT
5	SUBCONTRACTORS
6	CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
7	CHANGES IN THE WORK
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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) 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) an Emergency Change Order Authorization or (4) a written order for a minor change in the Work issued by the Architect. The Contract Documents also include the bidding requirements (including: invitation to bid, Instructions to Bidders, bid form, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid and proposal, or portions of Addenda relating to bidding requirements. In addition, the Provisions found in Contractual Provision Attachment (Form DA-146a), which is hereto attached are hereby incorporated in this contract and made a part thereof.

§ 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.

§ 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.

§ 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.

§ 1.1.5 THE DRAWINGS

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

§ 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 Architect identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

§ 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.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 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.

§ 1.3 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 Owner shall be deemed the author and owner of the Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment 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 this Project is not to be construed as publication in derogation of the Owner's reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties 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, unless otherwise already provided in the Agreement or the Contract Documents.

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 does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

(Paragraph deleted)

§ 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 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.

§ 2.2.2 The Owner shall furnish, where reasonably necessary, all surveys describing physical characteristics, legal descriptions, if requested and utility locations for the site of the Project, and a legal description of the site to the extent any such information exists. The Contractor shall be entitled to rely on the accuracy of information furnished by the

Owner but shall exercise proper precautions relate to the safe performance of the Work. However, Contractor shall immediately notify Owner and Architect, in writing, in the event Contractor observes any discrepancies in such information.

§ 2.2.3 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.

(Paragraph deleted)

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3 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. The rights stated in this provision are not a limitation of any rights of the Owner expressed in the Contract Documents or as provided in law or equity.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

§ 2.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a three-day period after receipt of written 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 deficiencies. In such case, an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

§ 2.4.2 Further, the Contractor agrees that, in the event Contractor does not carry out such Work at such rates of progress as required by the Construction Schedule, the Owner may, upon three (3) days' written notice to Contractor, at Owner's option and without Contractor receiving any additional compensation therefor, require Contractor to increase the number of qualified supervisory personnel and/or workers and the amount of equipment employed in the performance of the Work to such extent as Owner may deem necessary or desirable. In addition, Owner, at its option, may supplement Contractor's manpower by entering into contracts with other contractors to perform the Work. All costs that are incurred by Owner, in this regard, including reasonable attorney's fees, shall be deducted from any sums due Contractor or Owner may make demand on Contractor for reimbursement of such costs.

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 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 2.2.3, 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. 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.

§ 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 make 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 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, unless the Contract Documents give other specific instructions concerning these matters. The Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such 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.

§ 3.4 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 authorized by the Architect in accordance with Sections 3.12.8 or 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 Emergency Change Order Authorization.

§ 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. Use of profanity by Contractor or its employees, subcontractors, suppliers or other persons in the control of Contractor in the presence of School staff or students will not be tolerated. Smoking and excessively loud playing of audio equipment in occupied spaces will not be allowed. In addition, Contractor comply with the District Code of Conduct, as referenced in the Bid Documents.

§ 3.4.4 The Contractor shall endeavor to employ or use labor in connection with the Work in a manner that will minimize the likelihood of any strike, work stoppage, or other labor disturbance.

§ 3.5 WARRANTY

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.

§ 3.6 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, except such taxes as are saved by the use of the Owner's tax exemption.

§ 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided in the Contract Documents, 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 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 21 days after first observance of the conditions. The Architect 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 an equitable adjustment 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, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons.

§ 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. The Contractor acknowledges and agrees that he may not incur costs that exceed the stated Allowance or expend any monies related to the Allowance without first seeking the written approval of the Owner and, where necessary, the approval of the Board of Education.

§ 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 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. In connection with allowances stated in the Agreement or Contract Documents, the Contractor agrees that it may not incur or expend any monies in excess of the specified allowance amount(s), without express written approval issued in advance by Owner. Failure to obtain prior authorization from Owner shall be deemed a waiver of any claim by Contractor to increase the Contract Sum or seek additional compensation related to such increase in allowance amount(s).

§ 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, within seven (7) days after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply 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 consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, within (7) days after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, within ten (10) days after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be 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, 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 In the event that the Owner determines that the performance of the Work has not progressed to the level of completion required by the Contract Documents, the Owner shall have the right to order the Contractor to take corrective measures necessary to expedite progress of construction. The Contractor shall not be entitled to an adjustment in the Contract Sum in connection with the performance of such corrective measures for delays caused by the Contractor, subcontractors or materialmen.

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be 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 the way by which 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.

§ 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 requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or an Emergency Change Order Authorization 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 written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professionals 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 cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals. Pursuant to this Section 3.12.10, the Architect will review, and issue a response as follows: "approve" or "approve as noted", or "reject and request resubmission" on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. Further, the Contractor shall use its best efforts to not disturb any occupancy or use of the building that is the subject of this Agreement or disturb any residences in the vicinity or operations of businesses adjacent to or near the site of the Work.

§ 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 and patching shall be restored to the condition existing prior to the cutting, fitting and 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 such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's 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 or rubbish caused by operations under the Contract and to the reasonable satisfaction of the Owner. 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 Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Contractor shall provide the Owner and Architect 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, including

attorney's fees, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, Project Manager or Construction Manager (if applicable) 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 which 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.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 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.

§ 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.

(Paragraph deleted)

§ 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. 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 report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) 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 FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, 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 has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such 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, material and equipment 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, unless otherwise specifically stated by the Architect, 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.

§ 4.2.8 The Architect will prepare Change Orders and Emergency Change Order Authorizations, and may authorize minor changes in the Work 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 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.

§ 4.2.11 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.

§ 4.2.12 The Architect's decisions on matters relating to aesthetic effect will be submitted to the Owner for final approval.

§ 4.2.13 The Architect will review and respond to requests for information about the Contract Documents. 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.

(Paragraph deleted)

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 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 or the bidding requirements, the Contractor, within three (3) calendar days after award of contract, shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply 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.

§ 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 shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected without the written approval of the Owner. Such approval shall not be deemed to create a contractual relationship, third party beneficiary relationship between Owner and such subcontractor. Such relationship is denied by Owner.

§ 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, 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, which the Contractor, by these 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 in writing; and
 - .2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than sixty (60) calendar days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such 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 Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 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.

§ 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 other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the 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, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor 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 report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report 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, except as to defects not then reasonably discoverable.

§ 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 the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner, separate contractors 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 3.14.

§ 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, Emergency Change Order Authorization 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; an Emergency Change Order Authorization 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, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Emergency Change Order Authorization 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 Architect 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.

(Paragraphs deleted)

§ 7.2.2 Methods used in determining adjustments to the Contract Sum may include those listed in Section 7.2.3.

§ 7.2.3 If the Contractor does not respond promptly or disagrees with the method for adjustment of the Contract Sum, the method for adjustment in the Contract Sum shall be recommended by the Architect to the Owner 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, a reasonable allowance for overhead and profit. In such case, the Contractor shall keep and present in form such as the Architect, with the approval of the Owner, may prescribe an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Subparagraph 7.2.3 shall be limited to the following:

- .1 costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom and workers' compensation insurance;
- .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;
- .4 costs of premiums for all bonds and insurance, permit fees, and sales use or similar taxes related to the Work; and
- .5 additional costs of supervision and field officer personnel directly attributable to the change.

(Paragraph deleted)

§ 7.2.4 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net costs 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 based on net increase or decrease, if any, with respect to that change.

§ 7.3 EMERGENCY CHANGE ORDER AUTHORIZATION

§ 7.3.1 In emergency situations, as determined by the Owner, the Superintendent of Schools, or the Deputy Superintendent for Operations has authority to issue an Emergency Change Order Authorization up to a maximum of Twenty Thousand Dollars and No/100 (\$20,000.00) per occurrence.

§ 7.3.2 An Emergency Change Order Authorization is a written order prepared and signed by the Superintendent of Schools or the Deputy Superintendent for Operations directing a change in the Work prior to formal approval by the Board of Education. The Owner may, by Emergency Change Order Authorization, and without invalidating this Agreement, order changes in the Work within the general scope of the Agreement consisting of additions, deletions or other revisions, the Contract Sum being adjusted accordingly.

§ 7.3.3 An Emergency Change Order Authorization may be used to expedite the approval of changes in the Work when the formal action of the Board of Education is not practical, or cannot be obtained in a timely fashion without impeding the progress of the Project. An Emergency Change Order Authorization may, at Owner's discretion, be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.4 An adjustment in Contract Price by the execution of an Emergency Change Order Authorization 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 price 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 7.2.3.

§ 7.3.5 Upon receipt of an approved Emergency Change Order Authorization, 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 Emergency Change Order Authorization for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by the Owner 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, a reasonable allowance for overhead and profit. In such case, and also under Section 7.3.4.3, 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 7.3.6 shall be limited to the following:

- .1 costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .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;
- .4 costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.7 Pending final determination of the total cost of an Emergency Change Order Authorization, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs. For any portion of such cost that remains in dispute, the

Architect will make an interim determination subject to Owner approval for purposes of monthly certification for payment for those costs. That 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 4.

§ 7.3.8 When the Owner and Contractor agree with the 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 shall be recorded by preparation and execution of an appropriate Change Order.

§ 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

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.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work. The Contractor agrees to commence Work not later than fourteen (14) calendar days after the execution of a Contract with the Owner. The Owner will suffer financial loss if the Project is not substantially complete in the time set forth in the Contract Documents. The Contractor and his surety shall be liable for and shall pay to the Owner the sum stated in Paragraph 8.2.4 herein as fixed, agreed, and liquidated damages for each consecutive day (including weekends and holidays) of delay until the Work is substantially completed.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. The Contractor shall diligently and continuously prosecute and complete the Work and coordinate the Work with the other work being performed in accordance with those schedules as may be issued from time to time during the performance of the Work so as not to delay, impede, obstruct, hinder or interfere with the commencement, progress, or completion if the whole or any part of the Work or other work for the Owner.

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 Contract the Owner will pay the Contractor for such actual additional wages paid, if any, at rates, which have been pre-approved by the Owner and Construction Manager.

§ 8.2.4 Liquidated damages in the amount per calendar day as set forth in Section 010100 shall be assessed against the Contractor for failure to complete the Work. Assessment of such liquidated damages shall commence on the day after the date designated in the bid proposal for substantial completion. Time is of the essence of this Contract.

§ 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 an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may recommend and the Owner and Contractor may agree to...

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

(Paragraph deleted)

§ 8.3.3 Unless a delay is caused, in whole or in part, by acts or omissions within the control of the Owner or persons acting on behalf thereof (other than the Contractor or persons acting on behalf of the Contractor), the only remedy available to the Contractor for delay shall be an extension of time. Unless a delay is caused, in whole or in part, by acts or omissions within the control of the Owner or persons acting on behalf thereof (other than the Contractor or persons acting on behalf of the Contractor), the Contractor agrees that, whether or not any delay shall be basis for an extension of time, the Contractor shall have no claim against the Owner or Architect/Engineer for:

- .1 and increase in the Contract Sum;
- .2 a payment or allowance of any kind for damage, loss or expense resulting from delays; or
- .3 any damage, loss or expense resulting from interruptions, accelerations, inefficiencies or suspensions of its Work.

§ 8.3.4 Nothing herein shall be construed as granting an extension of time for delays, in whole or in part, by the Contractor or persons acting on behalf thereof.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

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.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, within ten (10) calendar days after award of contract, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The Schedule of Values shall be prepared in such a manner that each major item of Work and each subcontracted item of Work is shown as a single line item on AIA Document G702A, Application and Certificate for Payment Continuation Sheet. The Schedule of Values shall indicate a value for construction schedules and progress meeting notes that are required in the Contract Documents.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 The Contractor shall submit its Applications for Payment to Architect and Owner's Representative in accordance with the Accounts Payable Schedule as set forth in Section 010200 of the Project Manual. The Contractor shall submit to the Architect and Owner's Representative 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. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.8, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Emergency Change Order Authorization, 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 material 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 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, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part 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 comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. 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. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. 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 material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The 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 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; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 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 material or equipment suppliers 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 Architect will reflect such payment on the next Certificate for Payment.

§ 9.6 PROGRESS PAYMENTS

§ 9.6.1 The Owner shall make payment to Contractor in accordance with the Payment Schedule in the Contract Documents. However, it is understood that, notwithstanding the schedule, the Owner shall make payment to the Contractor within 30 days after the Owner receives a timely, properly completed undisputed request for payment according to the terms of this Agreement, unless extenuating circumstances exist (if so, no later than 45 days) and in accordance with the Kansas Fairness in Public Construction Contract Act. Such payments are subject to the following conditions:

§ 9.6.1.1 Until substantial completion, the Owner will pay ninety percent (90%) of the amount due the Contractor on account of progress payments.

§ 9.6.1.2 After substantial completion, and upon receipt of Application for Payment accompanied by consent of surety to reduction in or partial release of retainage executed in duplicate on AIA Document G707A, and upon certification, the Owner may, in its sole discretion, pay ninety-five percent (95%) of the amount due the Contractor on account of progress payments, less two hundred percent (200%) of the value of items of the Work remaining to be done.

§ 9.6.1.3 The final five percent (5%) of the Contract Sum shall not be paid until the Contractor has submitted to the Owner all releases, waivers and other final documents required and satisfied all other Conditions Precedent identified in the General Conditions and Section 5.2 of the Standard Form of Agreement Between Owner and Contractor, A101-2007, as amended.

§ 9.6.1.4 The full Contract retainage may be reinstated if the manner of completion of the Work and its progress do not remain satisfactory to the Owner or of other good and sufficient reasons, or its surety revokes its consent of reduction in or partial release of the retainage.

§ 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.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment 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 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, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment 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 and 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, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 FAILURE OF PAYMENT

In the event that undisputed amounts are not paid by Owner to Contractor within 30 days after Owner receives a timely, properly completed undisputed request for payment, the Owner shall pay interest computed at the rate of 18% per annum on the undisputed amount, which shall begin to accrue on the day payment is due. Owner agrees that all obligations regarding payment are subject of the Kansas Fairness in Public Construction Contract Act, K.S.A. §16-1901, et seq. If the Owner does not pay the Contractor in accordance with the above referenced timetable, then the Contractor may, upon seven days' written 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 shut-down, delay and start-up, which shall be accomplished as provided in Article 7.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Owner determines in its sole discretion that 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.

§ 9.8.1.1 The Contractor shall carefully and regularly check his Work for conformance with the Contract Documents as the Work is being done. Unsatisfactory Work shall be corrected as the Work progresses and not be permitted to remain and become part of the Punch List. When the Contractor determines that the entire Work is ready for the Punch List inspection, it shall so notify the Architect for the Punch List inspection at the earliest possible date. Transmittal of the Punch List to the Contractor shall set the date for a reinspections prior to issuance of a Certificate of Substantial Completion. Upon receipt of the Punch List, the Contractor shall within seven (7) days bring to the attention of the Architect any questions that it may have concerning requirements of the Punch List.

§ 9.8.1.2 When advised by the Contractor that all items on the Punch List have been completed and/or corrected, the Architect shall conduct a reinspection and shall be accompanied by the Contractor and any needed subcontractors to determine whether the Certificate of Substantial Completion can be issued. When issued, the Certificate of Substantial Completion shall state the date of commencement of the Warranty period (with any items to have a later starting date specifically noted). The Certificate shall also have attached to it the uncompleted Punch List items, and shall name the date for their completion. The Certificate of Substantial Completion shall also state the responsibilities of the Owner and the Contractor for maintenance, heat, utilities, insurance and building security. Acknowledgment of the Date of Substantial Completion by the signature of all parties on the Certificate implies possession of the premises by the Owner, and further completion of all incomplete Punch List items by the Contractor and the subcontractors at the Owner's convenience. The Owner shall cooperate in permitting the Contractor access to the Work for the completion of Punch List items.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall 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, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall 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 such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 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 as required under Section 11.3.1.5 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..

§ 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 written 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 and, 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 terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The 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 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 attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the 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 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 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; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material 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 and its subcontractors are solely responsible for complying with local, state and federal laws and regulations regarding the Work under construction at the site, including the current provisions of the Occupational Safety and Health Act of 1970 (29 CFR 1910 et seq.) and the Consumer Product Safety Act as it relates to building materials and construction. The Contractor shall submit the Contractor's safety program to the Architect and Owner.

§ 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 or the Contractor's Subcontractors or Sub-subcontractors; 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.

§ 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 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 owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 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, except damage or loss 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, written notice of such 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

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. 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 report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written 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. Unless otherwise required by the Contract Documents, 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 such material or substance or who are to perform the task of removal or safe containment of such material or substance. When the material or substance has been rendered harmless, Work in the affected area shall resume upon notification by Owner. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, 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, 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.

(Paragraphs deleted)

§ 10.3.4 The Contractor hereby agrees and warrants that neither the Contractor, nor any of its employees, agents or subcontractors shall introduce any materials, supplies, or products in performing the Work which contain restricted or banned hazardous materials.

§ 10.3.5 Upon request of the Contractor, the Owner shall make available any inspections, reports, or studies in the Owner's possession relating to the presence of asbestos, if any, at the Work site.

§ 10.3.6 The Owner shall not be responsible under this Section 10.3 for 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 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.

§ 10.3.7 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.8 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 indemnify 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 LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies approved by Owner and lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified below. Coverages, shall be on an occurrence basis, except for worker's compensation, and shall be maintained without interruption from the date of commencement of the Work until the date of final payment. and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, Construction Manager or Program Manager (if applicable). An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an

additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.1.5 Limits of insurance provided by the Contractor pursuant to these General Conditions shall not be less than the following:

.1	Commercial Liability	\$2,000,000.00
.2	Automobile Liability	\$1,000,000.00
.3	Umbrella Liability	\$10,000,000.00
.4	Workers' Compensation	Statutory plus \$500,000.00 Employers Liability

§ 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis. Such property insurance shall be maintained until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.4 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss.

(Paragraphs deleted)

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 In the event of partial occupancy or use in accordance with Section 9.9, the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

(Paragraphs deleted)

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.

(Paragraph deleted)

§ 11.3.5 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, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 Before an exposure to loss may occur, the Contractor shall file with the Owner a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least thirty (30) days' prior written notice has been given to the Owner.

§ 11.3.7 WAIVERS OF SUBROGATION

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, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, 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 covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. 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.

§ 11.3.8 The Contractor shall pay the Owner and Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

(Paragraphs deleted)

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND AND STATUTORY BOND

§ 11.4.1 The Contractor shall furnish Performance Bond, Labor and Material Payment Bond, and Statutory Bond in the amount of one hundred percent (100%) of Contract Sum at the time of execution of the Contract. Performance and Payment Bonds shall be executed by a surety company satisfactory to Owner in form of AIA A311.

§ 11.4.1.1 Such Bonds, among other conditions, shall include payment for all materials used in Work and for all labor performed, whether by subcontractor or otherwise. Cost of Performance Bond and Payment Bond shall be included in the Contract Sum. Further, the Surety, by providing such Bonds, agrees to waive all notice to any change in the Work that would extend the Contract Time or increase Contract Sum and Surety agrees to increase the Penal Sum of the Bonds in the event of increases in the Contract Sum to this Agreement.

§ 11.4.1.2 Said Bonds shall remain in full force and effect during term of any warranty required by specifications and any such longer term as required by Kansas law. Contractor shall keep bonding company informed of changes in amount of the Contract Sum and shall furnish Architect with copies of notices of such changes.

§ 11.4.2 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.

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 request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect'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 may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after 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 an 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 written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. 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 2.4. This provision does not reduce or limit Contractor's obligation to perform Work in accordance with the Contract Documents nor does it reduce or limit any remedies available to Owner at law or in equity.

§ 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.

§ 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, whether completed or partially completed, of the Owner or separate contractors 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 effected 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 State of Kansas.

§ 13.1.2 It is the Owner's intent to take advantage of its tax exemption status. Therefore, the Owner will furnish to the Contractor a tax exemption number issued by the State of Kansas for the construction of this Project. Where appropriate, sales tax shall not be included in the Contractor's proposal.

§ 13.1.3 The Contractor agrees to abide by all federal requirements, including Equal Employment Opportunity (Article 15.1), the Clean Air Act, the Federal Water Pollution Control Act and such other federal, state or local laws applicable to this Project and to furnish any certification required by any federal, state or local governmental agency in connection with same.

§ 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 such 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 such assignment.

§ 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES

§ 13.4.1 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.

§ 13.4.2 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 there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 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 the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. 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 (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 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 13.5.1, 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 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 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.

§ 13.5.4 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.

§ 13.5.5 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.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST

In the event that undisputed amounts are not paid by Owner to Contractor within 30 days after Owner receives a timely, properly completed undisputed request for payment, the Owner shall pay interest computed at the rate of 18% per annum on the undisputed amount, which shall begin to accrue on the eighth day after Architect receives an undisputed request for payment from Contractor. Owner agrees that all obligations regarding payment are subject of the Kansas Fairness in Public Construction Contract Act, K.S.A. §16-1901, et seq.

§ 13.7 TIME LIMITS ON CLAIMS

Claims by the Contractor must be initiated within twenty-one (21) days after occurrence of the event giving rise to such claim, otherwise, such claim shall be deemed waived. Claims must be made by written notice to the Owner with a copy to the Architect. The Owner shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

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 or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, 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; or
- .3 Because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents, following a seven-day written notice to cure to Owner .

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed,. Contractor shall have no right to anticipated overhead and profit on the work not completed and shall not be entitled to any consequential, indirect or incidental damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor 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.

§ 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 for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .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 above reasons exist, 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 (7) days' written 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.
- .4 By issuing the bonds for the Project, the Surety acknowledges that the Bonds are subject to the requirements of this Agreement. Further, in the event Owner must terminate Contractor for cause, the Surety agrees to perform its obligations under the bonds with promptness so as to not delay the overall completion of the Project and the Surety shall take all necessary steps to bring the Project back on track.

§ 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 as described in 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.

§ 14.4 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 written 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 Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

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, 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.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must 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 must 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.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

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 for all non-disputed Work. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given to Owner and Architect before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein 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.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be made in accordance with the requirements and limitations of Section 01010, in the Paragraph entitled "Time Extensions for Unusually Severe Weather."

§ 15.1.6 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 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Architect for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to litigation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no 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 Owner to authorize retention of such persons at the Owner'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 such 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 but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may, within 30 days from the date of an initial decision, file suit in litigation.

(Paragraph deleted)

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

(Paragraphs deleted)

ARTICLE 16 AFFIRMATIVE ACTION

§ 16.1 Contractor shall comply with all federal, state and municipal statutes, rules, regulations and ordinances pertaining to hiring practices, affirmative action, and labor applicable to the jurisdiction of the Project.

§ 16.2 Exceptions to the above Equal Employment Opportunity conditions are contracts and subcontracts not exceeding ten thousand and no/100 dollars (\$10,000.00).

§ 16.3 Unless otherwise provided, the above Equal Employment Opportunity provisions are required to be inserted in all non-exempt subcontracts.

§ 16.4 Contractor may be required under Section 60-1.40 Title 41, C.F.R., to develop a written Affirmative Action Compliance Program if Contractor has fifty (50) or more employees. If Contractor is so required, it agrees to do so no later than one hundred twenty (120) days after the effective date of the Contract and to maintain such program until such time as it is no longer required by law or regulations.

§ 16.5 Contractor shall be bound by and agrees to the provisions of the Vietnam Era Veteran's Readjustment Act of 1974 and all regulations, rules and orders promulgated there under.

§ 16.6 Contractor shall be bound by and agrees to the provisions of Section 503 of the Rehabilitation Act of 1973 and all requirements, rules and orders promulgated there under.

CONTRACTUAL PROVISIONS ATTACHMENT

Important: This form contains mandatory contract provisions and must be attached to or incorporated in all copies of any contractual agreement. If it is attached to the vendor/contractor's standard contract form, then that form must be altered to contain the following provision:

"The Provisions found in Contractual Provisions Attachment (Form DA-146a, Rev. 06-12), which is attached hereto, are hereby incorporated in this contract and made a part thereof."

The parties agree that the following provisions are hereby incorporated into the contract to which it is attached and made a part thereof, said contract being the _____ day of _____, 20_____.

1. **Terms Herein Controlling Provisions:** It is expressly agreed that the terms of each and every provision in this attachment shall prevail and control over the terms of any other conflicting provision in any other document relating to and a part of the contract in which this attachment is incorporated. Any terms that conflict or could be interpreted to conflict with this attachment are nullified.
2. **Kansas Law and Venue:** This contract shall be subject to, governed by, and construed according to the laws of the State of Kansas, and jurisdiction and venue of any suit in connection with this contract shall reside only in courts located in the State of Kansas.
3. **Termination Due To Lack Of Funding Appropriation:** If, in the judgment of the Director of Accounts and Reports, Department of Administration, sufficient funds are not appropriated to continue the function performed in this agreement and for the payment of the charges-hereunder, State may terminate this agreement at the end of its current fiscal year. State agrees to give written notice of termination to contractor at least 30 days prior to the end of its current fiscal year, and shall give such notice for a greater period prior to the end of such fiscal year as may be provided in this contract, except that such notice shall not be required prior to 90 days before the end of such fiscal year. Contractor shall have the right, at the end of such fiscal year, to take possession of any equipment provided State under the contract. State will pay to the contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any such equipment. Upon termination of the agreement by State, title to any such equipment shall revert to contractor at the end of the State's current fiscal year. The termination of the contract pursuant to this paragraph shall not cause any penalty to be charged to the agency or the contractor.
4. **Disclaimer Of Liability:** No provision of this contract will be given effect that attempts to require the State of Kansas or its agencies to defend, hold harmless, or indemnify any contractor or third party for any acts or omissions. The liability of the State of Kansas is defined under the Kansas Tort Claims Act (K.S.A. 75-6101 et seq.).
5. **Anti-Discrimination Clause:** The contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001 et seq.) and the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111 et seq.) and the applicable provisions of the Americans With Disabilities Act (42 U.S.C. 12101 et seq.) (ADA) and to not discriminate against any person because of race, religion, color, sex, disability, national origin or ancestry, or age in the admission or access to, or treatment or employment in, its programs or activities; (b) to include in all solicitations or advertisements for employees, the phrase "equal opportunity employer"; (c) to comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (d) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor; (e) that a failure to comply with the reporting requirements of (c) above or if the contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration; (f) if it is determined that the contractor has violated applicable provisions of ADA, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration.

Contractor agrees to comply with all applicable state and federal anti-discrimination laws.

The provisions of this paragraph number 5 (with the exception of those provisions relating to the ADA) are not applicable to a contractor who employs fewer than four employees during the term of such contract or whose contracts with the contracting State agency cumulatively total \$5,000 or less during the fiscal year of such agency.
6. **Acceptance Of Contract:** This contract shall not be considered accepted, approved or otherwise effective until the statutorily required approvals and certifications have been given.
7. **Arbitration, Damages, Warranties:** Notwithstanding any language to the contrary, no interpretation of this contract shall find that the State or its agencies have agreed to binding arbitration, or the payment of damages or penalties. Further, the State of Kansas and its agencies do not agree to pay attorney fees, costs, or late payment charges beyond those available under the Kansas Prompt Payment Act (K.S.A. 75-6403), and no provision will be given effect that attempts to exclude, modify, disclaim or otherwise attempt to limit any damages available to the State of Kansas or its agencies at law, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.
8. **Representative's Authority To Contract:** By signing this contract, the representative of the contractor thereby represents that such person is duly authorized by the contractor to execute this contract on behalf of the contractor and that the contractor agrees to be bound by the provisions thereof.
9. **Responsibility For Taxes:** The State of Kansas and its agencies shall not be responsible for, nor indemnify a contractor for, any federal, state or local taxes which may be imposed or levied upon the subject matter of this contract.
10. **Insurance:** The State of Kansas and its agencies shall not be required to purchase any insurance against loss or damage to property or any other subject matter relating to this contract, nor shall this contract require them to establish a "self-insurance" fund to protect against any such loss or damage. Subject to the provisions of the Kansas Tort Claims Act (K.S.A. 75-6101 et seq.), the contractor shall bear the risk of any loss or damage to any property in which the contractor holds title.
11. **Information:** No provision of this contract shall be construed as limiting the Legislative Division of Post Audit from having access to information pursuant to K.S.A. 46-1101 et seq.
12. **The Eleventh Amendment:** "The Eleventh Amendment is an inherent and incumbent protection with the State of Kansas and need not be reserved, but prudence requires the State to reiterate that nothing related to this contract shall be deemed a waiver of the Eleventh Amendment."
13. **Campaign Contributions / Lobbying:** Funds provided through a grant award or contract shall not be given or received in exchange for the making of a campaign contribution. No part of the funds provided through this contract shall be used to influence or attempt to influence an officer or employee of any State of Kansas agency or a member of the Legislature regarding any pending legislation or the awarding, extension, continuation, renewal, amendment or modification of any government contract, grant, loan, or cooperative agreement.

SECTION 01 01 00 - SUMMARY OF WORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Description of the Work.
- B. Work under other contracts.
- C. Products furnished by the owner.
- D. Contractor use of site (and premises).
- E. Code of Conduct.
- F. Existing conditions.
- G. Work sequence, Schedule for Completion and liquidated damages.
- H. Time extensions for adverse weather.
- I. Owner occupancy.
- J. Time extension for factors other than weather.
- K. Additional owner requested bid breakdown.

1.02 DESCRIPTION OF THE WORK

- A. The Contractor shall furnish all labor, materials, facilities, insurance, management, equipment, services, employee training and testing, permits and agreements necessary to perform the work required for the new scoreboard structure at SMSD District Stadium, North Location.

General construction for this bid will not require mobilization at multiple project sites. The bidder must perform the work in its entirety. Transferring or sharing prime responsibility for the work will not be allowed and will be considered cause for termination.
- B. The work includes, but is not necessarily limited to the following:
 - 1. General construction for new Scoreboard structure, including sitework, concrete, structural steel fabrication, erection, installation of the scoreboard, and electrical.
 - 2. All work to be completed for the SMSD District Stadium, North Location
7401 Johnson Drive
Overland Park, KS 66202
- C. The General or Prime Contractor shall be represented (full time) at the site, by a competent Superintendent from beginning of the work, until final completion unless otherwise approved by the Owner. The superintendent shall oversee and direct the daily construction activities at the work site including scheduling of workers and delivery of equipment and materials to meet the project schedule, and all activities of the construction. The superintendent shall also inspect work in progress to ensure that work

conforms to the plans and specifications. The Superintendent shall be dedicated to these duties and shall physically perform work or "wear tools" only on a limited basis.

- D. The Contractor shall "video" the peripheral areas to remain for reuse as in District Soccer Complex perimeter walks bleachers fences, etc., East perimeter grades and fencing/backstops, and all access routes as a verification of existing conditions, before starting the on-site construction work. Reference paragraph 1.08 of Section 01300.
- E. The Contractor is expected to protect all existing finishes including track surfacing, sidewalk and existing fencing to remain protection, access drives and adjacent grounds, by means and methods necessary in coordination with track manufacturers recommendations, good practice, and School District direction, at minimum, install to the extents as needed.
- F. The Contractor shall submit shop drawings and samples as early as possible to allow the adequate staging of materials and supplies, prior to commencement of on site work.
- G. Staging areas for each school shall be as agreed to with Owner for each school. The Contractor is encouraged to remove debris, demo material and trash from the closest exits, providing the gates/openings are protected from damage.
- H. The on site work is scheduled to be performed for:
 - 1. Scoreboard Structure, SMSD District Stadium, North Location
 - * Final completion shall be achieved as noted after the established date of substantial completion, to include the issuance of the architect-engineer punch list to the general contractor for the affected building area.
- I. Work Sequence and Scheduling and Liquidated Damages
 - 1. The Contractor and all Subcontractors, sub-subcontractors and Suppliers shall furnish sufficient forces, supervision, construction plant and equipment, and shall work such hours as may be required to insure the prosecution of the work in accordance with the Progress Schedule stated herein. If in the opinion of the Owner, the Contractor falls behind the Progress Schedule, the Contractor shall take such steps as may be necessary to improve the progress and the Owner may require them to increase the number of shifts, and/or overtime operations, days of work including holidays, Saturdays and Sundays, all without additional costs to the Owner.
- J. Liquidated Damages
 - 1. Liquidated damages for substantial completion will be assessed if the general contractor has not achieved adequate progress to permit school district personnel occupancy and use of all noted areas of the site in accordance with the dates for substantial completion noted above. Damages will accrue and will be based on the unavailability of the practice and game/meet site for their intended purposes as determined by the school district. Liquidated damages noted are tiered and are based on the intended use of the site in accordance with the school schedules proposed or established.

<u>Construction Start Date</u>	<u>Substantial Completion</u>	<u>Final Completion</u>
May 17, 2018	July 27, 2018	August 10, 2018

Liquid Damages Assessment

\$0/day up to and including July 27, 2018
\$500/day beginning August 10, 2018 until completion.

Refer to paragraph 2.03 of the Construction Agreement.

Final completion of construction related activities including the satisfactory completion of all punchlist corrections shall be completed in accordance with the timeframe noted above for each building and/or area. Liquidated damages associated with final completion shall be assessed based on any actual costs incurred by the school district due to the restricted use of the facility; and for costs that may be associated with inconvenience, lack of efficiency, and/or district personnel costs associated with providing exclusive access for the general contractor to complete punch list corrections after normal school day operation and/or on weekends or holidays. Similarly, any actual costs incurred by the school district for extended or additional architect/engineer services made necessary as a result of the general contractor's inability to meet final completion will be assessed as liquidated damages to the general contractor.

- K. School is scheduled to be in session at this time. There will be other SMSD staff limited activities in the building and onsite during the working period. The Contractor must cooperate and work with the SMSD staff.

1.03 WORK UNDER OTHER CONTRACTS.

- A. Items noted 'NIC' (Not in Contract), will be furnished and installed by owner or other separate contractors.
- B. Owner will remove and retain possession of items prior to start of building construction work and/or demolition activities at his discretion that he desires to retain from each area of work.
- C. Items to be furnished by Owner for final installation by General Contractor will be noted on the drawings (OFCI) Owner Furnished, Contractor Installed.
- D. The owner has paid No Dollars and No Cents, (\$00.00) for plan check fee for this project with the City of Overland Park, Kansas, and the Kansas Codes Administration. All other permits required remain the contractor's responsibility.
- E. Utility relocations and extensions will be performed by utility suppliers or their agents. The contractor is responsible for the scheduling, phasing, and coordination of all work performed by the respective utility suppliers or their agents. This includes, but is not limited to, work performed by:
1. Water District No. 1 of Johnson County
 2. Kansas City Power and Light
 3. Southwestern Bell (Telephone)

4. Time Warner Cable /Spectrum (Cable Television)

1.04 CONTRACTOR USE OF SITE AND PREMISES

- A. Project staging, parking of storage and office trailers shall occur as directed by Owner for each site.
- B. Limit use of site and premises to allow owner occupancy and normal summer break cleanup activity, building, parking lots, and hard play areas during construction.
- C. The contractor shall coordinate the use of the site and locations for all equipment storage, job trailers, portable lavatory facilities, generators, etc., with the architect and owner. The owner shall have the final approval for all site use by the contractor.

1.05 CONTRACTOR AND VENDOR EMPLOYEES CODE OF CONDUCT

- A. Shawnee Mission School District requests that all contractor and vendor employees conduct themselves in an acceptable manner while performing work on school district property. The following items are prohibited on school district property:
 - 1. No physical or verbal contact is to be made with students or non-designated staff.
 - 2. No smoking or other use of tobacco products in any manner is permitted on district property.
 - 3. No drugs and/or alcohol are to be consumed or present on district sites.
 - 4. No firearms, or hunting items, are to be present on the site.
 - 5. Foul and/or abrasive language is not to be used.
 - 6. All workers are to wear clothing on all parts of their body; no shirtless workers. Apparel should be appropriate to a school campus.
- B. Utilize designated areas for vehicle access and parking, material storage, etc.
- C. All workers are to wear a nametag, which identifies the company name and the individual's name.

1.06 EXISTING CONDITIONS

- A. The contract drawings are based on information taken from original construction drawings, site surveys and from inspections of the site.
- B. Bidders are advised that "as-built" conditions may vary from those shown on the drawings. Bidders shall not later request, nor expect to receive, additional payment for work related to variations which can be determined by examination of the existing building and site, by the date set for receipt of Bids for this Contract.

1.07 TIME EXTENSIONS FOR ADVERSE WEATHER

- A. The Contractor shall comply with all provisions of the General Conditions in submitting any request for extension of Contract Time due to unusually severe weather.
- B. Definitions:
 - 1. Adverse Weather - atmospheric conditions at a definite time and place which are unfavorable to construction activities.
 - 2. Unusually Severe Weather - weather which is more severe than the adverse weather anticipated for the season, location, or activity involved.

- C. In order for any request of time extension due to unusually severe weather to be valid, the Contractor must document both of the following conditions.
1. The weather experienced at the project site during the Contract period is more severe than the adverse weather anticipated for the project location during any given month.
 2. The unusually severe weather actually caused a delay to the scheduled progress and/or completion of the project. The delay must be beyond the control and without fault or negligence by the Contractor.
- D. The following schedule of monthly anticipated adverse weather delays will constitute the baseline for monthly weather time evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather-affected activities:

MONTHLY ANTICIPATED ADVERSE WEATHER DELAY WORK DAYS
BASED ON FIVE (5) DAY (Monday – Friday) WORK WEEK

<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUN</u>	<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>
10	8	7	6	7	7	5	5	5	4	5	9

- E. Upon receipt of the Notice to Proceed, and continuing throughout the contract, the Contractor shall record on their daily construction report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50% or more of contractor's scheduled work day.
- F. The number of actual adverse weather delay days shall include days impacted by actual adverse weather (even if adverse weather occurred in the previous month), and shall be calculated chronologically from the first to the last day of each month, and be recorded as full work days.
1. If the number of actual adverse weather delay days in a given month exceeds the number of days anticipated in Paragraph D, above, the difference shall be multiplied by 7/5 to convert any qualifying workday delays to calendar days. The resulting number of qualifying lost days shall be added upon approval by the Architect and Owner to the contract time.
 2. The determination that unusually severe weather occurred does not automatically mean an extension of time will be granted. The contractor must substantiate the unusually severe weather delayed work activities on the critical path of the Progress Schedule.
- G. Full consideration for equivalent fair weather workdays shall be given. If the number of actual adverse weather delays in a given month is less than the number of days anticipated in Paragraph D, above, the difference shall be multiplied by 7/5 to convert any work day increases to calendar days. The resulting number of qualifying extra days will be accumulated and subtracted from any future month's days lost due to unusually severe weather.
1. The net cumulative total of extra days/lost days shall not result in a reduction of Contract Time and the Date of Substantial Completion shall not be changed as a result of unusually favorable weather.

- H. In converting workdays to calendar days, fractions 0.5 and greater shall be rounded up to the next whole number. Fractions less than 0.5 shall be dropped.
- I. The contractor shall summarize and report all actual adverse weather delay days for the preceding month to the architect by the tenth (10th) day of the following month. A narrative indicating the impact of adverse weather conditions on the scheduled critical activities shall be included.
 - 1. Any request or claim for an extension of time due to unusually severe weather shall be submitted to the architect and owner within twenty-one (21) days of the last day of the month in which the delay occurred. Resolution of any weather delay claim shall follow the procedures established by the general conditions and as prescribed above.
- J. The contractor shall include and indicate the monthly anticipated adverse weather days, listed in Paragraph D, above, in their progress schedule. (Reference Section 1300 for Progress Schedule requirements.)
 - 1. The contractor shall indicate the actual adverse weather days (whether less or more than the anticipated days) in their monthly progress schedule update.

1.08 OWNER OCCUPANCY

- A. The existing building, parking lots and hard play areas will be used and occupied by the Shawnee Mission School District during portions of the Contract Time. Occupants will include, but not be limited to: students, faculty, parents, and other groups so authorized to use the building and/or site by the school district.
- B. School will be generally in session from 7:40 a.m. to 3:45 p.m., Mondays through Fridays, spring and fall semesters, throughout the contract time. In addition, the hours from 7:30 a.m. to 9:00 a.m. and from 2:30 p.m. to 4:00 p.m., Monday through Friday, will be reserved for arrival and departure of the school district occupants. Delivery of materials and equipment is to be scheduled outside of these hours. The school is unoccupied for summer recess and will be available for contractor access.
- C. The work shall be confined to limited areas of the sites. Each Contractor shall work with the Project Team to develop a schedule of areas to receive work. The schedule will identify specific areas of the site to receive work at specific times. This schedule shall be submitted by the General Contractor to the Architect for approval before the work begins.
- D. It is desired that all the Contractors will work in multiple sites, simultaneously and completing the work in an orderly fashion.
- E. Unless otherwise indicated, the owner will move loose furnishings out of the Contractors way with SMSD work forces prior to scheduled demolition. This will include benches, portable goals, hurdles, small sheds, equipment, and other materials prohibiting work.

1.09 TIME EXTENSION FOR FACTORS OTHER THAN WEATHER

- A. If the contractor incurs a delay due to factors out of his control, the contractor shall submit a claim within fourteen (14) days after the occurrence of the delay to the architect and project team. The claim shall include a description of the cause of the delay and resultant request for additional time.

- B. If a proposal request for additional work causes the contractor additional time to perform the original contract requirements the contractor may submit a claim for additional time to the Architect and Owner. The Contractor shall include in his proposal the request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.
- C. The determination that delays have occurred beyond the Contractor's control does not automatically mean an extension of time will be granted. The Contractor must substantiate the delay by indicating suspended work activities on the critical portion of the project schedule.

END OF SECTION

SECTION 01 02 00 - CONTRACT CONSIDERATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Schedule of values.
- B. Application for Progress Payment.
- C. Application for Final Payment
- D. Change Orders and/or Clarifications.

1.02 SCHEDULE OF VALUES

- A. The Contractor will submit to the Architect, a Schedule of Values that includes all major categories of work and per building if applicable. The Schedule of Values will annotate a value for the construction schedules and progress meeting notes required by the contract documents. The dollar amounts are to include all labor, material, overhead and profit applicable to each item in the breakdown. As a sub-breakdown, each item is to be separated into an estimated labor and materials line item. The Contractor must submit an estimated total value for the projected cost of supplies, materials, and equipment required. Submit typed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form of electronic media printout will be considered as an alternate form of submission.
- B. Submit Schedule of Values in triplicate within fourteen (14) calendar days after the contract for construction is executed and prior to any submission of an Application for Payment. Schedule shall list the installed value of the component parts of the work, broken down in sufficient detail to serve as a basis for computing values for progress payments during construction.
- C. Format: At a minimum, use the Table of Contents in this Project Manual to identify each line item with number and title of the major specification section.
- D. Add to the Schedule of Values approved Change Orders, with each Application for Payment. List Change Orders in numerical sequence with each Application for Payment.
- E. Correlate line items in the Schedule of Values with other required additional schedules and forms including:
 - a. Contractor's construction schedule
 - b. Contract payment request form
 - c. List of subcontractors.
 - d. List of products.
 - e. List of principle suppliers and fabrications.
 - f. Schedule of submittals.
- F. Prior to making application for the first progress payment, the Contractor must submit the Schedule of Values. No progress payments will be made until the schedule of values has been received, reviewed, and approved by the Architect and Shawnee Mission School District. The costs assigned to the breakdown are to total the contract sum. The approved Schedule of Values is to be used by the Contractor on their Application for Payment.

1.03 APPLICATION FOR PROGRESS PAYMENTS

- A. At a time consistent with the requirements of this section, the General Conditions, and the Owner-Contractor Agreement, and for each calendar month during the progress of the work, submit three (3) copies of a properly notarized itemized Application for Payment prepared in a manner consistent with the Schedule of Values.
- B. The amount shown on the Application for Payment shall be established by the value of work completed through the last day of the application period based upon the Contractor's estimate of labor and materials incorporated in the work and of materials suitably stored in accordance with the contract through the last day of the previous application, less the aggregate of previous payments, and less the retainage as specified in this section.
- C. The form of application for payment shall be the May, 1983 edition of AIA Document G702. "Application and Certificate for Payment", supported by AIA Document G703. "Continuation Sheet", May, 1983 edition.
- D. Provide the following itemized data on Continuation Sheet:
 - a. Format, schedules, line items, and values shall be from the Schedule of Values accepted by Architect.
 - b. Include names, trades and amount for subcontractors.
- 1. Application Form:
 - a. Fill in required information, including that for change orders executed prior to the date of submittal application.
 - b. Fill in summary of dollar values to agree with the respective totals indicated on the continuation sheet.
 - c. Execute certificate with the signature of a responsible officer of the contractor's firm.
- 2. Continuation sheets:
 - a. Fill in total list of all scheduled component items of work, with each number and the scheduled dollar value of each item.
 - b. Fill in the dollar value in each column for each scheduled line item when work has been performed or products stored. Round off values to nearest dollar, or as specified in the Schedule of Values.
 - c. List each change order executed prior to the date of submission, at the end of the continuation sheets. List by change order number, description, and breakdown of costs as for an original component item of work.
- E. Substantiating Data for Progress Payments:
 - 1. Substantiating data is required to verify a payment request. Contractors are to include a cover letter identifying:
 - a. Project.
 - b. Application number and date.
 - c. Detailed list of enclosures.
 - d. For stored products: Item number and identification as shown on application, and description of specific material. Include Bill of Sale, Non-Negotiable Bailment Receipt (see form at the end of this section) and applicable insurance certificate.

2. Submit one copy of the data cover letter for each of the applications.
- F. Applications for Payment shall be accompanied by cost breakdowns from the contractor, subcontractors and sub-sub-contractors.
- G. The three notarized copies of the application for payment will be transferred to the architect to be certified for payment. Provide a copy (non-notarized) to the owner's representative.

1.04 APPLICATION FOR FINAL PAYMENT

- A. Submit final Application for Payment following the procedures specified above for progress payments.
- B. Before submitting final Application for Payment, forward concurrently to the Architect, the written warranties and guarantees, Record and Information Manuals and other documents required by the contract documents. Place properly in approved storage at the site the extra stock and spare parts specified. Contractor will obtain the signature of the Architect verifying receipt of the extra stock and spare parts.
- C. Properly executed "Final Lien Waiver and Release" and Contractor's "Affidavit" (see applicable forms at the end of this section) shall be submitted to the Architect in duplicate prior to final payment.
- D. Application for Final Payment shall be accompanied by a properly executed "Consent of Surety Company to Final Payment: AIA Document G707.

1.05 CHANGES AND/OR CLARIFICATIONS

- A. Request for Information (RFI)
 1. If during the construction of the project, clarification of the documents is required, it shall be brought to the attention of the Architect. The Architect will either provide clarification or the Contractor will issue a Request for Information (RFI) to the Architect. Each RFI will be dated and sequentially numbered. The Architect shall provide his written response to the RFI and return the RFI response to the Contractor for distribution to all effected contractors.
 2. Responses to RFI's are not authorization to proceed with work requiring additional compensation. If additional compensation is required, the Contractor shall immediately advise the Architect, and Owner.
- B. Proposal Request (PR)
 1. Should the owner contemplate making a change in the work, the architect will issue a Proposal Request (PR) to the Contractor. If the described change impacts cost and/or time, the Contractor will prepare a proposal and submit it to the Architect. The Contractor's proposed cost shall be broken down completely giving quantity and unit costs by each trade of each item, labor cost with hourly rates, allowable overhead and profit (both adds and deducts). The Owner and Architect will review the pricing to determine if a change order will be issued. Contractors are not to proceed with additional work until written authorization has been received. No additional amount will be paid for submittal in this form or for resubmittal should the breakdown be considered inadequate by the Architect and Owner.

C. Change Orders (CO)

1. If the Owner determines that a Proposal Request will be accepted, the Architect will prepare a change order (CO) which will be dated and numbered sequentially. The change order will describe the change or changes, will refer to the Proposal Request and Proposal number and becomes valid when signed by the Owner, the Architect and the Contractor.
2. Where unit prices are not required by the bid documents and value of changes or extra work is determined by estimate and acceptance in a lump sum, by cost and percentages, or by cost and a fixed fee, the percentages for overhead and profit, or commission to be allowed for net increases shall in no case exceed the figures identified on the bid form.
3. Estimates for material shall be based on reasonable current market value at which materials are available to the Contractor and Subcontractor. Upon request, submit satisfactory evidence of such costs. Labor unit costs shall include associated insurance.
4. When authorized by the Owner, time and material accounting of a change in work may be used. The Contractor shall maintain an accurate account of labor and material involved in each change. Such time and material records are subject to verification. Notify Architect and Owner when work on each change is to start and when it has been completed. To receive full recognition, labor assigned to Contract changes must, insofar as possible, work continuously on the change, rather than interchanging between contract work and the change.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION

FINAL LIEN WAIVER AND RELEASE

Reference that certain Agreement between _____, as Contractor, and _____ as Owner, dated _____, on the project known as _____ located at _____ for work to be performed by said Contractor.

Reference also that certain invoice of Contractor to said Owner in the Amount of \$_____ for work, labor and materials installed in or furnished for said project by and through _____.

The receipt by Contractor of Owner's remittance for the amount said invoice, contingent upon the final clearance and payment of said remittance, shall constitute payment for the full contract amount, including change orders and all other claims or demands of any nature whatsoever which Contractor has or may have in connection with the Project or Contract referenced herein, of \$_____, for which Contractor (a) agrees to and does hereby waive and release said property, project and the Owner and all bond or payment sureties and guarantors from; and (b) does hereby agree to protect, indemnify, defend and hold harmless said property, project, Owner, sureties and guarantors against;

- (1) any and all liens, statutory or otherwise, and
- (2) any or all obligations under any bond or guaranty for payment furnished by or to said Owner, whether pursuant to agreement or requirement of law, and
- (3) any and all other claims whatsoever, statutory or otherwise,

for any and all work, labor and materials furnished by or through said Contractor, its subcontractors and material suppliers for the entirety of said project.

The remittance of the Owner, identified as payment of said above invoice and endorsed by Contractor and marked "paid" or otherwise canceled by the bank against which said remittance was drawn shall constitute conclusive proof that said invoice was paid and the payment thereof was received by the Contractor, and thereupon, this final lien waiver shall become effective automatically and without requirement of any further act, acknowledgment or receipt of the part of said Contractor.

Contractor does further warrant that Contractor has not and will not assign its claims for payment nor its right to perfect a lien against said property and project, and the undersigned representative of the contractor has the right to execute this waiver and release thereof.

The undersigned representative of Contractor does hereby certify under oath that he is fully authorized and empowered to execute this instrument for and in behalf of said Contractor and to bind them hereto and does in fact so execute this final lien release.

Dated this _____ day of _____, 20__.

Contractor:

By:

Title:

Subscribed and affirmed to before me, the undersigned Notary Public within and for the State of _____
_____ and the County of _____, this _____ day of _____, 20__, in the City
of _____.

Notary Public within and for said County and State
NON-NEGOTIABLE
BAILMENT RECEIPT

Receipt Number

BAILOR: Owner _____

BAILEE: Contractor/Supplier _____

PROJECT: _____

LOCATION OF STORAGE: _____

The goods and materials described below are held and stored pursuant to the Contract by and between Bailee, as Contractor/Supplier, and Bailer as Owner for Work to be performed at the above referenced Project location. Said goods and materials are to be transferred or delivered to the project site in conjunction with the performance of Bailee's contract referenced above or upon the direction of Bailer or the Architect and no other. The Bailee acknowledges that it has no ownership rights or title in, nor shall claim any lien or interest in or upon, said goods and materials.

QUANTITY	DESCRIPTION OF ITEM
----------	---------------------

New Scoreboard Structure for:
SMSD District Stadium, North Location
Shawnee Mission School District

3-17582

Received and Acknowledged
Contractor/Supplier

DATED: _____ BY: _____

Authorized Signature

New Scoreboard Structure for:
SMSD District Stadium, North Location
Shawnee Mission School District

3-17582

The undersigned representative of Contractor does hereby certify under oath that he is fully authorized and empowered to execute this instrument for and in behalf of said Contractor and to bind them hereto and does in face so execute this final lien release.

Dated this _____ day of _____, 20 ____.

Contractor:

By:

Title:

Subscribed and affirmed to before me, the undersigned Notary Public within and for the State of

_____ and the County of _____, this _____ day of _____, 20 _____,

in the City of _____.

Notary Public within and for said County and State

SECTION 01 04 00 - COORDINATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Coordination.
- B. General Installation Provisions
- C. Cleaning and Protection

1.02 COORDINATION

- A. Coordinate scheduling, submittals, and Work of the various sections of specifications to assure efficient and orderly sequence of the project. The General Contractor has schedule oversight responsibility.
- B. The General or Prime Contractor shall be represented (full time) at the site, by a competent Superintendent from beginning of the work, until final completion unless otherwise approved by the Owner. The superintendent shall oversee and direct the daily construction activities at the work site including scheduling of workers and delivery of equipment and materials to meet the project schedule and activity. The superintendent shall also inspect work in progress to ensure that work conforms to the plans and specifications.
- C. Coordinate completion and clean up of Work.
- D. After Owner occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with contract documents, to minimize disruption of Owner's activities. This will include off-hour Work to avoid conflict with Owner's activities.
- E. Coordinate construction activities included under various sections of these specifications to assure efficient, safe, and orderly installation of each part of the Work. Coordinate construction operations included under different sections of the specifications that are dependent upon each other for proper installation, connection, and operations.
 - 1. Where installation of one part of the Work is dependent on installation of other components either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
- F. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Conducting progress meetings.
 - 5. Orchestrating pre-installation and quality assurance meetings.
 - 6. Project closeout activities.

1.03 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major Work component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in contract documents.
 - 1. Where applicable, comply with manufacturer's instructions, including each step in sequence.
 - 2. Should manufacturer's instructions with contract documents, request clarification from Architect before proceeding.
 - 3. Installation must be performed to conform to the requirements of manufacturer's warranty.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and movement.
- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- F. Recheck measurements and dimensions, before starting each installation.
- G. Install each component during weather conditions and project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.

1.04 CLEANING AND PROTECTION

- A. Clean and maintain construction area as frequently as necessary throughout the project. General Contractor to provide up to and have use of at least one dumpster during the course of the Work. The dumpster to be located as coordinated with the Owner. The General Contractor shall be responsible for any damages and shall repair and/or replace grass sod, concrete curbing, sidewalks, paved surfaces or other items if damaged due to the Contractor's activities.
- B. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
 - 1. Excessive static or dynamic loading.
 - 2. Excessive internal or external pressures.
 - 3. Solvents.
 - 4. Chemicals.
 - 5. Puncture.
 - 6. Abrasion.
 - 7. Heavy traffic.
 - 8. Soiling and corrosion.

9. Bacteria.
10. Rodent and insect infestation.
11. Combustion.
12. Electrical current.
13. High speed operation.
14. Unusual wear or other misuse.
15. Contact between incompatible materials.
16. Destructive testing.
17. Misalignment.
18. Excessive weathering.
19. Unprotected storage.
20. Improper shipping or handling.
21. Theft.
22. Vandalism.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01 09 50 - REFERENCE STANDARDS AND DEFINITIONS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Related documents
- B. Definition
- C. Specification Format and Content Explanation
- D. Industry Standards
- E. Governing Regulations/Authorities
- F. Submittals

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.

1.03 DEFINITIONS

- A. Indicated: The term "indicated" refers to graphic representations, notes, or schedules on the drawings, other paragraphs or schedules in the specifications, and similar requirements in the contract documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used, it is to help the reader locate the reference; no limitation on locating is intended.
- B. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the architect/consultant", "requested by the architect/consultant", and similar phrases.
- C. Approve: The term "approved", where used in conjunction with the architect/consultant's action on the Contractor's submittals, applications, and requests, is limited to the architect/consultant's duties and responsibilities as stated in General, Supplementary, and Special Provisions.
- D. Regulation: The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the asbestos removal, hazardous waste, and construction industries that control performance of the work.
- E. Furnish: The term "furnish" is used to mean "supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, and similar operations".
- F. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations".
- G. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use".

- H. Installer: An “Installer” is the Contractor or an entity engaged by the Contractor, either as an employee, Subcontractor, or sub-subcontractor, for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
 - 1. The term “experienced” when used with the term “Installer” means having a minimum of five previous projects similar in size and scope to this project, being familiar with the precautions required, and having complied with requirements of the authority having jurisdiction.
 - 2. Trades: Use of titles such as “carpentry” is not intended to imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as “carpenter”. It also does not imply that requirements specified apply exclusively to trades persons of the corresponding generic name.
- I. Assignment of Specialists: Certain sections of the specifications require that specific construction activities shall be performed by specialists who are recognized experts in the operations to be performed. The specialists must be engaged for those activities, and assignments are requirements over which the Contractor has no choice or option. Nevertheless, the ultimate responsibility for fulfilling contract requirements remains with the Contractor.
 - 1. This requirement shall not be interpreted to conflict with enforcement of building codes and similar regulations governing the work. It is also not intended to interfere with local trade union jurisdictional settlements and similar conventions.
- J. Project Site is the space available to the Contractor for performance of activities, either exclusively or in conjunction with others performing other work as part of the project. The extent of the Project Site is shown on the drawings and may or may not be identical with the description of the actual Project Site. All dimensions and locations should be field verified and noted by the Contractor.
- K. Testing Laboratories: A “testing laboratory” is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.04 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: The specifications are organized into divisions and sections based somewhat on the Construction Inspection Institute’s 16-Division format and MASTER FORMAT numbering system.
- B. Specification Content: This specification uses certain conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 - 1. Abbreviated Language: Language used in specifications and other contract documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and the full context of the contract documents so indicates.
 - 2. Imperative and streamlined language is used generally in the specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used

to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.

- a. The words "shall be" shall be included by inference wherever a colon (:) is used within a sentence or phrase.

1.05 INDUSTRY STANDARDS

- A. Applicability of Standards: Except where the contract documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the contract documents. Such standards are made a part of the contract documents by reference.
- B. Publication Dates: Where the date of issue of a referenced standard is not specified, comply with the standard in effect as of date of contract documents.
- C. Conflicting Requirements: Where compliance with two or more standards is specified, and the standards establish different or conflicting requirements for minimum quantities or quality levels, refer requirements that are different, but apparently equal, and uncertainties to the architect and/or owner for a decision before proceeding.
 1. Minimum Quantity or Quality Levels: The quantity level shown or specified shall be the minimum provided or performed. In complying with these requirements, indicated numeric values are minimum or maximum, as appropriate for the context of the requirement. Refer uncertainties to the architect and/or owner for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in activities on the project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the contract documents.
 1. Where copies of standards are needed for performance of a required activity, the Contractor shall obtain copies directly from the publication source.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the specifications or other contract documents, they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations", published by Gale Research Co., available in most libraries.

1.06 GOVERNING REGULATIONS/AUTHORITIES

- A. As applicable, the architect and/or engineer has contacted authorities having jurisdiction to obtain information necessary for preparation of contract documents. Contact authorities having jurisdiction directly for information and decisions having a bearing on the work.

1.07 SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records established in conjunction with compliance with standards and regulations bearing upon performance of the work.

New Scoreboard Structure for:
SMSD District Stadium, North Location
Shawnee Mission School District

3-17582

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01 20 00 - PROJECT MEETINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Related Documents
- B. Summary
- C. Pre-Construction Conference
- D. Pre-Installation Conference
- E. Progress Meetings

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and other Division-1 specification sections, apply to this section.

1.03 SUMMARY

- A. This section specifies administrative and procedural requirements for project meetings including, but not limited to:
 - 1. Preconstruction conference.
 - 2. Preinstallation conferences.
 - 3. Coordination meetings.
 - 4. Progress meetings.
- B. Construction schedules are specified in another Division-1 section.

1.04 PRECONSTRUCTION CONFERENCE

- A. The Contractor shall schedule a preconstruction conference and organizational meeting at the project site or other convenient location within fourteen (14) days of contract execution, and at least seven (7) days prior to commencement of any construction activities. The Contractor shall conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: Shawnee Mission School District, the Architects/Consultants, the Contractor and its superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the work.
- C. Agenda: Discuss items of significance that could affect progress, including such topics as:
 - 1. Tentative construction schedule.
 - 2. Critical work sequencing.
 - 3. Designation of responsible personnel.
 - 4. Procedures for processing field decisions and change orders.
 - 5. Procedures for processing applications for payment.

6. Distribution of contract documents.
7. Submittal of Shop Drawings, Product Data and Samples.
8. Preparation of record documents.
9. Use of the premises.
10. Office, work and storage areas.
11. Equipment deliveries and priorities.
12. First aid.
13. Security.
14. Housekeeping.
15. Working hours.
16. Testing agencies and procedures.
17. Temporary utilities; water, electric, phone.
18. Temporary lavatory facilities.
19. Quality control.

- D. The Contractor shall record meeting minutes and distribute copies to everyone in attendance and to others affected by decisions of actions resulting from the meeting.

1.05 PREINSTALLATION CONFERENCES

- A. The General Contractor shall convene a preinstallation conference at the site before each construction activity that requires coordination with other construction. The Installer and representatives of manufacturers and fabricators involved in or affected by the installation, and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise the architect and owner of scheduled meeting dates.

- B. Review the progress of the construction activities and preparations for the particular activity under consideration at each preinstallation conference, including requirements for:

1. Contract documents.
2. Options.
3. Related Change Orders.
4. Purchases.
5. Deliveries.
6. Shop drawings, product data and quality control samples.
7. Possible conflicts.
8. Compatibility problems.
9. Time schedules.
10. Weather limitations.
11. Manufacturer's recommendations.
12. Compatibility of materials.
13. Acceptability of substrates.
14. Temporary facilities.
15. Space and access limitations.
16. Governing regulations.
17. Safety and application of associated Lock Out/Tag Out procedures.
18. Inspection and testing requirements.
19. Required performance results.
20. Recording requirements.
21. Protection.
22. Punchlist procedures and Architect/Engineer responsibilities limitations.

- C. Notify architect and owner four days in advance of meeting date when their attendance is required by individual section.

- D. The General Contractor shall prepare agenda, preside at the conference and record significant discussions and agreements and disagreements of each conference, along with the approved schedule. The Contractor shall distribute the record of the meeting to everyone concerned, promptly, including the owner and architect.
- E. Do not proceed if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of work and reconvene the conference at the earliest feasible date.

1.06 PROGRESS MEETINGS

- A. Conduct progress meetings at the Project Site at a minimum of bi-monthly intervals or as directed by the Architect. Notify the Owner and Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.
- B. Attendees: In addition to representatives of the Owner and Architect, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meeting by persons familiar with the Project and authorized to conclude matters relating to progress.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the project.
 - 1. Contractor's Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's schedule, whether on time or ahead or behind schedule. Determine how operations 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 with the contract time.
 - 2. Produce and review a two-week "look ahead" schedule outlining planned construction activities for the next two weeks (or the period of time until the next progress meeting).
 - 3. Review the present and future needs of each entity present, including such items as:
 - a. Interface requirements.
 - b. Time.
 - c. Sequences.
 - d. Deliveries.
 - e. Off site fabrication status.
 - f. Access.
 - g. Site utilization.
 - h. Temporary facilities and services.
 - i. Hours of work.
 - j. Hazards and risks.
 - k. Housekeeping.
 - l. Quality and work standards.
 - m. Change orders.
 - n. Documentation of information for payment requests.
 - o. Outstanding items; submittals, proposal requests, RFIs.
 - p. Quality assurance.

- q. Safety and application of necessary Lock Out/Tag Out procedures.
 - r. Performance of lead safe work practices.
- D. Reporting: No later than three days after each progress meeting date, the Contractor is to distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and reports.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01 21 00 - CASH ALLOWANCES

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes administrative and procedural requirements governing the use of cash allowances.
 - 1. This allowance has been established to address additive cost changes in the Work to address unforeseen conditions associated with construction. The use of the cash allowance is solely at the discretion of the Owner, and cannot be authorized by the Architect, Engineer, or other consultant.
- B. Related Sections include the following:
 - 1. Division 1 Section 010020 "Contract Considerations" for procedures for submitting and handling Change Orders.
 - 2. Divisions 2 through 32 Sections for items of Work that may be covered by allowances.

1.03 USE OF ALLOWANCES

- A. At the earliest practical date during construction, advise Architect and Owner of unforeseen conditions that affect the Work.
- B. At Architect's request, obtain cost proposals for the corrections of the noted unforeseen conditions.
- C. Based on cost proposals received, the Owner will make a decision to utilize available allowance amounts to correct the applicable unforeseen condition. The correction of individual unforeseen conditions may be funded utilizing cash allowances or a formal change order at the Owner's discretion.

1.04 SUBMITTALS

- A. Submit proposals for additive costs for unforeseen conditions in the same form specified for proposal requests.

1.05 RESPONSIBILITIES

- A. Architect Responsibilities:
 - 1. Consult with Owner in consideration and selection of additive cost items for consideration for application using cash allowances.
 - 2. Prepare Proposal Requests and assess proposals for application of cash allowances for Owner approval.

B. Contractor Responsibilities:

1. Identify unforeseen conditions as they may occur and advise the Architect and Owner.
2. Obtain proposals and offer recommendations.
3. On notification of approval of cash allowance, execute agreement with designated supplier and/or sub-contractor as applicable.
4. Arrange for and process applicable shop drawings, product data, and samples. Arrange for delivery.
5. Coordinate and install Work of approved Cash Allowances.
6. The Contractor shall include in his Bid all fees for all Cash Allowances.

C. Funds will be drawn from Cash Allowances only by written authorization of SMSD, based on unit costs for quantities involved on bid form.

E. Cash Allowances:

1. Section 00 06 00 – allow the sum of **\$10,000.00** for unforeseen conditions encountered during construction.

1.06 SCHEDULE OF VALUES

- A. The Contractor will submit to the Architect a Schedule of Values that includes all major categories of work, including applicable Cash Allowances.

1.07 COORDINATION

- A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.08 ALLOWANCE COSTS

- A. Allowance shall include cost to Contractor of products and materials, freight and delivery to Project Site, labor, and installation.
- B. Contractor's costs for overhead and profit, and similar costs of Bonds and Insurance shall be included as part of the Contract Sum and not part of the allowance.
- C. Any unused portion of the Allowance shall be credited to the Owner at the completion of the Work via a Deductive Change Order, along with the associated overhead and profit. Refer to Contract Documents for procedures and mark-ups for Deductive Change Orders.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 00 12 10

SECTION 01 33 00 - 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 1 Specification Sections, apply to this Section.

1.2 Summary

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

1.3 Definitions

- A. Action Submittals: Written and graphic information that requires Architect's responsive action.
- B. Informational Submittals: Written information that does not require Architect's approval. Submittals may be rejected for not complying with requirements.

1.4 Submittal Procedures

- A. General: All documents transmitted for purposes of administration of the contract are to be in electronic (PDF) format and transmitted via email.
 - 1. Beyond submittals for review, information, and closeout, this procedure applies to requests for information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, and any other document any participant wishes to make part of the project record. The intent shall be that construction phase documentation be paperless to the greatest extent possible.
- B. Electronic copies of CAD Drawings of the Contract Drawings will be provided as determined appropriate by Architect for Contractor's use in preparing submittals. The Architect may be contacted for providing electronic copies to the successful bidder for a service fee of \$25.00 per sheet plus tax and a \$25.00 handling fee for email/shipping. Include release of liability form and payment of fees will be required prior to release of any files.
- C. 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. 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 reserves the right to withhold action on a submittal requiring coordination with other submittal(s) until related submittals are received.
- D. Processing Time: Allow enough time for submittals review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal.

1. Initial review: Allow 5 calendar days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Concurrent review: Where concurrent review of submittals by Architect's consultants, Owner, or other parties is required, allow 10 calendar days for initial review of each submittal.
3. If intermediate submittal is necessary, process it in same manner as initial submittal.
4. Allow 5 calendar days for processing each re-submittal.
5. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

PART 2 - PRODUCTS

2.1 Action Submittals

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
- 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 printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Standard product operating and maintenance manuals.
 - g. Compliance with recognized trade association standards.
 - h. Compliance with recognized testing agency standards.
 - i. Application of testing agency labels and seals.
- 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.
 1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Installation drawings.
 - d. Schedules.
 - e. Compliance with specified standards.
 - f. Notation of coordination requirements.
 - g. Notation of dimensions established by field measurement.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings in electronic format only.

3. Contractor shall maintain additional prints where prints are required for operation and maintenance manuals. Architect will retain one electronic copy; with corrected electronic copy to Contractor for distribution.
- D. Samples: Prepare physical units of materials or products, including the following:
1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
 2. 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. Submit two (2) copies, one to the Owner and one for the Architect.
 3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the 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 inspection.
 4. Preparation: Mount, display or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Architect's sample where so indicated. Attach label on unexposed side that includes the following:
 - a. Generic description of Sample.
 - b. Product name or name of manufacturer.
 - c. Sample source.
 5. Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, provide the following:
 - a. Size limitations.
 - b. Compliance with recognized standards.
 - c. Availability.
 - d. Delivery time.
 6. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
 - a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
 7. Number of Samples for Initial Selection: Submit two full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. One to the Owner and one to the Architect who will return submittal with options selected.
 8. Number of Samples for Verification: Submit two set of Samples. Architect will retain one Sample sets; remainder will be returned.
- E. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI form 1.5A or a form pre-approved by the Architect. Include the following information in tabular form:
1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Sections(s) covered by subcontract.

2.2 Information Submittals

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1. Number of Copies: Submit electronically.
 - 2. Certificates and Certifications: Provide a notarized 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.
 - 3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- D. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- E. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, 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.
- F. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. 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.
- G. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Operation and Maintenance Data."
- H. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
 - 1. Preparation of substrates.
 - 2. Required substrate tolerances.
 - 3. Sequence of installation or erection.
 - 4. Required installation tolerance.
 - 5. Recommendations for cleaning and protection.
- I. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.
- J. Material safety Data Sheets: Submit information directly to Owner. If submitted to Architect, Architect will not review this information but will return it with no action taken.

PART 3 - EXECUTION

3.1 Contractor's Review

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. 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 Action

- A. General: Architect will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Architect will review each submittal, make marks to indicate corrections or modifications required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken:
- C. Informational Submittals: Architect will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION

SECTION 01 40 00 - QUALITY CONTROL

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Contractor's Quality Control
- B. Contractor's Quality Control Program
- C. Pre-Installation Conferences
- D. Initial and Follow-up Inspections
- E. Mock Up
- F. Field Samples
- G. Manufacturer's Field Services and Reports
- H. References
- I. Inspection and Testing Laboratory Services
- J. Quality Assurance and Control of Installation
- K. Safety

1.02 RELATED SECTIONS

- A. Section 01 04 00 - Coordination and Meetings
- B. Section 01 70 00 - Contract Closeout

1.03 CONTRACTOR'S QUALITY CONTROL

- A. The quality of all work shall be the responsibility of the Contractor. Sufficient inspections and tests of all items of work, including that of subcontractors, to ensure conformance to applicable specifications and drawings with respect to the quality of materials, workmanship, construction finish, functional performance, and identification shall be performed on a continuing basis. The Contractor shall furnish qualified personnel, appropriate facilities, instruments and testing devices necessary for the performance of the quality control function. The controls shall be adequate to cover all construction operations both on and off site, shall be keyed to the proposed construction sequence and shall be correlated by the Contractor's quality control personnel.

1.04 CONTRACTOR'S QUALITY CONTROL PROGRAM

- A. The Contractor shall submit to the Architect a copy of the proposed written quality control program prior to submission of the Contractor's first application and certificate for payment. The Contractor's written quality control plan shall include as a minimum:
 - 1. Identification of the project team for this project. Team members include, but are not necessarily limited to, the Owner's Project Manager, Architect, Mechanical

- Consultant, Electrical Consultant, Site Engineer, Structural Consultant, General Contractor and major subcontractors. List company name, address, contact and telephone number.
2. Name and identification of the Contractor's Quality Control representative (may be the superintendent or other key contract representative). Provide a brief description of proposed duties and qualifications. The quality control representative must have the authority to make all decisions relating to quality control issues.
 3. General summary and mission statement outlining general procedures for implementation of the program.
 4. List by specification section the method of performing, documenting and enforcing quality control operations of both prime and subcontract work including proposed and required inspection and testing. Include preinstallation conferences, follow-up inspections, mockups, field samples and manufacturer's inspection, and lead safe work practices and cleaning verifications.
 5. The Contractor's quality control program shall be submitted and accepted prior to consideration of the Contractor's first certificate and application for payment.

1.05 PREINSTALLATION CONFERENCES

- A. Pre-installation conferences shall be performed prior to beginning each feature of work for any on-site construction work. Preparatory inspections for the applicable feature of work shall include: review of submittal requirements and all other contract requirements with the foreman or supervisors directly responsible for the performance of the work; check to assure that provisions have been made to provide required field control testing; examine the work area to ascertain that all preliminary work has been completed; verify all field dimensions and advise the project Architect of any discrepancies; and perform a physical examination of materials and equipment to assure that they conform to approved shop drawings or submittal data and that all materials and/or equipment are on hand; review special requirements, review shop drawings and sample construction mockups as appropriate.
- B. The Contractor shall prepare agenda, preside at conference, record minutes, and distribute copies within five (5) days after conference to participants, with copies to the Architect and Owner.

1.06 INITIAL AND FOLLOW UP INSPECTIONS

- A. An initial inspection shall be performed as soon as a representative portion of the particular feature of the work is complete and shall include examination of the quality of workmanship as well as a review of the work for compliance with contract requirements. The initial inspection shall be performed by the Contractor's Quality Control representative and results noted in the Contractor's daily reports. Any deviations from the contract requirements shall be brought to the immediate attention of the Architect.

1.07 MOCK UP

- A. Construct mock-ups for the following:
 1. Turf subgrade and drainage base and drains ready for turf.
 2. Perimeter turf curb with nailers

- B. Mock-ups may be left as part of the final project if all is acceptable or corrected to meet requirements.

1.08 FIELD SAMPLES

- A. Install field samples at the site as required by individual specifications sections for review.
- B. Acceptable samples represent a quality level for the work.
- C. Where field sample is specified in individual sections to be removed, clear area after field sample has been accepted by the Architect.

1.09 REFERENCES

- A. Conform to reference standard by date of issue or current date of contract documents.
- B. Obtain copies of standards when required by contract documents.
- C. Should specified reference standards conflict with contract documents, request clarification from Architect before proceeding.
- D. The contractual relationship of the parties to the contract shall not be altered from the contract documents by mention or inference otherwise in any reference document.

1.10 INSPECTION AND TESTING LABORATORY SERVICES

- A. The Owner shall employ and pay for services of an independent firm to perform inspection and testing of subsoils and concrete.
- B. The independent firm will perform inspections, tests, and other services specified in individual specification sections and as required by the Architect.
- C. Reports will be submitted by the independent firm to the Architect, indicating observations and results of tests and indicating compliance or noncompliance with contract documents.
- D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 - 1. Notify Architect and independent firm forty-eight hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- E. Retesting required because of nonconformance to specified requirements shall be performed by the same independent firm on instructions by the Architect. Payment for retesting will be charged to the Contractor by deducting inspection or testing charges from the contract sum.

1.11 QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Maintain quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply fully with manufacturer's instructions, including each step in sequence.
- C. Should manufacturer's instructions conflict with contract documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality. Work that properly should be done by skilled labor shall not be attempted with common laborers. The Contractor shall have on the job, at all times, ample equipment to carry on the work properly, including such tools as may be necessary to meet emergency requirements.

1.12 SAFETY

- A. Contractors who perform any work under this contract will fully comply with the provisions of the Federal Occupational Safety and Health Act of 1970 and to the rules and regulations promulgated pursuant to this Act.
 - 1. Contractor must submit a safety program to the Architect prior to starting work on the site. This program should indicate the Contractor's plan to comply with OSHA requirements for the various conditions of the project. The Contractor shall appoint a safety representative on site. The safety program and Contractor's representative names must both be posed.
 - 2. The Architect will take no action on the Contractor's safety program, but will forward it to the Owner for information only. The Contractor is responsible for safety on the project site per the contract documents.
- B. Hazardous Material: In the event the Contractor encounters material on the site, reasonably believe to be asbestos or polychlorinated biphenyl (PCB) that has not been rendered harmless, the Contractor shall immediately stop work and notify the Architect and Owner. Such notification shall be documented in writing.
- C. Provide any and all measures of protection required by the applicable local municipality for the protection of the public and employees during excavation operations and at completion of work. Measures taken shall include, but not be limited to, sidewalks, barricades, warning lights and signs/ and shall comply with American Standard Safety Code and all local laws and ordinances. Maintain in good condition during operations.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

SECTION 01 50 00 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Documents
- B. Summary
- C. Submittals
- D. Quality Assurance
- E. Project Conditions
- F. Temporary Construction and Support Facilities
- G. Security and Protection Facilities Installation
- H. Operation, Termination, and Removal

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including general and supplementary conditions and other Division-1 Specification sections, apply to this section.

1.03 SUMMARY

- A. This section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.
 - 1. Field offices and storage sheds.
 - 2. Sanitary facilities, including drinking water.
 - 3. Temporary enclosures.
 - 4. Waste disposal services.
 - 5. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities required include, but are not limited to:
 - 1. Temporary fire protection.
 - 2. Barricades, warning signs, lights.
 - 3. Environmental protection.

1.04 SUBMITTALS

(Not Applicable)

1.05 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:

1. Building Code requirements.
 2. Health and safety regulations.
 3. Utility company regulations.
 4. Police, Fire Department and Rescue Squad rules.
 5. Environmental protection regulations.
- B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations"; ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical facilities."
1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.
 2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA temporary electric service. Install service in compliance with National Electrical Code (NFPA 70).
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.06 PROJECT CONDITIONS

- A. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES

- A. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities of ready access within project limit lines.
1. Maintain temporary construction and support facilities until near substantial completion. Personnel remaining after substantial completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
 2. Location of all temporary buildings shall be subject to the approval of the Owner and the governing authority.
- B. Provide incombustible construction for offices, shops and sheds located within the construction area, or within 30 feet of building lines. Comply with requirements of NFPA 241.
- C. Field Offices: Provide insulated, weather tight temporary offices of sufficient size to accommodate required office personnel at the project site. Keep the office clean and orderly for use of small progress meetings. Furnish and equip offices.

- D. Storage Trailers: Place storage trailers, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Trailers are to be fully enclosed and placed on the site with prior approval of the Owner.
- E. Sanitary facilities - Contractor shall provide temporary project toilets, hand washing facilities and insulated cold water drinking dispensers, and keep them sanitary.
- F. Toilets: Contractor shall keep facilities used by contractors clean and stocked with supplies.
- G. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
- H. Project Identification and Temporary Signs: The Contractor will not erect free-standing or post any signs on property under the control of the Shawnee Mission School District without prior approval by the Owner. This includes signs on construction trailers, portable sheds, etc., which might legitimately be temporarily parked on said property by and for the Contractor's use as part of this project. The Owner may provide and erect one or more project signs as they deem necessary.
- I. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than seven days during normal weather or three days when the temperature is expected to rise above 80 degrees. Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.

3.02 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- B. Enclosure Fence at Exterior Bollard and Excavation Work: Prior to demolition or excavation, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose the entire site or the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
 - 1. Provide an open mesh chain link construction fence and gates, minimum 4'-0" high, with galvanized steel pipe posts.
 - 2. Utilize concrete block or pegged steel pipe stabilizer brackets where fence panels adjoin or end.
 - 3. Upon removal of the fencing, repair any disturbed areas to restore to original condition.
 - 4. Locate the construction fence and gates to facilitate all jurisdictional exit and entry requirements from existing buildings and new construction.
 - 5. If requested by the owner, the gates shall be double locked (lock to lock) with the contractor's lock and the owner's lock to allow owner access.
 - 6. Locate the fence and gates to facilitate owner operations that may be in progress during construction.
 - 7. Maintain the fence and gates throughout construction.

- C. Security Enclosure and Lockup: Install substantial temporary enclosure of storage areas. Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- D. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment that produce harmful noise. Restrict use of noise making tools and equipment harmful to humans so as to minimize complaints from persons or firms near the site.
 - 1. Contractor shall comply with all Federal, state and local laws and regulations relating to environmental protection. Daily clean up of adjacent streets, sidewalks, and public structures due to construction debris shall be required at Contractor's expense.

3.03 OPERATION, TERMINATION AND REMOVAL

- A. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
 - 1. Maintain operation of temporary enclosures, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.
 - 2. Protection: Maintain markers for underground lines. Protect from damage during excavation operations.
- B. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or not later than substantial completion. Complete, or if necessary, restore permanent construction that may have been delayed because of interference with the temporary facility. Repair damaged work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of the Contractor. The Owner reserves the right to take possession of project identification signs.

END OF SECTION

SECTION 01 60 00 - MATERIALS AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. Related Documents
- B. Summary
- C. Definitions
- D. Submittals
- E. Quality Assurance
- F. Product Requirements and Selection Procedures

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.

1.03 SUMMARY

- A. This section specifies administrative and procedural requirements governing the Contractor's selection of products for use on the project.
- B. The Contractor's construction schedule and the schedule of submittals are included under Division 1 Section "Submittals."
- C. Standards: Refer to Division 1 Section "Reference Standards and Definitions" for applicability of industry standards to products specified.

1.04 DEFINITIONS

- A. Definitions used in this article are not intended to change the meaning of other terms used in the contract documents, such as "specialties," "systems," "structure," "accessories," and similar terms. Such terms such are self-explanatory and have well recognized meanings in the construction industry.
 - 1. "Products" are items purchased of incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - a. "Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature, that is current as of the date of the Contract Documents.

2. "Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or utilized to form a part of the Work.
3. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

1.05 SUBMITTALS

- A. Product List Schedule: Prepare a schedule showing products specified in a tabular form acceptable to the Architect. Include generic names of products required. Include the manufacturer's name and proprietary product names of each item listed.

1.06 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.
- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the project, the product selected shall be compatible with products previously selected products that were also options.

1.07 PRODUCT REQUIREMENTS AND SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.
 1. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
 2. Standard products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: Product selection is governed by the Contract Documents and government regulations, not be previous project experience. Procedures governing product selection include the following:
 1. Proprietary Specification Requirements: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.
 2. Semi-Proprietary Specification Requirements: Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.
 3. Non-Proprietary Specifications: When the specifications list products or manufacturers that are available and may be incorporated in the work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with contract requirements. Comply with contract document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 4. Descriptive Specification Requirements: Where specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or

- trade name, provide a product or assembly that provides the characteristics and otherwise complies with contract requirements.
5. Performance Specification Requirements: Where specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.
 - a. Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.

END OF SECTION

SECTION 01 70 00 - PROJECT CLOSEOUT

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. Related documents.
- B. Summary.
- C. Completion of a project and/or phase.
- D. Final completion and final payment.
- E. Record document submittals.
- F. Maintenance instructions.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.
- B. Refer to Section 01020 for Final Lien Waiver.

1.03 SUMMARY

- A. This section specifies administrative and procedural requirements for project closeout, including but not limited to:
 - 1. Inspection procedures.
 - 2. Project record document submittal.
 - 3. Operating and maintenance manual submittal.
 - 4. Submittal of warranties.
 - 5. Final cleaning.
 - 6. Record vellum drawings.
- B. Closeout requirements for specific construction activities are included in the appropriate sections in Divisions-2 through 16.
- C. Refer to Division-1 Section "Warranties and Bonds" for specific requirements.

1.04 SUBSTANTIAL COMPLETION

- A. Substantial Completion:
 - 1. The Contractor and each Subcontractor shall carefully and regularly check their work for conformance with the contract documents as the Work is being done. Unsatisfactory work shall be corrected as the Work progresses and not be permitted to remain and become a part of the punch list.
 - 2. The Contractor shall conduct a pre-punch list inspection. The written pre-punch

- list shall be distributed to affected subcontractors, for correction of noted items. The Contractor shall provide a copy of the pre-punchlist inspection and advise the Architect of the correction of the pre-punch list. This notification shall so serve to notify the Architect that the work is ready for the Architect's punch list inspection.
3. The Architect shall make arrangements for his punch list inspection at the earliest possible date following Contractor notification of correction of the pre-punch list. Transmittal of the Punch List to the Contractor shall set the date for a reinspection prior to issuance of a Certificate of Substantial Completion. Upon receipt of the Punch List, the Contractor shall, within seven (7) days, bring to the attention of the Architect, in writing, any questions that he or any of his subcontractors may have concerning the requirements of the Punch List.
 4. When advised by the Contractor that the Punch List items have been completed, the Architect shall conduct a reinspection with the Contractor and any needed subcontractors (and the Owner's representative where applicable) to determine whether the Certificate of Substantial Completion can be issued. A Certificate of Substantial Completion will only be issued after codes administration authorities document approval and permit occupancy of the building or phase. Also note Paragraph 12 of this section.
 5. When issued, the Certificate of Substantial Completion shall name the date, triggering the beginning of the warranty period (with any items to have a later starting date specifically noted). The certificate shall also have attached to it any uncompleted Punch List items, and shall name the date for their final completion. The Certificate of Substantial Completion shall also state the responsibilities of the Owner and the Contractor for maintenance, heat, air conditioning, utilities, insurance and building security.
 6. Acknowledgement of the date of substantial completion by the signature of all parties on the certificate implies possession of the premises by the Owner. The subsequent completion of incomplete punch list items by the Contractor and the subcontractors shall occur at the Owner's convenience. The Owner shall cooperate in permitting the Contractor reasonable access to the work for the completion of punch list items.
 7. A Certificate of Substantial Completion for the work, or portion of work as applicable, will only be issued after the requirements for the demonstration and instruction of operation and maintenance procedures as defined elsewhere by the Contract Documents, to the Owner's personnel have been satisfied by the Contractor.
 8. A list of items required for submission at Substantial Completion is listed at the end of this section. This list may include specific maintenance agreements, maintenance manuals, tools, keys, spare parts, extra stock materials, operational instruction to Owner's operating personnel, etc. Any items not here-in specifically listed as required at Substantial Completion shall be submitted at Final Completion.
 9. Substantial Completion Cleaning: At Substantial Completion for each project or portion of the project, clean the entire work area to a level acceptable to the Owner.
 10. The Owner has contracted with the Architect/Engineer to perform a limited number of punchlist inspections and reinspections. Typically, the Architect/Engineer is responsible for the initial punchlist inspection and one reinspection. If the Owner incurs additional cost from the Architect/Engineer for the performance of more than one initial punchlist inspection and one reinspection, costs for any necessary additional reinspection will be assessed to the Contractor in the way of a deductive cost change order.

B. Final Completion:

1. Submit executed warranties, workmanship bonds, remaining maintenance agreements, inspection certificates and similar required documentation for specific units of work, enabling Owner's unrestricted occupancy and use.
2. Submit maintenance manuals, tools, keys, spare parts, extra stock materials not required at substantial completion.
3. All punch list work must be completed, reviewed and accepted by the Architect.

1.05 FINAL COMPLETION AND FINAL PAYMENT

- A. Provide submittals to Architect that are required by governing or other authorities. Confirm that all submittals required by the construction documents have been transmitted.
- B. Final Completion: For the purpose of determining a date at which the project is finished, final completion may be defined to include, but is not limited to:
 1. Substantial completion.
 2. Submission and acceptance by the Architect of project record drawings.
 3. Operation and maintenance data (including all air and water balance reports).
 4. All applicable Owner training sessions with meeting notes distributed (video tapes, if applicable).
 5. Final cleaning.
 6. Warranties submitted by General Contractor and accepted by Architect.
 7. Maintenance materials turned over to proper District personnel.
 8. All Punch List work completed, reviewed and accepted by the Architect.
 - a. All of the above items are as required by individual specification requirements as found in the contract documents. These individual requirements shall take precedence over this definition if any conflict should arise.
- C. Upon written notice by the Contractor that the reinspection punch list items are completed, the Architect shall verify this by inspection and shall issue to the Owner a final certificate of payment stating that, to the best of their knowledge, information and belief, the work has been completed in accordance with the terms and conditions of the contract documents, and that the entire balance found to be due the Contractor, and noted in said final certificate of payment, is due and payable. The Owner shall endeavor to make final payment within thirty (30) days.

1.06 RECORD DOCUMENT SUBMITTAL

- A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.
- B. Record Drawings: A set of black-line drawings of the original bidding documents will be provided by the Architect to the Contractor for the following use:
 1. If the Contractor elects to vary the work from the Contract Documents, and secures prior approval from the Architect, he shall record in a neat, readable manner, all such variances on the black-line drawings furnished.
 2. Black-line record drawings shall be kept up to date during the entire course of the work and shall be available upon request for examination by the Architect.
 3. The following requirements apply to all record document drawings:

- a. They shall be maintained at the Contractor's expense.
 - b. All such drawings shall be done carefully and neatly by a competent draftsman and in an approved form.
 - c. Additional drawings shall be provided as necessary for clarification.
 - d. The record document drawings (both blue- and black-line and reproducible) shall be returned to the Architect upon completion of the work and are subject to the approval of the Architect.
 - e. Delete Architect title block and seal from record document drawings.
- C. Record Specifications: Maintain one complete copy of the project manual, including addenda, and one copy of other written construction documents such as change orders and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and product data.
 1. Legibly mark and record at each product section description of actual products installed, including the following:
 - a. Manufacturer's product name and product model number.
 - b. Product substitutions or alternates utilized.
 - c. Changes made by addenda and modifications.
 2. Upon completion of the work, submit record specifications to the Architect for the Owner's records.
 3. Record project manual shall be maintained at the Contractor's expense.
 4. Record project manual shall be maintained in a neat, readable manner. Contract work variations shall be recorded in the correct corresponding technical section of the project manual.
 5. Delete Architect seal from record project manual.
 6. Complete final cleaning and remove temporary facilities.
- D. Record Shop Drawings: Maintain a clean, undamaged set of blue or black line white prints of shop drawings as finally approved. Mark the set to show the actual installation where the installation varies substantially from the work as originally shown. Mark drawings accurately; record a cross reference at the corresponding location on the contract drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
 1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the work.
 2. Mark new information that is important to the Owner, but was not shown on shop drawings.
 3. Note related change order numbers where applicable.
 4. Organize record shop drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
- E. Record Product Data: Maintain one copy of each product data submittal. Mark these documents to show significant variations in actual work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instruction and recommendations. Give particular attention to concealed products and portions of the work that cannot otherwise be readily discerned later by direct observation. Note related change orders and mark up of record drawings

and specifications.

1. Upon completion of mark ups, submit complete set of record product data to the Architect for the Owner's records.
- F. Record Documents and Shop Drawings: Contractor to supply one complete set of approved shop drawings. Legibly mark each item to record actual construction including:
1. Measured horizontal and vertical locations of underground utilities and appurtenance, referenced to permanent surface improvements.
 2. Field changes of dimension and detail.
 3. Details not on original contract drawings.
- G. Record Sample Submitted: Immediately prior to the date or dates of substantial completion, the Contractor will meet at the site with the Architect and the Owner's representative personnel to determine which of the submitted samples that have been maintained during progress of the work are to be transmitted to the Owner for record purposes. Comply with delivery to the Owner's sample storage area.
- H. Miscellaneous Record Submittal: Refer to other specification sections for requirements of miscellaneous recordkeeping and submittal in connection with actual performance of the work. Immediately prior to the date or dates of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Architect for the Owner's records.
- I. Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Submit two sets prior to Substantial Completion or final inspection, as applicable. Bind properly indexed data in individual heavy-duty, three inch, three ring vinyl-covered binders, 8½ x 11 inch test page format, with pocket folders for folded sheet information.
1. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project, and subject matter of binder when multiple binders are required.
 2. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
 3. Contents: Prepare a Table of Contents for each volume, with each product or system description identified.
 4. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, subcontractors, and major equipment suppliers where they can be reached for emergency service at all times, including nights, weekends, and holidays.
 5. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions
 - g. Emergency instructions.

- h. Inspection procedures.
- 6. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Air and water balance reports.
 - c. Certificates.
 - d. Photo copies of warranties and bonds.
- 7. Submit one copy of completed volumes in final form fifteen (15) days prior to the applicable submission requirement. This copy will be returned after review, with Architect comments. Revise content of documents as required prior to final submittal for the applicable submission requirement.
- 8. Submit final volumes revised, within ten (10) days after Architect review and comment.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 -- EXECUTION

3.01 MAINTENANCE INSTRUCTIONS

- A. General: Arrange for each Installer of material that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper maintenance, if applicable. If Installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:
 - 1. Maintenance manuals.
 - 2. Record documents.
 - 3. Spare materials.
 - 4. Cleaning.
 - 5. Warranties and bonds.
 - 6. Maintenance agreements and similar continuing commitments.

END OF SECTION

SECTION 01 71 00 - CONSTRUCTION HOUSEKEEPING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Related Documents
- B. Summary
- C. Submittals
- D. Quality Assurance
- E. Project Conditions

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including general and supplementary conditions and other Division-1 Specification sections, apply to this section.

1.03 SUMMARY

- A. This section specifies requirements for maintaining housekeeping of the construction site and facilities during construction operations.

1.04 SUBMITTALS

- A. Submit a written narrative outlining the operational plan that will be employed by the contractor and subcontractors to maintain the construction site and facilities in a clean, safe, and organized condition that is free from recognized hazards that can cause serious physical harm or death to employees or the public.

1.05 QUALITY ASSURANCE

- A. Comply with Occupational Safety and Health Standards for the Construction Industry 29 CFR 1926.25.
- B. Comply with standards of authorities having jurisdiction, including but not limited to:
 - 1. Building Code requirements.
 - 2. Health and safety regulations.
 - 3. Police, Fire Department, and/or Rescue Squad requirements.
- C. Comply with directives issued by the Architect-Engineer and/or Owner. Contractors failing to comply with Architect-Engineer and/or Owner directives to properly maintain construction housekeeping may be subject to the withholding of Payment Applications until proper housekeeping conditions are adhered and maintained.

1.06 PROJECT CONDITIONS

- A. Keep construction areas free of the accumulation of dirt, debris, trash, water, liquids, and or hazards that deter from the safety of the construction site and facilities. Neatly organize and store materials so as to not co-mingle waste materials and construction materials, tools, and equipment.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 WORK PRACTICES

- A. Housekeeping occurs constantly on the job, not just once a week or at the end of the project.
- B. Everyone does housekeeping, not just laborers or certain trades.
- C. Workers pick up anything they see lying around that can trip a person or fall on them.
- D. Extension cords, lines, welding leads, hoses, etc. are coiled up when not in use.
- E. Tools are returned to the gang box.

3.02 HAZARD IDENTIFICATION, REMOVAL, AND CLEANUP

- A. Storage areas and walkways are reasonably free of dangerous depressions, obstructions, and debris.
- B. All walking and working surfaces are reasonably dry and free from grease or oil.
- C. Spills of oil, grease, and other liquids are removed at once, or covered with sand or other absorbent material until cleaned up.
- D. Sufficient waste or trash containers are provided, used and emptied when appropriate.
- E. Workers wear heavy gloves and heavy soled or safety shoes when handling scrap material.
- F. All walking and working surfaces are free of protruding nails.
- G. Nails or fasteners are removed when opening crates, cartons, kegs, or when stripping small forms.
- H. Nails are bent down or removed before scrap material is discarded.
- I. Scrap and debris are piled neatly.
- J. Any object protruding at head height has been removed or flagged.
- K. Protective caps are used on exposed rebar.

- L. Hoses, power cords, welding leads, etc. are not laying in heavily traveled walkways or areas.

3.03 BULK MATERIAL STORAGE

- A. All piled or stacked material is stable and cannot fall, slip, or collapse.
- B. The face of a pile of bags (containing cement or other material) more than 5 feet high is tapered back, or the sacks are tied in horizontal layers to prevent them from falling or collapsing.
- C. Lumber piles are no more than 16' high if handled manually or 20' high if handled by equipment. Headpieces, crosspieces, or other means are used as needed to prevent slipping, tipping, or collapsing.
- D. The way that material is going to be taken off the pile is planned at the time the material is first stored.
- E. Workers and their equipment have room to move material off a pile.
- F. Material is piled on surfaces that will hold its weight.
- G. Material is piled on ground stable enough for a heavy load (not too near an excavation).
- H. Surplus materials are returned to the stockpile.
- I. Materials are at least 2m (5 ft.) from openings, roof edges, excavations or trenches.

3.04 HAZARDOUS MATERIAL STORAGE AND DISPOSAL

- A. Flammable material is always stored in separate closed containers.
- B. Incompatible chemical products (which may cause a hazardous reaction if they come in contact) are not stored together.
- C. Flammable liquids are not stored near sources of ignition (sparks, electricity, flames, or hot objects).
- D. Where more than 25 gallons of flammable liquids are present, they are kept in a storage cabinet approved by the National Fire Protection Association (NFPA).
- E. Flammable liquids stored outdoors are at least 50 feet from the property line and 10 feet from any public way.
- F. Outdoor flammable liquid storage areas are graded to divert spills away from buildings.
- G. Appropriate cleanup materials are available for leaks or spills of flammables or other hazardous materials.
- H. Leftover hazardous products and waste are properly stored, labeled, and disposed of according to the instructions on the product's Material Safety Data Sheet (MSDS).

3.05 SANITATION

- A. Toilets and washing facilities being used by the Contractor are clean and sanitary. Toilets are design to ensure user privacy, and are supplied with toilet paper.
- B. Drinking water fountains must be cleaned daily.
- C. All pipes and containers for non-potable water have been clearly labeled, and only potable water is used for washing or drinking.

END OF SECTION

SECTION 01 71 10 - CLEANING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Description
- B. Disposal Requirements
- C. Materials
- D. During Construction
- E. Final Cleaning

1.02 DESCRIPTION

- A. Contractor will be responsible to execute daily cleaning, during progress of the Work and at completion of the Work, as required by General Conditions. The Contractor is to daily, clean debris and remove all refuse, rubbish, scrap material caused by his operation. The Contractor shall remove all excess spoils.

1.03 CLEANING AND DISPOSAL REQUIREMENTS

- A. Conduct cleaning and disposal operations to comply with Scope of Work Section 01710 Construction Housekeeping, codes, ordinances, regulations, and anti-pollution laws.

1.04 MATERIALS

- A. Use only those cleaning materials which will not create hazards to health or property and which will not damage surfaces.
- B. Use only those cleaning materials and methods recommended by the manufacturer of the surface material to be cleaned.
- C. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

1.05 DURING CONSTRUCTION

- A. Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations or his subcontractor's operations and ensure that building and grounds are maintained free from accumulations of waste materials and rubbish. Do not allow waste materials, rubbish and debris to accumulate and become an unsightly or hazardous condition.
- B. Transport waste materials in a controlled manner with as few handling as possible.
- C. Burning or burying of rubbish and waste materials on the project site is not permitted. Disposal of volatile fluid wastes (such as mineral spirits, oil, or paint thinner) in storm or sanitary sewer systems is not permitted. Remove waste materials, rubbish and debris from the site and legally dispose of at public or private dumping areas off the Owner's property.

1.06 FINAL CLEANING

- A. At completion of construction and just prior to acceptance or occupancy, the Contractor will conduct a final inspection of exposed exterior surfaces. Perform final cleaning and maintain cleaning until project or portion thereof, is accepted by Owner.
- B. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from interior and exterior surfaces. Repair, patch and touch-up marred surfaces to match adjacent finishes. Broom clean paved surfaces; rake clean other surfaces of grounds.
- E. Remove all waste materials and rubbish from and about the Project as well as all tools, construction equipment, machinery and surplus materials.
- F. Use experienced workmen for final cleaning.
- G. Comply with cleaning instructions contained in the Specifications. In absence of specific cleaning instructions, follow accepted cleaning practices or the recommendations of the manufacturer of the material to be cleaned.

END OF SECTION

SECTION 01 73 20 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Demolition work as described on Demolition drawings and notes.
- B. Related Sections include the following:
 - 1. Division 1 Section "Summary of Work" for use of the premises and phasing requirement.
 - 2. Division 1 Section "Construction Facilities and Temporary Controls" for temporary construction and environmental-protection measures for selective demolition operations.

1.03 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.04 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.
- B. Specific items may be identified for salvage and turn-over to the Owner at the completion of the project. Any items so identified, are the property of the Owner but shall be protected and maintained by the Contractor for the duration of the construction project. Carefully remove and salvage each item or object in a manner to prevent damage, and protect such items in a secure location for prompt delivery to the Owner at the conclusion of the project.

1.05 SUBMITTALS

- B. Proposed Dust-Control and Noise-Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.
- C. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services.
 - 3. Coordination for shutoff, capping and continuation of utility services.

1.06 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI A10.6 and NFPA 241.

1.07 PROJECT CONDITIONS

- A. Owner will occupy portions of the site/building in and around the demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.
- B. Storage or sale of removed items or materials on-site will not be permitted.
- C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 – PRODUCTS

- A. Use repair materials identical to existing materials.
 - 1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 2. Use materials whose installed performance equals or surpasses that of existing materials.
- B. Comply with material and installed requirements specified

PART 3 -- EXECUTION

3.01 EXAMINATION

SELECTIVE DEMOLITION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

3.02 UTILITY SERVICES

- A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

3.03 POLLUTION CONTROLS

- A. Dust Control: Use suitable methods to limit spread of dust and dirt. Comply with governing environmental protection regulations.
 - 1. Do not use water when it may create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- B. Disposal: Remove and transport debris in a manner that will prevent damage to adjacent surfaces and areas.
- C. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.04 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically.
 - 2. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces.
 - 3. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire suppression devices during flame-cutting operations.
 - 4. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off site.
 - 5. Dispose of demolished items and materials promptly.
 - 6. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.05 PATCHING AND REPAIRS

- A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.

3.06 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.07 SELECTIVE DEMOLITION SCHEDULE

- A. Existing Construction to be Removed, Removed and Salvaged, Removed and Reinstalled, etc., shall be as noted on the Drawings:

END OF SECTION

SECTION 01 74 00 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Related Documents
- B. Summary
- C. Definitions
- D. Warranty Requirements
- E. Submittals

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to this section.

1.03 SUMMARY

- A. This section specifies general administrative and procedural requirements for warranties and bonds required by the Contract Documents, including manufacturers' standard warranties on products and special warranties.
 - 1. Refer to the general conditions of the contract for construction of terms of Contractor's warranty of workmanship and materials.
 - 2. General closeout requirements are included in Division-1, Section "Project Closeout".
 - 3. Specific requirements for warranties for the work and products and installations that are specified to be warranted, are included in the individual sections of Divisions-2 through 32.
 - 4. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporated the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.04 DEFINITIONS

- A. Standard product warranties are reprinted written warranties published by individual manufacturers for particular product and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

1.05 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted work.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and has been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the work through a portion of its anticipated useful service life.
- D. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
- E. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.06 SUBMITTAL

- A. Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's certificate of substantial completion designates a commencement date for warranties other than the date of Substantial Completion of the Work, or a designated portion of the Work, submit written warranties upon request of the Architect.
 - 1. When a designated portion of the Work is completed and occupied or used by the Owner, by separate agreement with the Contractor during the construction period, submit properly executed warranties to the Architect within fifteen (15) days of completion of that designated portion of the Work.
 - 2. In all other instances, warranty periods will not begin prior to Substantial Completion, regardless of equipment use prior to dates of Substantial Completion.
- B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Architect for approval prior to final execution.
 - 1. Refer to individual sections of Divisions-2 through 16 for specific content requirements, and particular requirements of submittal of special warranties.
- C. Form of Submittal: At final completion, compile two copies of each required warranty and bond properly executed by the Contractor, or the Contractor, subcontractor, supplier or

manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the project manual.

- D. Bind warranties and bonds in heavy-duty, commercial quality, durable three-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8½" x 11" paper.
 - 1. Provide heavy paper dividers with celluloid covered tabs for each separate warranty. Mark the 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 the installer.
 - 2. Identify each binder on the front and the spine with the typed or printed title "WARRANTIES AND BONDS", the project title or name, and the name of the Contractor.
 - 3. When operating and maintenance manuals are required for warranted constitution, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

DOCUMENT 01 80 00 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

- A. Drawings: Drawings consist of the Contract Drawings and other drawings listed herein and included as attachments within the Specifications, 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, dated January 23, 2018
 - 1. General Drawings:
 - a. A0.0 - Cover Sheet / Code Information
 - 2. Architectural Drawings:
 - a. A1.1 - Partial Site Plan and Details
 - 3. Structural Drawings:
 - a. S1 – Structural Framing
 - 4. Electrical Drawings
 - a. E1 – Electrical Drawing

END OF DOCUMENT SECTION

SECTION 03 30 00 - 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. Section includes cast-in-place concrete, including reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - 1. Exterior Slabs.
 - 2. Curbs.
 - 3. Fence Footings.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Indicate amounts of mixing water to be withheld for later addition at Project site.
- C. 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.
- D. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.
 - 1. Location of construction joints is subject to approval of the Architect.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer, manufacturer and testing agency.
- B. Material Certificates: For each of the following, signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Steel reinforcement and accessories.
 - 4. Curing compounds.
 - 5. Bonding agents.
 - 6. Joint-filler strips.

7. Repair materials.

- C. 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.

- D. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

- 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.

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.
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. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from single source, and obtain admixtures from single source from single manufacturer.

- E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specifications for Structural Concrete," Sections 1 through 5.
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

- F. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. Avoid damaging coatings on steel reinforcement.

PART 2 - PRODUCTS

2.1 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. Steel Bar Mats: ASTM A 184/A 184M, fabricated from ASTM A 615/A 615M, Grade 60 (Grade 420), deformed bars, assembled with clips.
- D. Plain-Steel Wire: ASTM A 82/A 82M, as drawn.
- E. Deformed-Steel Wire: ASTM A 496/A 496M.
- F. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain, fabricated from as-drawn steel wire into flat sheets.
- G. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.

2.2 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel bars, cut 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 and as follows:
 - 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.

2.3 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, gray. Supplement with the following:
 - a. Fly Ash: ASTM C 618, Class C.
- B. Normal-Weight Aggregates: ASTM C 33, Class 3S 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.
 - 1. Maximum Coarse-Aggregate Size: 3/4-inch (19-mm) nominal typically.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M and potable.

2.4 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.

2.5 UNDER SLAB GRAVEL BASE

- A. 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.

2.6 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. BASF Construction Chemicals - Building Systems; Confilm.
- b. ChemMasters; SprayFilm.
- c. Conspec by Dayton Superior; Aquafilm.
- d. Dayton Superior Corporation; Sure Film (J-74).
- e. Edoco by Dayton Superior; BurkeFilm.
- f. Euclid Chemical Company (The), an RPM company; Eucobar.
- g. Kaufman Products, Inc.; Vapor-Aid.
- h. Lambert Corporation; LAMBCO Skin.
- i. L&M Construction Chemicals, Inc.; E-CON.
- j. Meadows, W. R., Inc.; EVAPRE.
- k. Nox-Crete Products Group; MONOFILM.
- l. Sika Corporation; SikaFilm.
- m. SpecChem, LLC; Spec Film.
- n. Symons by Dayton Superior; Finishing Aid.
- o. TK Products, Division of Sierra Corporation; TK-2120 TRI-FILM.
- p. Unitex; PRO-FILM.

- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.

- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

- D. Water: Potable.

- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, non-dissipating, certified by curing compound manufacturer to not interfere with bonding of floor covering.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. Anti-Hydro International, Inc.; AH Clear Cure WB.
- b. BASF Construction Chemicals - Building Systems; Kure-N-Seal WB.
- c. ChemMasters; Safe-Cure & Seal 20.

- d. Conspec by Dayton Superior; Cure and Seal WB.
- e. Cresset Chemical Company; Crete-Trete 309-VOC Cure & Seal.
- f. Dayton Superior Corporation; Safe Cure and Seal (J-18).
- g. Edoco by Dayton Superior; Spartan Cote WB II.
- h. Euclid Chemical Company (The), an RPM company; Aqua Cure VOX; Clearseal WB 150.
- i. Kaufman Products, Inc.; Cure & Seal 309 Emulsion.
- j. Lambert Corporation; Glazecote Sealer-20.
- k. L&M Construction Chemicals, Inc.; Dress & Seal WB.
- l. Meadows, W. R., Inc.; Vocomp-20.
- m. Nox-Crete Products Group; Cure & Seal 150E.
- n. Symons by Dayton Superior; Cure & Seal 18 Percent E.
- o. TK Products, Division of Sierra Corporation; TK-2519 WBVexcon Chemicals, Inc.; Starseal 309

2.7 RELATED MATERIALS

- A. Expansion and Isolation Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.
- B. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

2.8 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.
 - 2. Combined Fly Ash and Pozzolan: 15 percent.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.25 for exterior concrete and 1.00 percent by weight of cement for all interior concrete.
- 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, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
 - 4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.

2.9 CONCRETE MIXTURES FOR SITE ELEMENTS

- A. Exterior Slabs, Curbs, Mow Strips and Fence Footings: Proportion normal-weight concrete mixture as follows:
 - 1. Minimum Compressive Strength: 4000 psi (27.6MPa) at 28 days.
 - 2. Minimum Cementitious Materials Content: 500 lb/cu. yd.
 - 3. Maximum Water-Cementitious Materials Ratio: 0.4165.
 - 4. Slump Limit: 4 inches (100 mm), max.
 - 5. Air Content for Exterior Slabs, Curbs, Mow Strips and Fence Footings: 6 percent, plus or minus 1.0 percent at point of delivery for 3/4-inch (19-mm) nominal maximum aggregate size.

2.10 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.11 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.
 - 2. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixture time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 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 AISI's "Code of Standard Practice for Steel Buildings and Bridges."

3.2 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
- 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/D 1.4M, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

- E. Install flat sheet 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 laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.3 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. 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.
- C. 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.

3.4 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.
 - 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 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.

3.5 FINISHING SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Re-straighten, cut down high spots, and fill low spots. Repeat float passes and re-straightening until surface is left with a uniform, smooth, granular texture.
1. Apply float finish to surfaces to receive trowel finish.
 2. Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-ft. (3.05-m) long straightedge resting on two high spots and placed anywhere on the surface does not exceed 1/4-inch (6-mm).
- C. Broom Finish: Apply a broom finish to exterior concrete slabs, 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.

3.6 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. 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. Sports Equipment Bases and Foundations: Provide sports equipment bases and foundations as shown on Drawings. Set anchor bolts for equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing equipment.

3.7 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. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
 2. 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. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
 - c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
 3. Curing and Sealing Compound: Apply uniformly to floors and slabs indicated in a 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. Repeat process 24 hours

later and apply a second coat. Maintain continuity of coating and repair damage during curing period.

3.8 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 - 1. Defer joint filling until concrete has aged at least one month. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semi-rigid 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.

3.9 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. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.10 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will 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. Verification of use of required design mixture.
 - 3. Concrete placement, including conveying and depositing.
 - 4. Curing procedures and maintenance of curing temperature.
- 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.
 - 2. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mixture placed each day.
 - 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.
 - 3. 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.

4. Air Content: ASTM C 231, pressure method, 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.
5. 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.
6. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and field cure three sets of two standard cylinder specimens for each composite sample.
7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of three laboratory-cured specimens at 7 days and one set of three specimens at 28 days.
 - a. Test one set of three field-cured specimens at 7 days and one set of three specimens at 28 days.
 - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
9. 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).
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. Non-destructive Testing: Impact hammer, sonoscope, or other non-destructive devices 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 do not comply with the Contract Documents.

END OF SECTION

SECTION 05 12 00
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 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:

- 1. Structural steel.
- 2. Grout.

1.3 DEFINITIONS

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC's "Code of Standard Practice for Steel Buildings and Bridges," that support design loads.

1.4 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.
 - 4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.
- C. Welding certificates.
- D. Qualification Data: For Installer fabricator.
- E. Mill Test Reports: Signed by manufacturers certifying that the following products comply with requirements:
 - 1. Structural steel including chemical and physical properties.
 - 2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
 - 3. Direct-tension indicators.
 - 4. Tension-control, high-strength bolt-nut-washer assemblies.

5. Shear stud connectors.

6. Shop primers.

7. Nonshrink grout.

F. Source quality-control test reports.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector.

B. Fabricator Qualifications: A qualified fabricator who participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant.

C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or SSPC-QP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."

D. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel."

E. Comply with applicable provisions of the following specifications and documents:

1. AISC's "Code of Standard Practice for Steel Buildings and Bridges."

2. AISC's "Load and Resistance Factor Design Specification for Structural Steel Buildings."

3. AISC's "Specification for the Design of Steel Hollow Structural Sections."

4. AISC's "Specification for Load and Resistance Factor Design of Single-Angle Members."

5. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

1.6 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 erosion and deterioration.

1. Store fasteners in a protected place. Clean and re-lubricate bolts and nuts that become dry or rusty before use.

2. 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.

1.7 COORDINATION

A. Furnish 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, Grade 50 (345).
- B. Channels, Angles -Shapes: ASTM A 36/A 36M.
- C. Plate and Bar: ASTM A 36/A 36M.
- D. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.
- E. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
 - 1. Weight Class: Standard unless noted otherwise.
 - 2. Finish: Black, except where indicated to be galvanized.
- F. 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 (ASTM A 563M) heavy hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M) hardened carbon-steel washers.
 - 1. Finish: Plain.
- B. Shear Connectors: ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1, Type B.
- C. Un-headed Anchor Rods: ASTM F 1554, Grade 36.
 - 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) hardened carbon steel.
- D. Threaded Rods: ASTM A 193/A 193M.
 - 1. Nuts: ASTM A 563 (ASTM A 563M) hex carbon steel.
 - 2. Washers: ASTM A 36/A 36M carbon steel.

2.3 PRIMER

- A. Primer: Fabricator's standard lead- and chromate-free, non-asphaltic, rust-inhibiting primer, color – Gray.
- B. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20.

2.4 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, non-staining, 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's "Load and Resistance Factor Design Specification for Structural Steel Buildings."

- 1. Camber structural-steel members where indicated.
- 2. Identify high-strength structural steel according to ASTM A 6/ A 6M and maintain markings until structural steel has been erected.
- 3. Mark and match-mark materials for field assembly.
- 4. 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.

- 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 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 and manufacturer's written instructions.

- G. Steel Wall-Opening Framing: Select true and straight members for fabricating steel wall-opening framing to be attached to structural steel. Straighten as required to provide uniform, square, and true members in completed wall framing.

- H. Holes: Provide holes required for securing other work to structural steel and for passage of other work 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. Base-Plate Holes: Cut, drill, mechanically thermal cut, 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.
- B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
 - 1. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.
 - 2. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.
 - 3. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.
 - a. Grind butt welds flush.
 - b. Grind or fill exposed fillet welds to smooth profile. Dress exposed welds.

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.
 - 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 specifications and standards.
 - 1. SSPC – SP3, "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 dry film thickness of not less than 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
 - 1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
 - 2. Apply two coats of shop paint to inaccessible surfaces after assembly or erection. Change color of second coat to distinguish it from first.

- D. Painting: Apply a 1-coat, non-asphaltic primer complying with SSPC-PS Guide 7.00, "Painting System Guide 7.00: Guide for Selecting One-Coat Shop Painting Systems," to provide a dry film thickness of not less than 1.5 mils (0.038 mm).

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 holes and grind smooth after galvanizing.
 - 2. Galvanize all lintels, shelf angles, and connection accessories attached to structural-steel frame and located in exterior applications.

2.9 SOURCE QUALITY CONTROL

- A. 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.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- C. 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."
- D. Welded Connections: In addition to visual inspection, all complete penetrations and shop-welded connections will be tested and inspected according to AWS D1.1 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.
 - 4. Radiographic Inspection: ASTM E 94.
- E. In addition to visual inspection, shop-welded shear connectors will be tested and inspected according to requirements in AWS D1.1 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.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify elevations of concrete and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments, with steel erector present, for compliance with requirements.
- 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's "Code of Standard Practice for Steel Buildings and Bridges" and "Load and Resistance Factor Design Specification for Structural Steel Buildings."
- B. Base Plates: Clean concrete and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting base plates. Clean bottom surface of base plates.
 - 1. Set base plates for structural members on wedges, shims, or setting nuts as required.
 - 2. Weld plate washers to top of base plate.
 - 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 base plate before packing with grout.
 - 4. Promptly pack grout solidly between bearing surfaces and base 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 forming 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. Remove erection bolts on welded, architecturally exposed structural steel; fill holes with plug welds; and grind smooth at exposed surfaces.
- G. Do not use thermal cutting during erection unless approved by Architect. Finish thermally cut sections within smoothness limits in AWS D1.1.
- H. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

3.4 FIELD 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.
 - 2. All bolts shall be fully pre-tensioned.
- B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.
 - 1. Comply with AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Load and Resistance Factor Design Specification for Structural Steel Buildings" for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.
 - 2. Remove backing bars or runoff tabs, 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 of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.
 - 4. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.
 - a. Grind butt welds flush.
 - b. Grind or fill exposed fillet welds to smooth profile. Dress exposed welds.

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: Shop-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.
 - 1. In addition to visual inspection, all complete penetrations and field welds will be tested according to AWS D1.1 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.
 - d. Radiographic Inspection: ASTM E 94.
- D. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION

- A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Touchup Painting: After installation, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists and accessories, bearing plates, and abutting structural steel.
 - 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
 - 2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.

END OF SECTION

SECTION 05 50 00
METAL FABRICATIONS

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. Steel framing and supports for overhead mounted toilet partitions.
2. Steel framing and supports for operable partitions.
3. Steel framing and supports for overhead doors and grilles.
4. Steel framing and supports for countertops.
5. Steel framing and supports for Medical Lighting supports.
6. Steel framing and supports for mechanical and electrical equipment.
7. Steel framing and supports for applications where framing and supports are not specified in other Sections.
8. Elevator machine beams, and hoist beams.
9. Steel shapes for supporting elevator door sills.
10. Shelf angles.
11. Metal ladders.
12. Metal floor plate.
13. Miscellaneous steel trim including loading-dock and scissors lift edge angles.
14. Metal bollards.
15. Metal protection plate
16. Miscellaneous steel framing and supports.
17. Miscellaneous steel trim.
18. Miscellaneous steel shapes, plates, tubes, etc.

- B. Products furnished, but not installed, under this Section:

1. Loose steel lintels.
2. Steel Bollards.
3. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.

- C. Related Sections:

1. Division 03 Section "Cast-in-Place Concrete" for installing anchor bolts, steel pipe sleeves, slotted-channel inserts, wedge-type inserts, and other items cast into concrete.
2. Division 04 Section "Unit Masonry" for installing loose lintels, anchor bolts, and other items built into unit masonry.
3. Division 05 Section "Structural Steel Framing."
4. Division 05 Section "Metal Stairs".

5. Division 05 Section "Pipe and Tube Railings."
6. Division 05 Section "Metal Gratings".
7. Division 05 Section "Decorative Metal Railings".

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design ladders, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance of Aluminum Ladders: Aluminum ladders, including landings, shall withstand the effects of loads and stresses within limits and under conditions specified in ANSI A14.3.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.
 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- D. Seismic Requirements: Verify with Structural Engineering Associates.

1.4 ACTION SUBMITTALS

- A. Product Data: For the following:
 1. Nonslip aggregates and nonslip-aggregate surface finishes.
 2. Overhead support structures.
 3. Paint products.
 4. Grout.
- B. Shop Drawings: Show fabrication and installation details for metal fabrications.
 1. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.
- C. Delegated-Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified professional engineer.
- B. Mill Certificates: Signed by manufacturers of stainless-steel certifying that products furnished comply with requirements.
- C. Welding certificates.
- D. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

1.6 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
 - 3. AWS D1.6, "Structural Welding Code - Stainless Steel."

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

1.8 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages and steel weld plates and angles for casting into concrete. 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.

PART 2 - PRODUCTS

2.1 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces without blemishes.

2.2 FERROUS METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304.
- C. Steel Tubing: ASTM A 500, cold-formed steel tubing.
- D. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40) unless otherwise indicated.
- E. Slotted Channel Framing: Cold-formed metal box channels (struts) complying with MFMA-4.
 - 1. Size of Channels: 1-5/8 by 1-5/8 inches (41 by 41 mm).
 - 2. Material: Cold-rolled steel, ASTM A 1008/A 1008M, structural steel, Grade 33 (Grade 230); 0.0677-inch (1.7-mm) minimum thickness; coated with rust-inhibitive, baked-on, acrylic enamel.

2.3 NON-FERROUS METALS

- A. Aluminum Plate and Sheet: ASTM B 209 (ASTM B 209M), Alloy 6061-T6.
- B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), Alloy 6063-T6.
- C. Aluminum-Alloy Rolled Tread Plate: ASTM B 632/B 632M, Alloy 6061-T6.

2.4 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, at exterior walls.
 - 1. Provide stainless-steel fasteners for fastening aluminum.
 - 2. Provide stainless-steel fasteners for fastening stainless steel.
- B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with hex nuts, ASTM A 563 (ASTM A 563M); and, where indicated, flat washers.
- C. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 325, Type 3 (ASTM A 325M, Type 3); with hex nuts, ASTM A 563, Grade C3 (ASTM A 563M, Class 8S3); and, where indicated, flat washers.
- D. Stainless-Steel Bolts and Nuts: Regular hexagon-head annealed stainless-steel bolts, ASTM F 593 (ASTM F 738M); with hex nuts, ASTM F 594 (ASTM F 836M); and, where indicated, flat washers; Alloy Group 1 (A1).
- E. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563; and, where indicated, flat washers.
 - 1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
- F. Eyebolts: ASTM A 489.
- G. Machine Screws: ASME B18.6.3 (ASME B18.6.7M).
- H. Lag Screws: ASME B18.2.1 (ASME B18.2.3.8M).
- I. Wood Screws: Flat head, ASME B18.6.1.
- J. Plain Washers: Round, ASME B18.22.1 (ASME B18.22M).
- K. Lock Washers: Helical, spring type, ASME B18.21.1 (ASME B18.21.2M).
- L. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
- M. Cast-in-Place Anchors in Concrete: Either threaded type or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F 2329.
- N. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5, unless otherwise indicated.
 2. Material for Exterior Locations and Where Stainless Steel is Indicated: Alloy Group 1 (A1) stainless-steel bolts, ASTM F 593 (ASTM F 738M), and nuts, ASTM F 594 (ASTM F 836M).
- O. Slotted-Channel Inserts: Cold-formed, hot-dip galvanized-steel box channels (struts) complying with MFMA-4, 1-5/8 by 7/8 inches (41 by 22 mm) by length indicated with anchor straps or studs not less than 3 inches (75 mm) long at not more than 8 inches (200 mm) o.c. Provide with temporary filler and tee-head bolts, complete with washers and nuts, all zinc-plated to comply with ASTM B 633, Class Fe/Zn 5, as needed for fastening to inserts.

2.5 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
- C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.
- E. Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.6 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

- H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- I. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors 1/8 by 1-1/2 inches (3.2 by 38 mm), with a minimum 6-inch (150-mm) embedment and 2-inch (50-mm) hook, not less than 8 inches (200 mm) from ends and corners of units and not less than 24 inches (600 mm) o.c.

2.7 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.
 - 1. Fabricate units from slotted channel framing where indicated.
 - 2. Furnish inserts for units installed after concrete is placed.
- C. Fabricate supports for operable partitions from continuous steel beams of sizes indicated with attached bearing plates, anchors, and braces as recommended by partition manufacturer. Drill or punch bottom flanges of beams to receive partition track hanger rods; locate holes where indicated on operable partition Shop Drawings.
- D. Galvanize miscellaneous framing and supports where indicated.
- E. Prime miscellaneous framing and supports with zinc-rich primer where indicated.

2.8 MISCELLANEOUS STEEL TRIM

- A. Unless otherwise indicated, fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.
- B. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.
- C. Galvanize exterior miscellaneous steel trim.
- D. Prime miscellaneous steel trim with zinc-rich primer.

2.9 METAL BOLLARDS

- A. (Not Used)

2.10 LOOSE BEARING AND LEVELING PLATES

- A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.

2.11 STEEL WELD PLATES AND ANGLES

- A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

2.12 METAL LADDERS

A. General:

- 1. Comply with ANSI A14.3 unless otherwise indicated.
- 2. For elevator pit ladders, comply with ASME A17.1.

B. Steel Ladders:

- 1. Space siderails 18 inches (457 mm) apart unless otherwise indicated.
- 2. Space siderails of elevator pit ladders 12 inches (300 mm) apart.
- 3. Siderails: Continuous, 3/8-by-2-1/2-inch (9.5-by-64-mm) steel flat bars, with eased edges.
- 4. Rungs: 3/4-inch- (19-mm-) diameter steel bars.
- 5. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
- 6. Provide nonslip surfaces on top of each rung, either by coating rung with aluminum-oxide granules set in epoxy-resin adhesive or by using a type of manufactured rung filled with aluminum-oxide grout.
- 7. Provide nonslip surfaces on top of each rung by coating with abrasive material metallically bonded to rung.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) IKG Industries, a division of Harsco Corporation; Mebac.
 - 2) SlipNOT Metal Safety Flooring, a W. S. Molnar company; SlipNOT.
- 8. Provide platforms as indicated fabricated from welded or pressure-locked steel bar grating, supported by steel angles. Limit openings in gratings to no more than 3/4 inch (19 mm) in least dimension.
- 9. Support each ladder at top and bottom and not more than 60 inches (1500 mm) o.c. with welded or bolted steel brackets.
- 10. Galvanize exterior ladders, including brackets and fasteners.
- 11. Prime ladders, including brackets and fasteners, with zinc-rich primer.
- 12. Provide Ladder UP option for ladders to roof hatches. Balco or equal.

C. Aluminum Ladders:

- 1. (Not Used)

2.13 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish metal fabrications after assembly.
- C. Galvanize all steel components in exterior applications.

2.14 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated, (all exposed structural steel lintels, columns, beams, etc.), to comply with ASTM A 153/A 153M for steel and iron hardware and with ASTM A 123/A 123M for other steel and iron products.
- B. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.
- C. Preparation for Shop Priming: Prepare surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
- D. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting.

2.15 ALUMINUM FINISHES

- A. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. As-Fabricated Finish: AA-M10 (Mechanical Finish: as fabricated, unspecified).
- C. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish: non-specular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.018 mm or thicker) complying with AAMA 611.
- D. Diamond Plate shall be "highly polished finish".

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction.

- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- B. Anchor supports for operable partitions securely to and rigidly brace from building structure.
- C. Support steel girders on solid grouted masonry, concrete, or steel pipe columns. Secure girders with anchor bolts embedded in grouted masonry or concrete or with bolts through top plates of pipe columns.
 - 1. Where grout space under bearing plates is indicated for girders supported on concrete or masonry, install as specified in "Installing Bearing and Leveling Plates" Article.
- D. Install pipe columns on concrete footings with grouted baseplates. Position and grout column baseplates as specified in "Installing Bearing and Leveling Plates" Article.
 - 1. Grout baseplates of columns supporting steel girders after girders are installed and leveled.

3.3 INSTALLING BEARING AND LEVELING PLATES

- A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.
- B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with grout.
- C. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.4 INSTALLING METAL BOLLARDS

- A. Fill metal-capped bollards solidly with concrete and allow concrete to cure seven days before installing.
- B. Anchor bollards in place with concrete footings. Center and align bollards in holes 6 inches (150 mm) above bottom of excavation. Place concrete and vibrate or tamp for consolidation. Support and brace bollards in position until concrete has cured.
- C. Fill bollards solidly with concrete, mounding top surface to shed water.

3.5 ADJUSTING AND CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
- B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION

SECTION 06 10 53 - MISCELLANEOUS ROUGH CARPENTRY

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. Wood blocking and nailers.

1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 5 inches nominal (114 mm actual) in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 - 2. NHLA: National Hardwood Lumber Association.
 - 3. NLGA: National Lumber Grades Authority.
 - 4. SPIB: The Southern Pine Inspection Bureau.
 - 5. WCLIB: West Coast Lumber Inspection Bureau.
 - 6. WWPA: Western Wood Products Association.
 - 7. RIS: Redwood Inspection Service.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 - 3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Preservative-treated wood.
 - 2. Power-driven fasteners.
 - 3. Powder-actuated fasteners.
 - 4. Expansion anchors.
 - 5. Metal framing anchors.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

1.8 JOB CONDITIONS

- A. Examine substrates, supporting structure and the conditions under which carpentry work is to be installed. Do not proceed with the installation until unsatisfactory conditions have been corrected.
- B. Correlate location of nailers, blocking and similar supports with work to be attached.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less, 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC4A for use in contact with the ground, fresh water, or other situations favorable to deterioration.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
 - 2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

- D. Application: Treat all miscellaneous carpentry unless otherwise indicated.

1. Wood nailers, blocking, stripping.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.

- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber and any of the following species:

1. Hem-fir (north); NLGA.
2. Mixed southern pine; SPIB.
3. Spruce-pine-fir; NLGA.
4. Hem-fir; WCLIB or WWPA.
5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
6. Western woods; WCLIB or WWPA.
7. Northern species; NLGA.
8. Eastern softwoods; NeLMA.

- C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine, No. 2 grade; SPIB.
2. Hem-fir or hem-fir (north), Construction or No. 2 Common grade; NLGA, WCLIB, or WWPA.
3. Spruce-pine-fir (south) or spruce-pine-fir, Construction or No. 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
4. Eastern softwoods, No. 2 Common grade; NELMA
5. Northern species, No. 2 Common grade; NLGA
6. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to moisture or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or of Type 304 stainless steel. Fasteners securing pressure-preservative treated materials **SHALL BE** Type 304 stainless steel, no exceptions.

- B. Nails, Brads, and Staples: ASTM F 1667.

- C. Power-Driven Fasteners: NES NER-272.

- D. Wood Screws: ASME B18.6.1.

- E. Lag Bolts: ASME B18.2.1 (ASME B18.2.3.8M).
- F. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 - 1. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- D. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use copper naphthenate for items not continuously protected from liquid water.
- E. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
- F. Fasteners for securing pressure-preservative treated materials shall be Type 304 stainless steel.

3.2 WOOD GROUND, BLOCKING AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

3.3 PROTECTION

- A. Weather damaged materials shall be removed and replaced.

END OF SECTION

SECTION 07 92 00 - JOINT SEALANTS

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. Urethane joint sealants.
- B. Related Sections
 - 1. Division 03 Section "Cast-In-Place-Concrete".

1.3 STANDARDS:

- A. ASTM C510. Test Method for Staining and Color Change of Single- or Multicomponent Joint Sealant, 1990.
- B. ASTM C639. Test Method for Rheological (Flow) Properties of Elastomeric Sealants, 1990.
- C. ASTM C719. Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement, 1993.
- D. ASTM D412. Test Method for Vulcanized Rubber and Thermo-Plastic Rubbers and Thermo-Plastic Elastomers/Tensions, 1992.
- E. ASTM D2240. Test Method for Rubber Property- Durometer Hardness, 1991.

1.4 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.

1.5 INFORMATIONAL SUBMITTALS

- A. Warranties: Sample of special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.

1.7 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 3. Mechanical damage caused by individuals, tools, or other outside agents.
 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Non-porous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.
- C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- D. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 URETHANE JOINT SEALANTS

- A. Single-Component, Pourable, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade P, Class 25, for Use T.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. BASF Building Systems; Sonolastic SL 1.
 - b. Pecora Corporation; Urexpan NR-201.
 - c. Sika Corporation. Construction Products Division; Sikaflex - 1CSL.
 - d. Tremco Incorporated; Vulkem 45.
- B. Multi-Component, Non-sag, Urethane Joint Sealant: ASTM C 920, Type M, Grade NS, Class 50, for Use NT.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Pecora Corporation; Dynatrol II.
 - b. Tremco Incorporated; Dymeric 240 FC.

2.3 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type B (bi-cellular material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - 3. Remove laitance and form-release agents from concrete.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

- F. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
 5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: The Owner may engage and pay for an independent testing laboratory to provide field tests for joint-sealant adhesion to joint substrates as follows:
1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 10 tests for the first 1000 feet (300 m) of joint length for each kind of sealant and joint substrate.
 - b. Perform 1 test for each 1000 feet (300 m) of joint length thereafter.
 2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 3. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
 4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
 5. The Contractor shall repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or non-compliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal non-traffic surfaces.
 - 1. Joint Locations:
 - a. Exterior expansion joints.
 - b. Exterior joints where dissimilar materials abut whether detailed or not.
 - c. Other exterior joints whether details or not requiring sealant to provide "weather-tight" construction.
 - 2. Joint Sealant: Multi-Component, Non-sag, Urethane Joint Sealant.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Exterior joints in horizontal traffic bearing surfaces.
 - 1. Joint Locations:
 - a. Control and expansion joints on exposed exterior horizontal surfaces of pavements.
 - b. Other horizontal joints as required to prevent water intrusion whether shown or not.
 - 2. Joint Sealant: Single-Component, Pourable, Traffic-Grade, Urethane Joint Sealant.
 - 3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION

SECTION 31 20 00 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Preparing subgrades for slabs-on-grade and scoreboard foundation structure .
2. Excavating and backfilling for structures
3. Excavating and backfilling for curbs.
4. Drainage course for concrete slabs-on-grade.
5. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.2 DEFINITIONS

A. Backfill: Soil material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

D. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

E. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

F. Fill: Soil materials used to raise existing grades.

G. Structures: Footings, foundations, retaining walls, slabs, curbs or other man-made stationary features constructed above or below the ground surface.

H. Subbase Course: Aggregate layer placed between the subgrade and a concrete pavement.

I. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

J. Utilities: On-site underground pipes and conduits.

1.3 PROJECT CONDITIONS

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487 or a combination of these groups; free of rock or gravel larger than **3 inches** in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
 - 1. Liquid Limit: <45.
 - 2. Plasticity Index: <23.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487 or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading 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.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth moving operations.

3.2 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.4 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 - 1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate trenches 4 inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.
 - 1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- D. Trenches in Tree Zones:
 - 1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
 - 2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.5 SUBGRADE INSPECTION

- A. Proof-roll subgrade with a loaded pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades. Geotechnical Engineer shall observe proof-rolling.
- B. Reconstruct subgrades damaged by rain, accumulated water, or construction activities, as directed by Geotechnical Engineer, without additional compensation.

3.6 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.7 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
 - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- D. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- E. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.8 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.

3.9 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.10 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:
 - 1. Under walkways, exterior slabs and curbs, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 - 2. Under synthetic grass surface, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
 - 3. For utility trenches, compact each layer of initial and final backfill soil material 95 percent.

3.11 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 - 2. Walks and exterior slabs: Plus or minus 1 inch.

3.12 SUBBASE AND BASE COURSES UNDER EXTERIOR SLABS AND WALKS

- A. Place subbase course on subgrades free of mud.
- B. On prepared subgrade, place subbase course under exterior slabs and walks as follows:
 - 1. Place subbase course 6 inches in compacted thickness in a single.
 - 2. Compact subbase course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.13 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- C. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.14 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.15 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION

SECTION 32 92 00 - SODDING

PART 1 - GENERAL

1.1 Description

1. The Contractor shall furnish all materials, equipment and labor required to complete all work for the landscape improvements as shown on the drawings and herein specified, and includes: preparation of planting areas, soil treatment, sodding of lawn areas, protection, maintenance, guarantee and related items.

1.2 Examination of the Site

1. Before starting any work, the Contractor shall make a thorough examination of the site and all existing conditions pertaining to it.
2. The existence and location of all underground and aboveground utilities shall be investigated and verified by the Contractor in the field before starting any work.
3. Excavation in the vicinity of existing utilities and structures shall be carefully done by hand.
4. The Contractor shall be responsible for damage to any utilities, structures, or adjacent site appurtenances and shall repair any damages at his own expense.

1.3 Coordination

1. The Contractor shall coordinate his work with other contractors on the job site. The landscaped areas shall be prepared for planting after other site work has been completed and there is no possibility of disruption from other construction activity.
2. A Project Manager from the Contractor's office shall be on site during all planting and maintenance work to insure the work is being carried out as specified.

1.4 Cleaning Up

1. The Contractor shall at all times keep the premises free from the accumulation of waste materials or rubbish caused by his employees or work and at the completion of the work, he shall remove all his rubbish, tools, and surplus materials from the premises, leaving the area in a neat, clean and workmanlike condition.

PART 2 - PRODUCTS

2.1 Soil Amendments for Plantings

1. Topsoil shall be from on-site stockpiles.
2. Topsoil shall be natural, fertile, friable soil possessing characteristics of rich, agricultural soils in the vicinity; free of debris, rocks, litter, etc.; shall be obtained from a naturally well-drained site; shall be not excessively acid or alkaline nor contain toxic substances which may be harmful to plant growth and human habitation.

2.2 Fertilizer

1. All fertilizer shall conform to applicable State Fertilizer Laws, uniform composition, dry and free-flowing, delivered to the site in its original, unopened containers with each container

bearing the manufacturer's guaranteed analysis.

2. Any fertilizer that becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted.
3. Fertilizer for lawn areas shall be a complete fertilizer containing 8% nitrogen (1/2 organic, 1/2 inorganic), 32% phosphoric acid and 16% potash).

2.3 Soil Treatment

1. A pre-emergent herbicide shall be Tupersan or an approved equal and shall be delivered to the site in its original, unopened container, bearing the manufacturer's label and instructions for handling and application.
2. The pre-emergent herbicide shall be compatible for use with the sod blend.
3. A non-selective herbicide Round-Up or approved equal shall be delivered to the site in its original, unopened container, bearing the manufacturer's label and instructions for handling and application.

2.4 A. Sodded Lawn

1. Sod shall be nursery grown, free from pernicious weed plants and their seed and composed of a mixture of turf-type tall Fescues. Submit list of sod blend varieties including percentages by weight, purity and germination. Subject to School District selection and approvals.
2. Sod shall be mowed not to exceed 3" before lifting and be of uniform thickness with not less than 1" of soil, and shall be lifted by a mechanical sod cutter and rolled for shipment.

B. Seeded Lawn

1. Grass seed shall be fresh, clean seed of the current year's crop complying with the tolerances for purity and germination established by the United States Department of Agriculture.
2. All seed shall be delivered to the site in its original unopened packaging bearing the supplier's certification of variety, purity, and germination.
3. Maximum weed seed content shall not exceed one-tenth of one percent.
4. The seed mixture shall be 10% of one of the following Perennial Ryes and three of the six turf-type tall fescues at 30% each or the most current, high-rated drought-tolerant turf-type tall fescues from Kansas State University's Turf Trials.

<u>Name</u>	<u>Proportion By Weight</u>	<u>Purity</u>	<u>Germination</u>
Delaware Dwarf Perennial Rye Grass	10%	97%	85%
Manhattan II Perennial			

Rye Grass	10%	97%	85%
Winchester Tall Fescue	30%	97%	85%
Apache Tall Fescue	30%	97%	85%
Rebel II Tall Fescue	30%	97%	85%
Olympic Tall Fescue	30%	97%	85%
Amigo Tall Fescue	30%	97%	85%
Tribute Tall Fescue	30%	97%	85%

2.5 Water

1. The Contractor shall be responsible for watering all sodded areas once a day for 21 days after installation. Then as necessary until acceptance and the beginning of the 1 year replacement period.
2. Hoses and any other watering equipment required for the work shall be furnished by the Contractor. Water shall be supplied by the Owner.

2.6 Inspection of Stock

1. All planting stock shall be inspected as required by State and Federal laws, and upon delivery at premises shall be subject to inspection by the Owner's representative.
2. All plant material is subject to rejection, either at time of delivery or after planting, provided it does not comply with the requirements as stated herein.
3. Any rejected stock shall be immediately removed by the landscape contractor from the premises and replaced with approved stock.
4. Plant material rendered unfit for planting or acceptance between delivery and completion, due to failure of contractor to handle them properly will be rejected and shall be replaced by the contractor at his expense.

2.7 Equipment

1. The following items are the preferred equipment for site preparation. Requests to use any other equipment deemed necessary or equipment the Contractor wishes to use as substitute equipment shall be submitted in writing for the Architect's approval at least 30 days prior to the time of construction.
2. Skid Loader: A skid loader in good mechanical condition which doesn't leak oil, hydraulic fluid, or other hazardous materials.
3. Roto-Tiller: A roto-tiller in good mechanical condition which does not leak hazardous liquid shall be used if necessary for incorporating soil amendments.
4. Roller: A 200-250 pound sod roller shall be utilized to roll the sod after installation.
5. Hydromulcher: The equipment used for hydraulic mulching shall have continuous agitation of the slurry mixture during mulching operations. The equipment shall have a tank capacity of not less than 750 gallons. The equipment shall have an applicator hose which allows a person to walk along applying mixture uniformly and accurately. Application from a gun on top of the machine will not be allowed.

2.8 Seeding Operations

1. Prior to seeding, any areas where compaction has occurred shall be disced or harrowed to a minimum depth of 4".
2. The final seed bed shall be free of dirt clumps and all rocks, asphalt, sticks and other foreign material over 1" in diameter.
3. Contractor shall insure positive drainage over all areas before doing any seeding.
4. Apply one-half the total amount of fertilizer (8-32-16) and incorporate the top 2" of all seeded areas. (1-3/4 pounds per 1000 S.F. of seeded areas.)
5. After the seed bed has been prepared and the Contractor is sure positive drainage occurs over all areas, seed entire area with an Olathe Model 8393 slit seeder or other approved slit seeder at a rate of 4.5 pounds per 1000 S.F. of seeded area in two passes at 90 degrees to each other. Seeding rate after both passes shall be 9 pounds per 1000 S.F.
6. Apply the remaining fertilizer (8-32-16) over the entire area (1-3/4 pounds per 1000 S.F. of seeded area). Fertilizer may be applied at the time of sowing seed if application rates for seeding and fertilizer are not altered.
7. Immediately after seeding, apply soil treatment (Tupersan or approved equal) in accordance with the manufacturer's instructions for application.
8. Seeded areas shall be hydro-mulched with virgin wood fiber with 3% tackifier by Conwed or approved equal at a rate of 2500# of fiber/acre.
9. Water entire seeded area thoroughly with a fine spray. The Contractor shall keep seeded areas moist until an acceptable turf is established.

PART 3 -EXECUTION

3.1 Finished Grade

1. Contractor shall accept all grades as finished to within one-tenth of a foot, plus or minus.
2. Contractor shall verify that positive drainage occurs over all landscape areas (except where it is obvious the grading is intended to catch water) and shall report any discrepancies before starting his work.

3.2 Topsoil Placement

1. Topsoil shall be placed 9" deep throughout the site by the grading contractor in all areas to receive sod except bio-swale areas.

3.3 Herbaceous Species Removal

1. The Contractor shall treat all vegetation within targeted areas with an approved herbicide, applied by a certified applicator, in accordance with applicable laws 30 days prior to sodding or seeding. Herbicide application instructions given on the label shall be followed at all times.
2. A second application shall occur two weeks later to any vegetation still alive.
3. After two weeks, scrape dead material off at ground surface and remove from site.

4. Targeted areas may be shown on plans.
5. Care shall be taken not to affect vegetation outside of target areas. Treatment shall not occur when there is any breeze.
6. A supply of chemical absorbent shall be maintained at the project site. Any chemical spills shall be properly cleaned up and reported to the Landscape Architect within 24 hours.
7. The Contractor shall maintain copies at the project site of all current pesticide applicator's licenses, herbicide labels, and MSDS's (Material Safety Data Sheets) for all chemicals utilized during completion of the work.
8. Herbicide may be applied using a backpack sprayer, a hand-held wick applicator, or a vehicle mounted high-pressure spray unit, as specified by the chemical label, in accordance with applicable laws.

3.4 Sodded Lawn

1. Prior to sodding, any areas where compaction has occurred, disc or harrow to a minimum depth of 4".
2. Finish grade to smooth even grade, filling in any small depressions, breaking up any clods and correcting any soft spots. Finished grade shall be free of compaction, construction debris, and all rocks, sticks and other foreign material over 1" in diameter.
3. Immediately prior to laying of sod, apply pre-emergent Tupersan or approved equal in accordance with the manufacturer's instructions for application.
4. Lay rolls of sod tightly together to avoid gaps. Stagger joints.
5. Immediately after laying sod spread fertilizer 8-32-16 at a rate of 3 1/2 lbs. per 1000 S.F. with a broadcast spreader.
6. Water as required. After watering has soaked into the sod lightly roll with a 200 to 250 pound roller.
7. All areas shall be sodded unless otherwise noted.

3.5 Maintenance

1. Landscape Contractor shall be responsible for cultivating and watering all lawn areas for 21 days after initial installation so that at all times they have a presentable appearance. Then as necessary until the beginning of 1 year guarantee period.
2. After 21 days, the Owner's representative shall make a site visit and, provided all lawn areas are in good condition, they will be accepted and maintenance turned over to the Owner.
3. Provide Owner with 2 written copies of instructions for maintenance of lawn areas. Provide 1 written copy to the architect.

3.6 Guarantee

1. All plant material shall be guaranteed to be true to name and vigorous .
2. Contractor shall replace all dead or dying plant materials for a period of one year after

acceptance of the project.

3. The Contractor shall make an inspection 60 days after installation. Immediately report in writing to Owner any cases where changes may be desirable in watering, or other maintenance care.
4. Guarantee quality of workmanship of all landscape work and provide Owner with written instructions as stated above for maintenance.

3.7 Replacements

1. Dead or dying material shall be removed immediately and replacement made as soon as practical.
2. Any plant material replaced during the one year replacement period shall be guaranteed to remain healthy through the summer if replaced in the spring. If replaced in the fall the plant shall be guaranteed to fully leaf out the following spring.
3. Replacement of damage to lawn areas as a result of vandalism or acts of negligence on the part of others may be made on order of the architect and will be at the Owner's expense.

END OF SECTION



**KAW
VALLEY**
ENGINEERING

**GEOTECHNICAL ENGINEERING REPORT
SHAWNEE MISSION NORTH HIGH SCHOOL
STADIUM SCOREBOARD
7401 JOHNSON DRIVE
OVERLAND PARK, KANSAS**

Prepared For:

SHAWNEE MISSION SCHOOL DISTRICT

C/o

ACI BOLAND Inc.

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Prepared By:

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July 27, 2017

Project No. **C17G9494**



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July 27, 2017

C17G9494

Mr. Brad Kramer
ACI Boland Inc.
1710 Wyandotte Street
Kansas City, Missouri 64108

**RE: GEOTECHNICAL ENGINEERING REPORT
SHAWNEE MISSION NORTH HIGH SCHOOL STADIUM SCOREBOARD
7401 JOHNSON DRIVE
OVERLAND PARK, KANSAS**

Dear Mr. Kramer:

This report presents the results of a subsurface exploration and geotechnical engineering analysis conducted for the referenced project. This exploration was conducted in general accordance with our correspondence dated July 05, 2017. The purpose of this study was to define the subsurface conditions at the site and develop geotechnical parameters related to design and construction of the project.

EXECUTIVE SUMMARY

Information, conclusions, and recommendations which, in our opinion, are significant to the design and construction of this project, are provided below. Additional details, the general subsurface profile, other related items, and general information regarding the various phases of our exploration are included in the main body of the report.

Typical subsurface conditions consist of fill soils overlying fat (high plasticity), lean (low plasticity), and lean to fat (moderate plasticity) clays of residual origin over interbedded limestone, shale, and sandstone bedrock. The depth to bedrock ranges between 12.5 and 14.0 feet below the existing ground level. On the basis of the provided loading, it is recommended that the stadium scoreboard be founded on drilled piers bearing upon the existing underlying bedrock. A net allowable bearing pressure of 10,000 pounds per square foot may be used to design and size the drilled piers.

PROJECT AND SITE DESCRIPTION

The proposed project involves the construction of a new stadium scoreboard at Shawnee Mission North High School located at 4701 Johnson Drive in Overland Park, Kansas. At the time of the geotechnical exploration, the subject area was covered by grass and adjacent to track. The area is level with a maximum elevation variation of 1 foot between the borings. The site and surrounding area are displayed on Plate 1.

FIELD EXPLORATION

The field exploration was performed on July 19, 2017 and included drilling two test borings. The boring locations were estimated with measurements from existing surface features. The surface elevations for these borings were determined by review of local topographic data. The boring locations and elevations are displayed on Plate 1 and the logs of the borings, respectively.

The borings were drilled using an ATV-mounted CME 45C drill rig, with 4-inch O.D. continuous flight augers. Samples were obtained utilizing thin walled steel (Shelby) tubes and a split-barrel sampler (standard penetration test). Soil samples were obtained at various intervals through the depths of the borings. The borings were drilled to depths ranging from 23.5 to 24.1 feet below the existing ground surface. Detailed logs of the borings are displayed on Plates 2 and 3.

Core samples of the bedrock were obtained in Boring B-1 and B-2 using NQ-3 wire line, diamond bit coring procedures. NQ-3 size equipment provides core samples that have a diameter that is slightly smaller than 2 inches.

The borings were logged in the field by the driller, based upon visual classifications of materials encountered during drilling, as well as the driller's interpretation of the subsurface conditions between samples. Final boring logs included with this report represent the engineer's interpretation of the field logs and include revisions based upon results of the laboratory testing and an engineer's review of the soil samples and rock cores.

LABORATORY TESTING PROGRAM

The laboratory testing program was designed to determine the pertinent engineering and index properties of the soil. Moisture content, in-situ density, and unconfined compressive strength were determined for select samples. Results of the laboratory tests are displayed upon the borings logs. All tests were performed in general accordance with applicable ASTM standards.

SUBSURFACE CONDITIONS

Stratigraphy. Typical subsurface conditions consist of fill soils overlying fat, lean, and lean to fat clay soil. Interbedded limestone, shale, and sandstone bedrock was encountered at depths ranging

from 12.5 to 14.0 feet below the existing ground elevation. The interbedded bedrock extended through the depths of the borings.

Moisture contents for the soil samples ranged from 19.4 to 26.7 percent, with in-situ dry densities varying from 95.4 to 103.3 pounds per cubic foot. Unconfined compressive strength test results of the soil is 3,846 pounds per square foot. Dry density for the limestone bedrock was 136.6 and 141.7 pounds per cubic foot, with measured unconfined compression strength of 4,200 pounds per square inch (psi). The shale has an in-situ density of 136.6 pounds per cubic foot.

Groundwater. Groundwater was not encountered in the boring prior to the initiation of coring. It should be understood that the level of the groundwater may fluctuate due to rainfall and other climatic factors, and that groundwater may or may not be present during construction or at other times during the life of the project.

DESIGN CONSIDERATIONS AND RECOMMENDATIONS

Foundations. The scoreboard may be founded upon drilled piers extending a minimum of 5 feet into the underlying bedrock. An allowable bearing capacity of 10,000 pounds per square foot may be utilized to size and design the piers. An L-Pile analysis was performed for a pier configuration of 48-inch diameter, 20-foot length. The analysis indicates less than a 0.25-inch deflection at the pier top utilizing the loads provided. A copy of the L-Pile analysis is included within Appendix A.

Seismic Soil Classification. According to the 2012 International Building Code, the site soils are best characterized by the “Class C” site classification. This classification can be utilized by the structural engineer as a seismic design parameter.

Settlement. Foundations proportioned and constructed as recommended above should experience total settlement of less than 1 inch with differential settlement between any two adjacent footings being no more than one half inch.

Drainage. The site should be graded so that surface water flows away from the structure and pavement areas and is not allowed to accumulate near or under the slab-on-grade. Where sidewalks or paving do not immediately adjoin the structure, a grade of at least 5 percent for a minimum of 10 feet from the perimeter walls is recommended.

OBSERVATION OF CONSTRUCTION

The conclusions and recommendations given in this report are based on interpretation of field boring and laboratory data coupled with our experience. Variations may occur from conditions observed within test borings; therefore, it is imperative to involve the geotechnical engineer in the final design and construction process.

Field observation services are viewed as a continuation of the design process. Unless these services are provided, the geotechnical engineer will not be responsible for improper use of

recommendations, or failure by others to recognize conditions which may be detrimental to the successful completion of the project.

LIMITATIONS

The analyses, conclusions, and recommendations contained in this report are based on the site conditions and project layout described herein and further assume that the conditions observed in the exploratory borings are representative of the subsurface conditions throughout the site, i.e., the subsurface conditions elsewhere on the site are the same as those disclosed by the borings. If, during construction, subsurface conditions different from those encountered in the exploratory borings are observed or appear to be present beneath excavations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary.

If there is a substantial lapse in time between the submittal of this report and the start of work at the site, or if conditions or the project layout have changed due to natural causes or construction operations at or adjacent to the site, we recommend that this report be reviewed to determine the applicability of conclusions and recommendations considering the changed conditions and time lapse.

We recommend that we be retained to review the project layout and those portions of plans and specifications which pertain to foundations and earthwork to determine if they are consistent with our findings and recommendations. In addition, we are available to observe construction, particularly site grading, earthwork, and foundation construction. We would be available to make other field observations as may be necessary.

This report was prepared for the exclusive use of the owner, architect, and engineer for evaluating the design of the project as it relates to the geotechnical aspects discussed herein. It should be made available to prospective contractors for information on factual data only and not as a warranty of subsurface conditions included in the report. Unanticipated soil conditions may require that additional expense be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

* * * * *

The following plates are attached to and complete this report:

Plate 1 - Boring Location Plan

Plates 2 and 3 - Logs of Borings

Boring Log Reference Legend

Appendix A – L-Pile Analysis

* * * * *

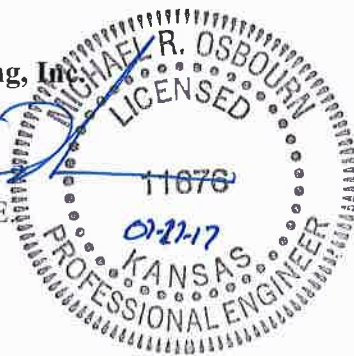
We appreciate the opportunity to be of service to you on this project. Please contact us if you have any questions or comments.

Respectfully submitted,

Kaw Valley Engineering, Inc.



Michael R. Osbourn, P.E.
Principal



Copies submitted: (2)



Site Plan and Boring Locations

Plate 1

Shawnee Mission North Scoreboard

7401 Johnson Drive
Overland Park, Kansas

Approved By: JAF

Not to Scale

Project No. C17G9494



**KAW
VALLEY
ENGINEERING**


LOG OF BORING B-1

SHEET 1 OF 1



Kaw Valley Engineering, Inc.
14700 W 114th Terrace
Lenexa, Kansas 66215
Telephone: (913)894-5150
Fax: (913)894-5977

CLIENT: SHAWNEE MISSION SCHOOL
PROJECT: DISTRICT
NUMBER: SMN-SCOREBOARD
LOCATION: C17G9494
7401 JOHNSON DRIVE, OVERLAND
PARK, KS
DATE(S) DRILLED: 7/19/17 - 7/19/17

	FIELD DATA			LABORATORY DATA										DRILLING METHOD(S): 4" CFA, NQ3	
SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT T: BLOWS/SIX INCHES REC: % RQD: %	RECOVERY (IN)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			DRY DENSITY POUNDS/CUBIC FT	COMPRESSIVE STRENGTH (POUNDS/SQ FT)	CONFINING PRESSURE (POUNDS/SQ IN)	MINUS NO. 200 SIEVE (%)	DRILL RIG: AAL001 DRILL RIG OPERATOR: Jeremy Webb LOGGED BY: Kevin Whiteside		
						LL	PL	PI					GROUNDWATER INFORMATION: Water level while boring: Dry Water level upon completion: 5.3"		
													SURFACE ELEVATION: '		
													DESCRIPTION OF STRATUM		
													TOPSOIL (6")		
														LEAN CLAY: Brown; stiff; slightly moist	
	5				23	19.4			95.4					LEAN CLAY: Brown to light brown; stiff; moist	
	10				21	22.5			103.3	3,846					
	15		REC = 75 RQD = 21						141.7	4,200				LIMESTONE: Light gray; hard; vertical fracture at 14.7'; and horizontal fracture at 15.4' to 15.8'	
														SHALE: Light brown; slightly sandy; fissle	
	20		REC = 92 RQD = 37											SANDSTONE: Light brown to brown; silty and laminated to 20.2' then sandstone without laminations	
														SHALE: Gray; dark gray and laminations to 24.1'	
25	BORING TERMINATED AT 24.1'												BORING TERMINATED AT 24.1'		
N - STANDARD PENETRATION TEST RESISTANCE P - POCKET PENETROMETER RESISTANCE T - BLOWS PER SIX INCHES REC - ROCK CORE RECOVERY RQD - ROCK QUALITY DESIGNATION													REMARKS: Surficial conditions: Grass		

LOG OF BORING B-2

SHEET 1 OF 1

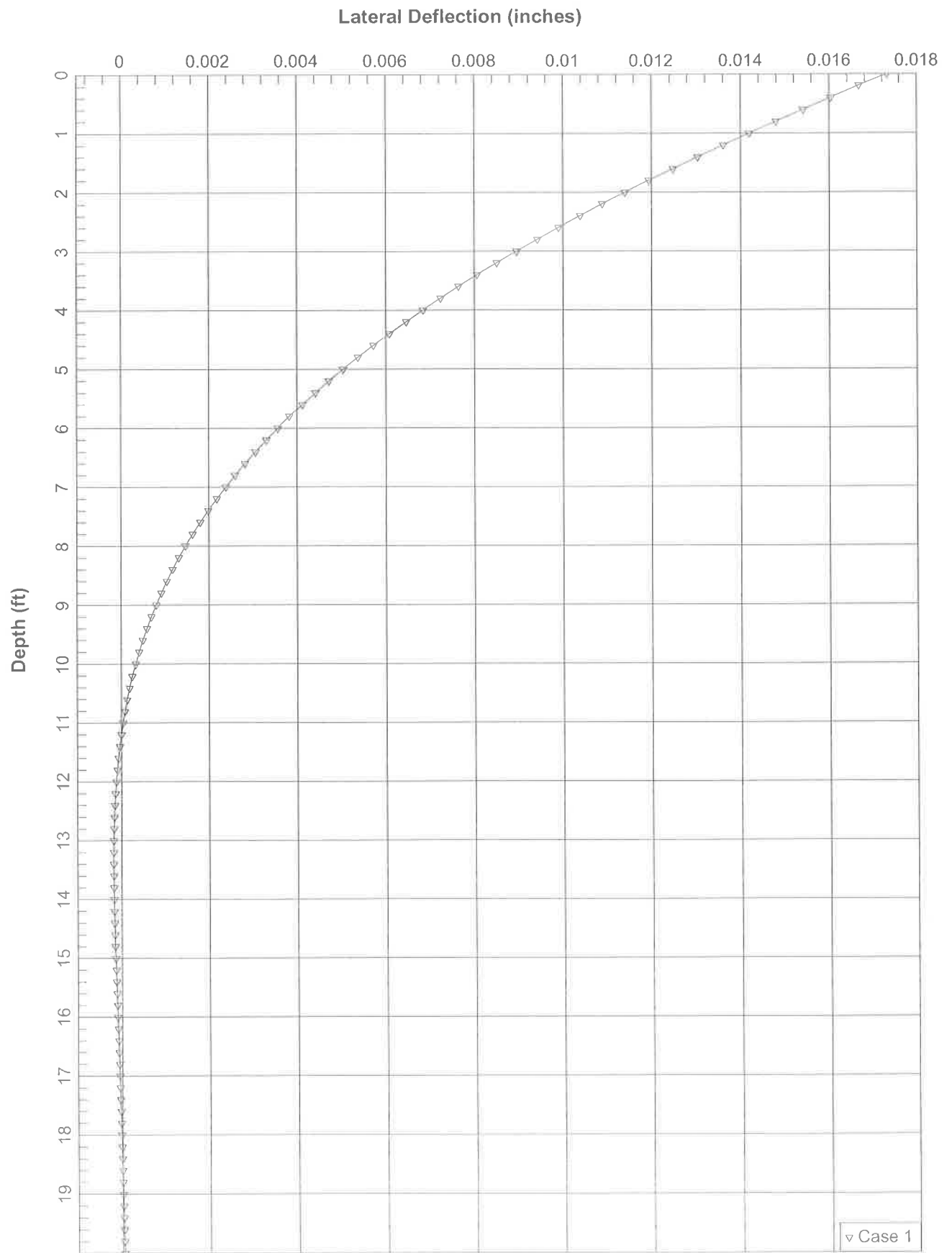


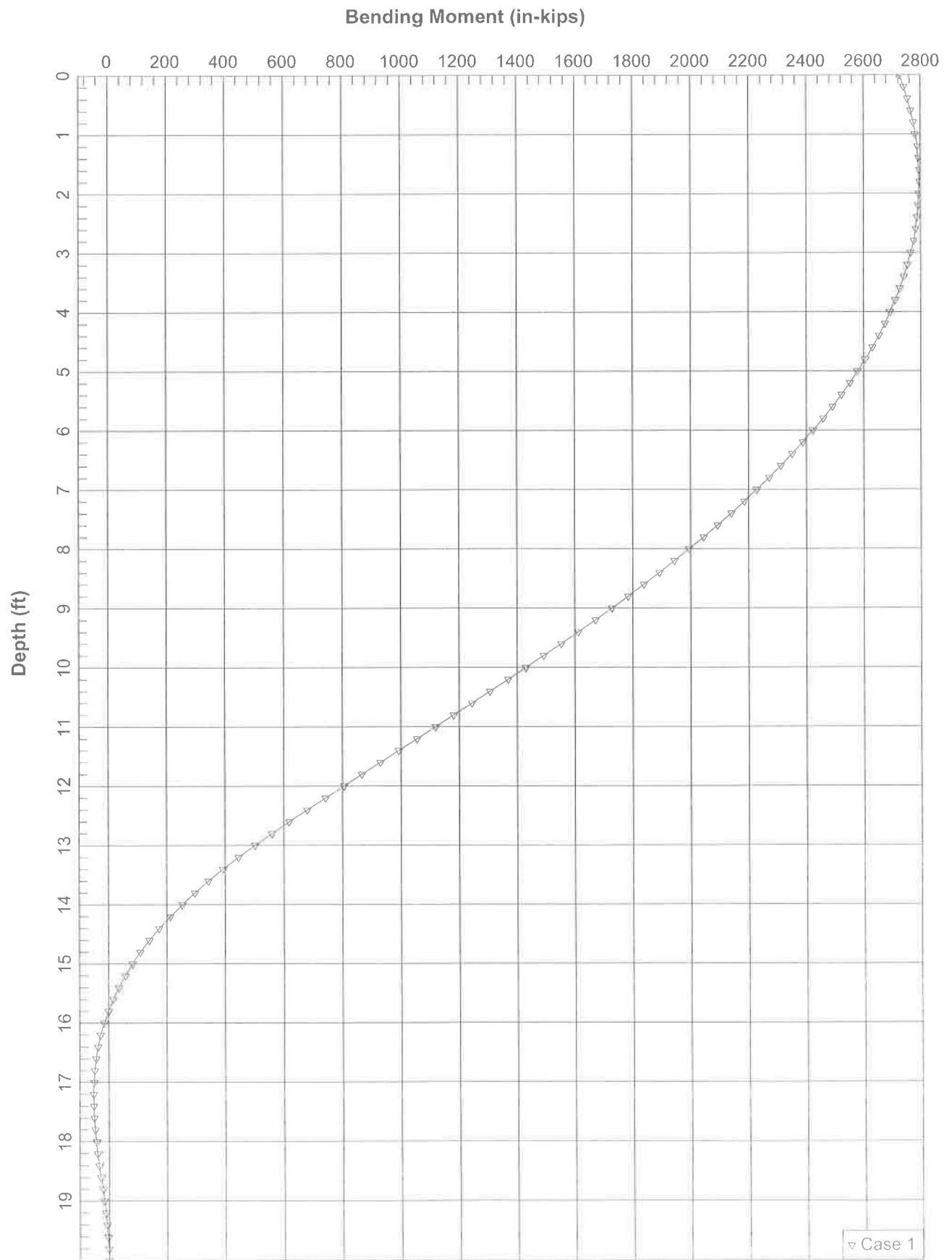
Kaw Valley Engineering, Inc.
14700 W 114th Terrace
Lenexa, Kansas 66215
Telephone: (913)894-5150
Fax: (913)894-5977

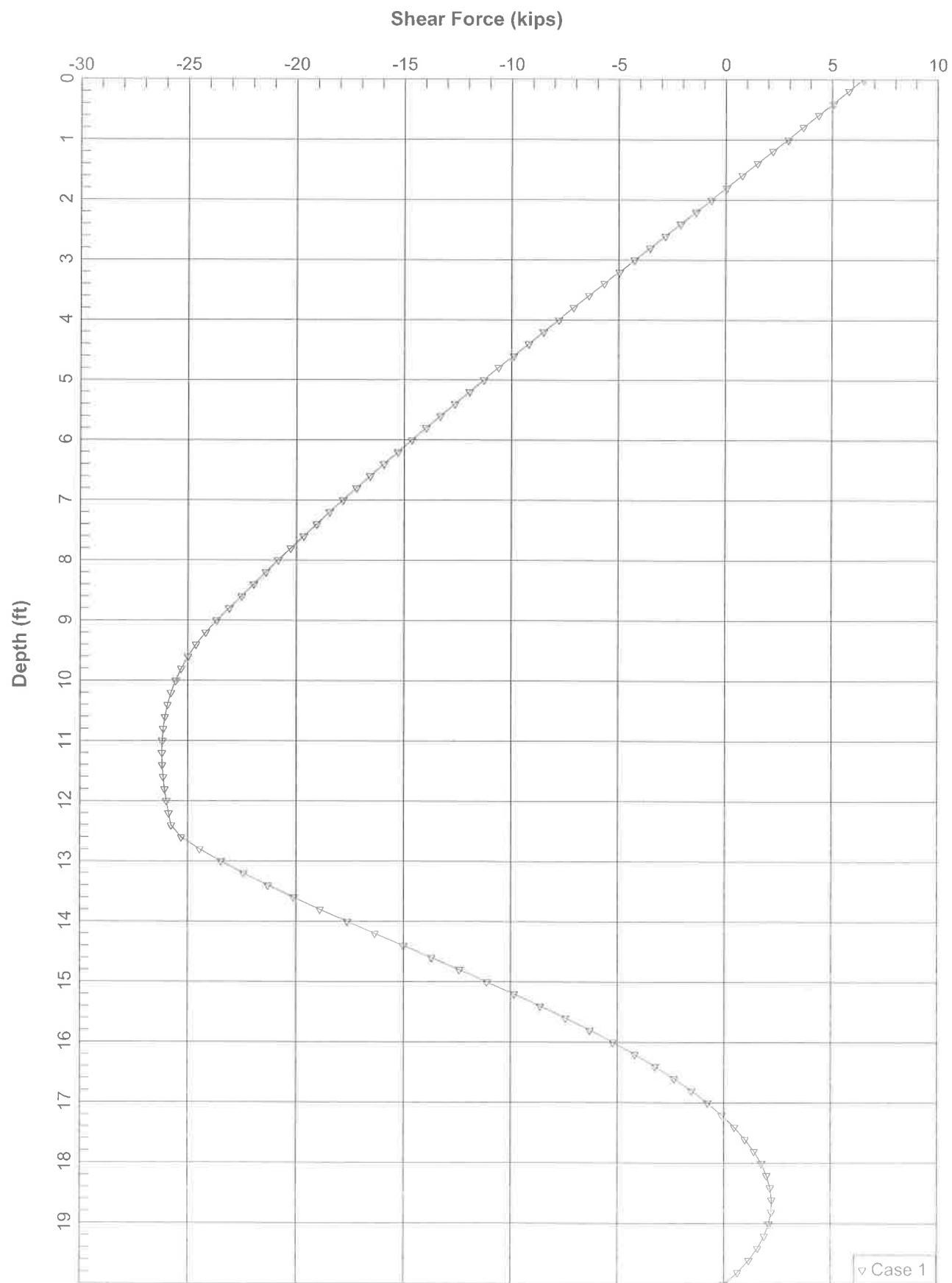
CLIENT: SHAWNEE MISSION SCHOOL
PROJECT: DISTRICT
NUMBER: SMN-SCOREBOARD
LOCATION: C17G9494
7401 JOHNSON DRIVE, OVERLAND PARK, KS
DATE(S) DRILLED: 7/19/17 - 7/20/17

FIELD DATA		LABORATORY DATA										DRILLING METHOD(S): 4" CFA, NQ3 DRILL RIG: AAL001 DRILL RIG OPERATOR: Jeremy Webb LOGGED BY: Kevin Whiteside/Kris Moore	
SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT T: BLOWS/SIX INCHES REC: % RQD: %	RECOVERY (IN)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			DRY DENSITY POUNDS/CUBIC FT	COMPRESSIVE STRENGTH (POUNDS/SQ FT)	CONFINING PRESSURE (POUNDS/SQ IN)		
						LL	PL	PI					
													GROUNDWATER INFORMATION: Water level while boring: Dry Water level upon completion: Dry
													SURFACE ELEVATION: '
													DESCRIPTION OF STRATUM
													TOPSOIL (6")
													LEAN TO FAT CLAY: Brown to dark brown
													LEAN CLAY: Brown; soft
													LIMESTONE: Broken
													SHALE: Light brown with limestone fragments
													SHALE: Highly weathered, Light brown to rust, sub-fissile, silty, dry- much harder at 17'
													SANDSTONE: Light brown; weathered; hard
													SHALE: Light brown to gray; highly weathered; slightly sandy; thin sandy laminations at 19.6'; gray with dark gray and sandy laminations to 23.5'
													BORING TERMINATED AT 23.5'
													REMARKS: Surficial Conditions: Grass

APPENDIX A







Pile Plus for Windows, Version 2012-06.031

Analysis of Individual Piles and Drilled Shafts
Subjected to Lateral Loading Using the p-y Method

© 1985-2012 by Ensoft, Inc.
All Rights Reserved

This copy of LPile is licensed to:

W
W

Serial Number of Security Device: 294797324
Company Name Stored in Security Device: Kaw Valley Engineering, Inc.

Files Used for Analysis

Path to file locations: C:\Jeff Data\2017 Projects\Cl7G9494 Shawnee Mission North Scoreboard L-pile analysis\
Name of input data file: New LPile (USCS units).lp6d
Name of output report file: New LPile (USCS units).lp6o
Name of plot output file: New LPile (USCS units).lp6p
Name of runtime message file: New LPile (USCS units).lp6r

Date and Time of Analysis

Date: July 27, 2017 Time: 11:02:13

Problem Title

Project Name: Shawnee Mission North Scoreboard
Job Number: Cl7G9494
Client: Shawnee Mission School District
Engineer: Frantzen
Description: Scoreboard Drilled Piers

Program Options

Engineering units are US Customary Units: pounds, inches, feet

Basic Program Options:

This analysis computes pile response to lateral loading and will compute nonlinear moment-curvature and nominal moment capacity for section types with nonlinear properties.

Computation Options:

- Analysis does not use p-y multipliers (individual pile or shaft only)
- Analysis assumes no shear resistance at pile tip
- Analysis for fixed-length pile or shaft only
- No computation of foundation stiffness matrix values
- Report pile response for full length of pile
- Analysis assumes no loading by soil movements acting on pile
- No p-y curves to be computed and reported for user-specified depths

Solution Control Parameters:

- Number of pile increments = 100
- Maximum number of iterations allowed = 100
- Deflection tolerance for convergence = 1.0000E-05 in
- Maximum allowable deflection = 100.0000 in

Pile Response Output Options:

- Values of pile-head deflection, bending moment, shear force, and soil reaction are printed for full length of pile.
- Printing Increment (nodal spacing of output points) = 1

Pile Structural Properties and Geometry

Total Number of Sections = 1

Total Pile Length = 20.00 ft

Depth of ground surface below top of pile = 0.00 ft

Pile dimensions used for p-y curve computations defined using 2 points. p-y curves are computed using values of pile diameter interpolated over the length of the pile.

Point	Depth X ft	Pile Diameter in
1	0.00000	48.0000000
2	20.000000	48.0000000

Input Structural Properties:

Pile Section No. 1:

Section Type	= Drilled Shaft (Bored Pile)
Section Length	= 20.00000000 ft
Section Diameter	= 48.00000000 in

Ground Slope and Pile Batter Angles	
Ground Slope Angle	= 0.000 degrees = 0.000 radians
Pile Batter Angle	= 0.000 degrees = 0.000 radians

Soil and Rock Layering Information

The soil profile is modelled using 3 layers

Layer 1 is stiff clay without free water

Distance from top of pile to top of layer	= 0.0000 ft
Distance from top of pile to bottom of layer	= 12.50000 ft
Effective unit weight at top of layer	= 120.00000 pcf
Effective unit weight at bottom of layer	= 120.00000 pcf
Undrained cohesion at top of layer	= 1900.00000 psi
Undrained cohesion at bottom of layer	= 1900.00000 psi
Epsilon-50 at top of layer	= 0.00700
Epsilon-50 at bottom of layer	= 0.00700

Layer 2 is weak rock, p-y criteria by Reese, 1997

Distance from top of pile to top of layer	= 12.50000 ft
Distance from top of pile to bottom of layer	= 18.50000 ft
Effective unit weight at top of layer	= 130.00000 pcf
Effective unit weight at bottom of layer	= 130.00000 pcf
Uniaxial compressive strength at top of layer	= 70.00000 psi
Uniaxial compressive strength at bottom of layer	= 70.00000 psi
Initial modulus of rock at top of layer	= 20000. psi
Initial modulus of rock at bottom of layer	= 20000. psi
RQD of rock at top of layer	= 0.0000 %

RQD of rock at bottom of layer = 20.00000 %
 k rm of rock at top of layer = 0.0005000
 k rm of rock at bottom of layer = 0.0005000

Layer 3 is weak rock, p-y criteria by Reese, 1997

Distance from top of pile to top of layer = 18.50000 ft
 Distance from top of pile to bottom of layer = 20.00000 ft
 Effective unit weight at top of layer = 135.00000 pcf
 Effective unit weight at bottom of layer = 135.00000 pcf
 Uniaxial compressive strength at top of layer = 100.00000 psi
 Uniaxial compressive strength at bottom of layer = 100.00000 psi
 Initial modulus of rock at top of layer = 20000. psi
 Initial modulus of rock at bottom of layer = 20000. psi
 RQD of rock at top of layer = 45.00000 %
 RQD of rock at bottom of layer = 45.00000 %
 k rm of rock at top of layer = 0.0005000
 k rm of rock at bottom of layer = 0.0005000

(Depth of lowest soil layer extends 0.00 ft below pile tip)

Summary of Soil Properties													
Strain Layer Factor Num.	Epsilon 50	Layer		Rock Mass		Layer		Effective		Undrained		Angle of	
		J Factor	Soil Type (p-y Curve Criteria)	psi	Rock Emass	Depth ft	krm	Unit Wt. pcf	In-situ Test Type	Cohesion psf	In-situ Test Property	Friction deg.	Elastic Subgrade Mod. pci
1	0.00700	Stiff Clay w/o Free Water	--	--	--	0.00	--	120,000	--	1900,000	--	--	--
2	0.00700	Weak Rock	--	--	20000.	12.500	--	120,000	--	1900,000	--	--	--
						12.500	--	130,000	--	--	--	70.000	0.00
					20000.	5.00E-04	--	130,000	--	--	--	--	70.000
					20000.	18.500	--	130,000	--	--	--	--	70.000
					20000.	5.00E-04	--	135,000	--	--	--	--	100.000
3		Weak Rock	--	--	20000.	18.500	--	135,000	--	--	--	--	100.000
					20000.	5.00E-04	--	135,000	--	--	--	--	100.000
					20000.	20.000	--	135,000	--	--	--	--	100.000
					20000.	5.00E-04	--	--	--	--	--	--	45.000
					20000.	5.00E-04	--	--	--	--	--	--	45.000

Loading Type

Cyclic loading criteria were used for computation of p-y curves for all analyses.
Number of cycles of loading = 100

Pile-head Loading and Pile-head Fixity Conditions

Number of loads specified = 1

Load No.	Load Type	Condition	Condition	Axial Thrust Force, lbs	Compute Top y vs. Pile Length
1	1	V = 6500.00000 lbs	M = 2724000. in-lbs	10000.000000000	False

V = perpendicular shear force applied to pile head
M = bending moment applied to pile head
y = lateral deflection relative to pile axis
S = pile slope relative to original pile batter angle
R = rotational stiffness applied to pile head
Axial thrust is assumed to be acting axially for all pile batter angles.

Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness

Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 1

Pile Section No. 1:

Dimensions and Properties of Drilled Shaft:

Length of Section	=	20.000000000 ft
Shaft Diameter	=	48.000000000 in
Concrete Cover Thickness	=	3.000000000 in
Number of Reinforcing Bars	=	14 bars
Yield Stress of Reinforcing Bars	=	60.000000000 ksi
Modulus of Elasticity of Reinforcing Bars	=	29000. ksi
Gross Area of Shaft	=	1809.55736847 sq. in.
Total Area of Reinforcing Steel	=	17.780000000 sq. in.

Area Ratio of Steel Reinforcement = 0.98 percent
 Edge-to-Edge Bar Spacing = 7.79327764 in
 Rebar Offset = 0.0000000 in

 Axial Structural Capacities:

Nom. Axial Structural Capacity = 0.85 Fc Ac + Fy As = 7158.843 kips
 Tensile Load for Cracking of Concrete = -804.705 kips
 Nominal Axial Tensile Capacity = -1066.800 kips

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar Number	Bar Diam. inches	Bar Area sq. in.	X inches	Y inches
1	1.27000	1.27000	20.36500	0.00000
2	1.27000	1.27000	18.34823	8.83604
3	1.27000	1.27000	12.69737	15.92200
4	1.27000	1.27000	4.53164	19.85441
5	1.27000	1.27000	-4.53164	19.85441
6	1.27000	1.27000	-12.69737	15.92200
7	1.27000	1.27000	-18.34823	8.83604
8	1.27000	1.27000	-20.36500	0.00000
9	1.27000	1.27000	-18.34823	-8.83604
10	1.27000	1.27000	-12.69737	-15.92200
11	1.27000	1.27000	-4.53164	-19.85441
12	1.27000	1.27000	4.53164	-19.85441
13	1.27000	1.27000	12.69737	-15.92200
14	1.27000	1.27000	18.34823	-8.83604

 Concrete Properties:

Compressive Strength of Concrete = 4.00000000 ksi
 Modulus of Elasticity of Concrete = 3604.99653259 ksi
 Modulus of Rupture of Concrete = -0.47434164 ksi
 Compression Strain at Peak Stress = 0.00188627
 Tensile Strain at Fracture of Concrete = -0.00011537
 Maximum Coarse Aggregate Size = 0.75000000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 1

Number	Axial Thrust Force kips
-----	-----
1	10.000

Definitions of Run Messages and Notes:

C = concrete in section has cracked in tension.
Y = stress in reinforcing steel has reached yield stress.
T = ACI 318-08 criteria for tension-controlled section met, tensile strain in reinforcement exceeds 0.005 while simultaneously compressive strain in concrete more than 0.003. See ACI 318-08, Section 10.3.4.
Z = depth of tensile zone in concrete section is less than 10 percent of section depth.

Bending Stiffness (EI) = Computed Bending Moment / Curvature.
Position of neutral axis is measured from edge of compression side of pile.
Compressive stresses and strains are positive in sign.
Tensile stresses and strains are negative in sign.

Axial Thrust Force = 10.000 kips

Bending Curvature rad/in.	Bending Moment in-kip	Bending Stiffness kip-in ²	Depth to N Axis in	Max Comp Strain in/in	Max Tens Strain in/in	Max Concrete Stress ksi	Max Steel Stress ksi	Run Msg
0.000000625	746.0681519	1193709043.	25.9779918	0.0000162	-0.0000138	0.0679336	0.4665011	
0.000001250	1488.4931552	1190794524.	24.9921500	0.0000312	-0.0000288	0.1301465	0.8972654	
0.000001875	2227.2436266	1187863267.	24.6635518	0.0000462	-0.0000438	0.1918633	1.3280306	
0.000002500	2962.3195383	1184927815.	24.4992633	0.0000612	-0.0000588	0.2530842	1.7587966	
0.000003125	3693.7208862	1181990684.	24.4006985	0.0000763	-0.0000737	0.3138090	2.1895633	
0.000003750	4421.4447670	1179052712.	24.3349956	0.0000913	-0.0000887	0.3740379	2.6203308	
0.000004375	5145.4998903	1176114261.	24.2880710	0.0001063	-0.0001037	0.4337708	3.0510990	
0.000005000	5145.4998903	1029099978.	12.4934836	0.0000625	-0.0001775	0.2556257	-5.1136449	C
0.000005625	5145.4998903	914755536.	12.3900748	0.0000697	-0.0002003	0.2846082	-5.7697190	C
0.000006250	5145.4998903	823279982.	12.3080651	0.0000769	-0.0002231	0.3134965	-6.4256632	C
0.000006875	5145.4998903	748436348.	12.2416204	0.0000842	-0.0002458	0.3422902	-7.0814769	C
0.000007500	5145.4998903	686066652.	12.1845466	0.0000914	-0.0002686	0.3709194	-7.7376611	C
0.000008125	5145.4998903	633292294.	12.1367700	0.0000986	-0.0002914	0.3994530	-8.3937235	C
0.000008750	5145.4998903	588057130.	12.0963551	0.0001058	-0.0003142	0.4278928	-9.0496499	C
0.000009375	5145.4998903	548853322.	12.0618314	0.0001131	-0.0003369	0.4562387	-9.7054396	C
0.000010000	5145.4998903	514549989.	12.0320957	0.0001203	-0.0003597	0.4844904	-10.3610922	C
0.000010625	5145.4998903	484282343.	12.0063047	0.0001276	-0.0003824	0.5126479	-11.0166073	C
0.0000113	5145.4998903	457377768.	11.9838024	0.0001348	-0.0004052	0.5407109	-11.6719844	C
0.0000119	5145.4998903	433305254.	11.9640708	0.0001421	-0.0004279	0.5686792	-12.3272234	C
0.0000125	5145.4998903	411639991.	11.9466957	0.0001493	-0.0004507	0.5965528	-12.9823231	C
0.0000131	5145.4998903	392038087.	11.9313416	0.0001566	-0.0004734	0.6243315	-13.6372833	C
0.0000138	5145.4998903	374218174.	11.9177341	0.0001639	-0.0004961	0.6520150	-14.2921037	C
0.0000144	5145.4998903	357947818.	11.9056467	0.0001711	-0.0005189	0.6796033	-14.9467837	C
0.0000150	5145.4998903	343033326.	11.8948903	0.0001784	-0.0005416	0.7070961	-15.6013228	C
0.0000156	5145.4998903	329311993.	11.8853064	0.0001857	-0.0005643	0.7344934	-16.2557206	C
0.0000163	5145.4998903	316646147.	11.8767607	0.0001930	-0.0005870	0.7617948	-16.9099766	C
0.0000169	5145.4998903	304918512.	11.8691388	0.0002003	-0.0006097	0.7890002	-17.5640902	C
0.0000175	5145.4998903	294028565.	11.8623428	0.0002076	-0.0006324	0.8161096	-18.2180611	C
0.0000181	5145.4998903	283889649.	11.8562881	0.0002149	-0.0006551	0.8431226	-18.8718886	C

0.0000188	5145.4998903	274426661.	11.8509017	0.0002222	-0.0006778	0.8700392	-19.5255722	C
0.0000194	5145.4998903	265574188.	11.8461196	0.0002295	-0.0007005	0.8968591	-20.1791116	C
0.0000200	5145.4998903	257274995.	11.8418861	0.0002368	-0.0007322	0.9235822	-20.8325061	C
0.0000206	5145.4998903	249478783.	11.8381522	0.0002442	-0.0007458	0.9502083	-21.4857552	C
0.0000213	5145.4998903	242141171.	11.8348747	0.0002515	-0.0007685	0.9767372	-22.1388585	C
0.0000219	5145.4998903	235222852.	11.8320152	0.0002588	-0.0007912	1.0031687	-22.7918153	C
0.0000225	5279.5787545	234647945.	11.8295397	0.0002662	-0.0008365	1.0295028	-23.4446253	C
0.0000231	5421.3784832	234347988.	11.8274179	0.0002735	-0.0008138	1.0557391	-24.0972878	C
0.0000238	5563.1010805	234235835.	11.8256227	0.0002809	-0.0008591	1.0818775	-24.7498023	C
0.0000244	5704.7463070	234040874.	11.8241295	0.0002882	-0.0008818	1.1079178	-25.4021684	C
0.0000256	5987.8036722	233670387.	11.8219642	0.0003029	-0.0009271	1.1597035	-26.7064528	C
0.0000269	6270.5486675	233322741.	11.8207708	0.0003177	-0.0009723	1.2110947	-28.0101367	C
0.0000281	6552.9793029	232994820.	11.8204251	0.0003324	-0.0010176	1.2620900	-29.3132157	C
0.0000294	6835.0935882	232684037.	11.8208242	0.0003472	-0.0010628	1.3126877	-30.6156853	C
0.0000306	7116.8895087	232388229.	11.8218819	0.0003620	-0.0011080	1.3628864	-31.9175411	C
0.0000319	7398.3650245	232105569.	11.8235256	0.0003769	-0.0011531	1.4126846	-33.2187784	C
0.0000331	7679.5180702	231834508.	11.8255940	0.0003917	-0.0011983	1.4620807	-34.5193927	C
0.0000344	7960.3465543	231573718.	11.8283343	0.0004066	-0.0012434	1.5110731	-35.8193792	C
0.0000356	8240.8483588	231322059.	11.8314017	0.0004215	-0.0012885	1.5596603	-37.1187331	C
0.0000369	8521.0213386	231078545.	11.8348571	0.0004364	-0.0013336	1.6078406	-38.4174497	C
0.0000381	8800.8633215	230842317.	11.8386669	0.0004513	-0.0013787	1.6556125	-39.7155240	C
0.0000394	9080.3721068	230612625.	11.8428015	0.0004663	-0.0014237	1.7029743	-41.0129510	C
0.0000406	9359.5454656	230388811.	11.8472354	0.0004813	-0.0014687	1.7499243	-42.3097258	C
0.0000419	9638.3811398	230170296.	11.8519460	0.0004963	-0.0015137	1.7964609	-43.6058433	C
0.0000431	9916.8768416	229956564.	11.8569132	0.0005113	-0.0015587	1.8425824	-44.9012981	C
0.0000444	10195.	229747161.	11.8621195	0.0005264	-0.0016036	1.8882870	-46.1960852	C
0.0000456	10473.	229541677.	11.8675493	0.0005415	-0.0016485	1.9335731	-47.4901991	C
0.0000469	10750.	229339750.	11.8731887	0.0005566	-0.0016934	1.9784389	-48.7836344	C
0.0000481	11027.	229141051.	11.8790253	0.0005717	-0.0017383	2.0228826	-50.0763857	C
0.0000494	11304.	228945287.	11.8850479	0.0005868	-0.0017832	2.0669024	-51.3684475	C
0.0000506	11581.	228752190.	11.8912467	0.0006020	-0.0018280	2.1104965	-52.6598139	C
0.0000519	11857.	228561520.	11.8976127	0.0006172	-0.0018728	2.1536631	-53.9504794	C
0.0000531	12132.	228373057.	11.9041379	0.0006324	-0.0019176	2.1964003	-55.2404381	C
0.0000544	12408.	228186602.	11.9108151	0.0006477	-0.0019623	2.2387062	-56.5296841	C
0.0000556	12683.	228001971.	11.9176377	0.0006629	-0.0020071	2.2805790	-57.8182114	C
0.0000569	12957.	227818999.	11.9245999	0.0006782	-0.0020518	2.3220167	-59.1060139	C
0.0000581	13231.	227637532.	11.9316962	0.0006935	-0.0020965	2.3630173	-60.0000000	CY
0.0000594	13505.	227457428.	11.9389219	0.0007089	-0.0021411	2.4035790	-60.0000000	CY
0.0000606	13779.	227278558.	11.9462726	0.0007242	-0.0021858	2.4436996	-60.0000000	CY
0.0000619	14052.	227100802.	11.9537443	0.0007396	-0.0022304	2.4833771	-60.0000000	CY
0.0000631	14325.	226924047.	11.9613335	0.0007551	-0.0022749	2.5226096	-60.0000000	CY
0.0000644	14588.	226604514.	11.9664710	0.0007703	-0.0023197	2.5609749	-60.0000000	CY
0.0000656	14809.	22659421.	11.9603524	0.0007849	-0.0023651	2.5970128	-60.0000000	CY
0.0000669	14988.	224116018.	11.9432018	0.0007987	-0.0024113	2.6307258	-60.0000000	CY
0.0000681	15164.	222590161.	11.9262963	0.0008125	-0.0024575	2.6639645	-60.0000000	CY
0.0000694	15340.	221115941.	11.9102715	0.0008263	-0.0025037	2.6968405	-60.0000000	CY
0.0000706	15516.	219690598.	11.8950825	0.0008401	-0.0025499	2.7293522	-60.0000000	CY
0.0000719	15691.	218311560.	11.8806874	0.0008539	-0.0025961	2.7614983	-60.0000000	CY
0.0000731	15858.	216863110.	11.8647129	0.0008676	-0.0026424	2.7928796	-60.0000000	CY
0.0000744	15992.	215021341.	11.8403195	0.0008806	-0.0026894	2.8223259	-60.0000000	CY
0.0000794	16375.	206305021.	11.7089246	0.0009294	-0.0028806	2.9292582	-60.0000000	CY
0.0000844	16750.	198516153.	11.5901610	0.0009779	-0.0030721	3.0305839	-60.0000000	CY

0.0000894	17122.	191575065.	11.4871951	0.0010267	-0.0032633	3.1273185	-60.0000000	CY
0.0000944	17491.	185330817.	11.3971071	0.0010756	-0.0034544	3.2193177	-60.0000000	CY
0.0000994	17734.	178460095.	11.2812606	0.0011211	-0.0036489	3.3006676	-60.0000000	CY
0.0001044	17893.	171427207.	11.1462085	0.0011634	-0.0038466	3.3711023	-60.0000000	CY
0.0001094	18050.	165026753.	11.0249688	0.0012059	-0.0040441	3.4385915	-60.0000000	CY
0.0001144	18206.	159175856.	10.9158250	0.0012485	-0.0042415	3.5025070	-60.0000000	CY
0.0001194	18361.	153805274.	10.8172811	0.0012913	-0.0044387	3.5628050	-60.0000000	CY
0.0001244	18512.	148843124.	10.7230177	0.0013337	-0.0046363	3.6186158	-60.0000000	CY
0.0001294	18663.	144252721.	10.6363051	0.0013761	-0.0048339	3.6706589	-60.0000000	CY
0.0001344	18812.	139995335.	10.5573971	0.0014187	-0.0050313	3.7190900	-60.0000000	CY
0.0001394	18960.	136034971.	10.4854791	0.0014614	-0.0052286	3.7638623	-60.0000000	CY
0.0001444	19107.	132340603.	10.4198505	0.0015044	-0.0054256	3.8049273	-60.0000000	CY
0.0001494	19243.	128826417.	10.3566160	0.0015470	-0.0056230	3.8418208	-60.0000000	CY
0.0001544	19334.	125241123.	10.2792925	0.0015869	-0.0058231	3.8727358	-60.0000000	CY
0.0001594	19387.	121643490.	10.1907357	0.0016241	-0.0060259	3.8985687	-60.0000000	CY
0.0001644	19434.	118230332.	10.1064496	0.0016612	-0.0062288	3.9213651	-60.0000000	CY
0.0001694	19481.	115015057.	10.0280117	0.0016985	-0.0064315	3.9413397	-60.0000000	CY
0.0001744	19527.	111980569.	9.9549312	0.0017359	-0.0066341	3.9584574	-60.0000000	CY
0.0001794	19572.	109111678.	9.8867724	0.0017734	-0.0068366	3.9726826	-60.0000000	CY
0.0001844	19616.	106391520.	9.8215961	0.0018109	-0.0070391	3.9839017	-60.0000000	CY
0.0001894	19658.	103803059.	9.7566242	0.0018477	-0.0072423	3.9920561	-60.0000000	CY
0.0001944	19699.	101344645.	9.6957921	0.0018846	-0.0074454	3.9973772	-60.0000000	CY
0.0001994	19739.	99006432.	9.6388018	0.0019217	-0.0076483	3.9998276	-60.0000000	CY
0.0002044	19779.	96778800.	9.5855067	0.0019590	-0.0078510	3.9937799	-60.0000000	CY
0.0002094	19818.	94654352.	9.5355591	0.0019965	-0.0080535	3.9981548	-60.0000000	CY
0.0002144	19857.	92626231.	9.4886686	0.0020341	-0.0082559	3.9999527	-60.0000000	CY
0.0002194	19894.	90686430.	9.4448812	0.0020720	-0.0084580	3.9932389	-60.0000000	CY
0.0002244	19931.	88830399.	9.4037532	0.0021100	-0.0086600	3.9976671	-60.0000000	CY
0.0002294	19968.	87052959.	9.3650604	0.0021481	-0.0088619	3.9997978	-60.0000000	CY
0.0002344	20002.	85343462.	9.3255460	0.0021857	-0.0090643	3.9943084	-60.0000000	CY
0.0002394	20036.	83702186.	9.2879003	0.0022233	-0.0092667	3.9952312	-60.0000000	CY
0.0002444	20070.	82126388.	9.2523442	0.0022610	-0.0094690	3.9985608	-60.0000000	CY
0.0002494	20103.	80612106.	9.2187622	0.0022989	-0.0096711	3.9999555	-60.0000000	CY
0.0002544	20135.	79154353.	9.1873637	0.0023370	-0.0098730	3.9926589	-60.0000000	CY
0.0002594	20167.	77751105.	9.1577308	0.0023753	-0.0100747	3.9942953	-60.0000000	CY
0.0002644	20198.	76399630.	9.1296804	0.0024137	-0.0102763	3.9978569	-60.0000000	CY
0.0002694	20229.	75097020.	9.1031329	0.0024522	-0.0104778	3.9997135	-60.0000000	CY
0.0002744	20260.	73839887.	9.0781949	0.0024908	-0.0106792	3.9962663	-60.0000000	CY
0.0003044	20435.	67137448.	8.9552907	0.0027258	-0.0118842	3.9887302	-60.0000000	CY
0.0003344	20557.	61478655.	8.8369755	0.0029549	-0.0130951	3.9920544	-60.0000000	CY
0.0003644	20596.	56524477.	8.6875421	0.0031655	-0.0143245	3.9988127	-60.0000000	CYT
0.0003944	20616.	52275643.	8.5555232	0.0033741	-0.0155559	3.9834758	-60.0000000	CYT
0.0004244	20635.	48623776.	8.4461415	0.0035843	-0.0167857	3.9987466	-60.0000000	CYT
0.0004544	20645.	45435485.	8.3549636	0.0037963	-0.0180137	3.9823907	-60.0000000	CYT
0.0004844	20645.	42621416.	8.3307493	0.0040352	-0.0192148	3.9959778	-60.0000000	CYT

Summary of Results for Nominal (Unfactored) Moment Capacity for Section 1

Moment values interpolated at maximum compressive strain = 0.003

or maximum developed moment if pile fails at smaller strains.

Load No.	Axial Thrust Kips	Nominal Mom. Cap. in-kip	Max. Comp. Strain
1	10.000	20565.320	0.00300000

Note note that the values of moment capacity in the table above are not factored by a strength reduction factor (ϕ -factor).

In ACI 318-08, the value of the strength reduction factor depends on whether the transverse reinforcing steel bars are spirals or tied hoops.

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318-08, Section 9.3.2.2 or the value required by the design standard being followed.

Computed Values of Pile Loading and Deflection
for Lateral Loading for Load Case Number 1

Pile-head conditions are Shear and Moment (Loading Type 1)

Shear force at pile head = 6500.000 lbs
Applied moment at pile head = 2724000.000 in-lbs
Axial thrust load on pile head = 10000.000 lbs

Depth X inches	Deflect. y inches	Bending Moment in-lbs	Shear Force lbs	Slope S radians	Total Stress psi*	Bending Stiffness lb-in ²	Soil Res. p lb/in	Soil Spr. Es* lb/inch	Distrib. Lat. Load lb/inch
0.00	0.0173	2724000.	6500.0000	-0.000275	0.000	1.186E+12	-295.6951	20483.	0.000
2.400	0.0167	2738755.	5789.3104	-0.000269	0.000	1.186E+12	-296.5462	42691.	0.000
4.800	0.0160	2751802.	5076.6925	-0.000264	0.000	1.186E+12	-297.3020	44506.	0.000
7.200	0.0154	2763136.	4362.3767	-0.000258	0.000	1.186E+12	-297.9612	46417.	0.000
9.600	0.0148	2772753.	3646.5958	-0.000252	0.000	1.186E+12	-298.5229	48429.	0.000
12.000	0.0142	2780651.	2929.5853	-0.000247	0.000	1.186E+12	-298.9858	50551.	0.000
14.400	0.0136	2786827.	2211.5838	-0.000241	0.000	1.185E+12	-299.3488	52789.	0.000
16.800	0.0130	2791279.	1492.8325	-0.000235	0.000	1.185E+12	-299.6106	55153.	0.000
19.200	0.0125	2794004.	773.5757	-0.000230	0.000	1.185E+12	-299.7701	57651.	0.000
21.600	0.0119	2795003.	54.0606	-0.000224	0.000	1.185E+12	-299.8259	60294.	0.000
24.000	0.0114	2794274.	-665.4624	-0.000218	0.000	1.185E+12	-299.7767	63092.	0.000
26.400	0.0109	2791819.	-1384.7398	-0.000213	0.000	1.185E+12	-299.6212	66057.	0.000
28.800	0.0104	2787638.	-2103.5147	-0.000207	0.000	1.185E+12	-299.3580	69203.	0.000
31.200	0.009891	2781732.	-2821.5270	-0.000202	0.000	1.186E+12	-298.9856	72544.	0.000
33.600	0.009415	2774104.	-3538.5128	-0.000196	0.000	1.186E+12	-298.5026	76096.	0.000
36.000	0.008951	2764757.	-4254.2048	-0.000190	0.000	1.186E+12	-297.9074	79876.	0.000
38.400	0.008501	2753693.	-4968.3319	-0.000185	0.000	1.186E+12	-297.1985	83905.	0.000

40.800	0.008064	2740918.	-5680.6191	-0.000179	0.000	1.186E+12	-296.3741	88203.	0.000
43.200	0.007641	2726435.	-6390.7870	-0.000174	0.000	1.186E+12	-295.4325	92793.	0.000
45.600	0.007231	2710250.	-7098.5524	-0.000168	0.000	1.186E+12	-294.3720	97704.	0.000
48.000	0.006834	2692370.	-7803.6274	-0.000163	0.000	1.186E+12	-293.1905	102964.	0.000
50.400	0.006450	2672801.	-8505.7194	-0.000157	0.000	1.186E+12	-291.8861	108606.	0.000
52.800	0.006079	2651550.	-9204.5309	-0.000152	0.000	1.186E+12	-290.4568	114667.	0.000
55.200	0.005721	2628626.	-9899.7591	-0.000147	0.000	1.186E+12	-288.9001	121189.	0.000
57.600	0.005376	2604038.	-10591.	-0.000141	0.000	1.186E+12	-287.2139	128219.	0.000
60.000	0.005043	2577796.	-11278.	-0.000136	0.000	1.186E+12	-285.3954	135808.	0.000
62.400	0.004723	2549909.	-11961.	-0.000131	0.000	1.186E+12	-283.4422	144018.	0.000
64.800	0.004416	2520390.	-12639.	-0.000126	0.000	1.186E+12	-281.3512	152917.	0.000
67.200	0.004120	2489250.	-13311.	-0.000121	0.000	1.187E+12	-279.1194	162582.	0.000
69.600	0.003837	2456502.	-13978.	-0.000116	0.000	1.187E+12	-276.7434	173102.	0.000
72.000	0.003566	2422160.	-14639.	-0.000111	0.000	1.187E+12	-274.2194	184582.	0.000
74.400	0.003306	2386239.	-15294.	-0.000106	0.000	1.187E+12	-271.5436	197139.	0.000
76.800	0.003058	2348753.	-15943.	-0.000101	0.000	1.187E+12	-268.7115	210912.	0.000
79.200	0.002821	2309719.	-16584.	-9.630E-05	0.000	1.187E+12	-265.7182	226063.	0.000
81.600	0.002595	2269155.	-17218.	-9.167E-05	0.000	1.187E+12	-262.5583	242782.	0.000
84.000	0.002381	2227078.	-17844.	-8.713E-05	0.000	1.188E+12	-259.2257	261296.	0.000
86.400	0.002177	2183508.	-18462.	-8.267E-05	0.000	1.188E+12	-255.7137	281871.	0.000
88.800	0.001984	2138465.	-19071.	-7.831E-05	0.000	1.188E+12	-252.0143	304830.	0.000
91.200	0.001801	2091970.	-19671.	-7.403E-05	0.000	1.188E+12	-248.1188	330565.	0.000
93.600	0.001629	2044046.	-20262.	-6.986E-05	0.000	1.188E+12	-244.0169	359551.	0.000
96.000	0.001466	1994717.	-20842.	-6.578E-05	0.000	1.189E+12	-239.6966	392380.	0.000
98.400	0.001313	1944006.	-21412.	-6.180E-05	0.000	1.189E+12	-235.1438	429789.	0.000
100.800	0.001169	1891941.	-21971.	-5.793E-05	0.000	1.189E+12	-230.3415	472714.	0.000
103.200	0.001035	1838550.	-22517.	-5.416E-05	0.000	1.189E+12	-225.2693	522359.	0.000
105.600	0.000909	1783860.	-23056.	-5.051E-05	0.000	1.189E+12	-256.8085	677694.	0.000
108.000	0.000793	1727692.	-23675.	-4.697E-05	0.000	1.190E+12	-225.6070	683172.	0.000
110.400	0.000684	1670223.	-24181.	-4.354E-05	0.000	1.190E+12	-196.2724	688649.	0.000
112.800	0.000584	1611624.	-24619.	-4.023E-05	0.000	1.190E+12	-168.7807	694127.	0.000
115.200	0.000491	1552053.	-24993.	-3.704E-05	0.000	1.190E+12	-143.1043	699605.	0.000
117.600	0.000406	1491658.	-25308.	-3.397E-05	0.000	1.191E+12	-119.2111	705082.	0.000
120.000	0.000328	1430575.	-25568.	-3.103E-05	0.000	1.191E+12	-97.0656	710560.	0.000
122.400	0.000257	1368934.	-25776.	-2.821E-05	0.000	1.191E+12	-76.6286	716037.	0.000
124.800	0.000192	1306851.	-25938.	-2.551E-05	0.000	1.191E+12	-57.8578	721515.	0.000
127.200	0.000134	1244435.	-26056.	-2.294E-05	0.000	1.191E+12	-40.7073	726993.	0.000
129.600	8.233E-05	1181784.	-26135.	-2.050E-05	0.000	1.192E+12	-25.1279	732470.	0.000
132.000	3.599E-05	1118989.	-26178.	-1.818E-05	0.000	1.192E+12	-11.0674	737948.	0.000
134.400	-4.937E-06	1056129.	-26190.	-1.599E-05	0.000	1.192E+12	1.5293	743426.	0.000
136.800	-4.076E-05	993279.	-26173.	-1.393E-05	0.000	1.192E+12	12.7203	748903.	0.000
139.200	-7.179E-05	930502.	-26130.	-1.199E-05	0.000	1.193E+12	22.5665	754381.	0.000
141.600	-9.833E-05	867854.	-26066.	-1.018E-05	0.000	1.193E+12	31.1314	759859.	0.000
144.000	-0.000121	805386.	-25982.	-8.500E-06	0.000	1.193E+12	38.4812	765336.	0.000
146.400	-0.000139	743140.	-25882.	-6.943E-06	0.000	1.194E+12	44.6843	770814.	0.000
148.800	-0.000154	681150.	-25769.	-5.511E-06	0.000	1.194E+12	49.8118	776291.	0.000
151.200	-0.000166	619448.	-25299.	-4.204E-06	0.000	1.194E+12	342.2052	4960000.	0.000
153.600	-0.000174	559717.	-24428.	-3.019E-06	0.000	1.194E+12	383.1916	5280000.	0.000
156.000	-0.000180	502193.	-23464.	-1.951E-06	0.000	1.194E+12	420.1681	5600000.	0.000
158.400	-0.000184	447089.	-22417.	-9.967E-07	0.000	1.194E+12	452.7391	5920000.	0.000
160.800	-0.000185	394593.	-21297.	-1.506E-07	0.000	1.194E+12	480.6265	6240000.	0.000
163.200	-0.000184	344865.	-20116.	5.927E-07	0.000	1.194E+12	503.6599	6560000.	0.000

165.600	-0.000182	298038.	-18885.	1.239E-06	0.000	1.194E+12	521.7654	6880000.	0.000
168.000	-0.000178	254217.	-17617.	1.794E-06	0.000	1.194E+12	534.9553	7200000.	0.000
170.400	-0.000173	213477.	-16323.	2.264E-06	0.000	1.194E+12	543.3170	7520000.	0.000
172.800	-0.000167	175866.	-15015.	2.656E-06	0.000	1.194E+12	547.0018	7840000.	0.000
175.200	-0.000161	141407.	-13703.	2.975E-06	0.000	1.194E+12	546.2148	8160000.	0.000
177.600	-0.000153	110093.	-12398.	3.228E-06	0.000	1.194E+12	541.2040	8480000.	0.000
180.000	-0.000145	81897.	-11110.	3.421E-06	0.000	1.194E+12	532.2507	8800000.	0.000
182.400	-0.000137	56766.	-9847.4203	3.560E-06	0.000	1.194E+12	519.6592	9120000.	0.000
184.800	-0.000128	34629.	-8619.3310	3.652E-06	0.000	1.194E+12	503.7485	9440000.	0.000
187.200	-0.000119	15393.	-7433.0206	3.702E-06	0.000	1.194E+12	484.8434	9760000.	0.000
189.600	-0.000110	-1049.6394	-6295.2881	3.717E-06	0.000	1.194E+12	463.2670	10080000.	0.000
192.000	-0.000101	-14824.	-5212.1680	3.701E-06	0.000	1.194E+12	439.3332	10400000.	0.000
194.400	-9.254E-05	-26068.	-4188.9590	3.659E-06	0.000	1.194E+12	413.3410	10720000.	0.000
196.800	-8.383E-05	-34931.	-3230.2673	3.598E-06	0.000	1.194E+12	385.5687	11040000.	0.000
199.200	-7.527E-05	-41574.	-2340.0623	3.521E-06	0.000	1.194E+12	356.2689	11360000.	0.000
201.600	-6.693E-05	-46164.	-1521.7416	3.433E-06	0.000	1.194E+12	325.6650	11680000.	0.000
204.000	-5.879E-05	-48878.	-778.2057	3.337E-06	0.000	1.194E+12	293.9482	12000000.	0.000
206.400	-5.090E-05	-49899.	-111.9385	3.238E-06	0.000	1.194E+12	261.2745	12320000.	0.000
208.800	-4.325E-05	-49416.	474.9084	3.138E-06	0.000	1.194E+12	227.7645	12640000.	0.000
211.200	-3.583E-05	-47620.	980.4279	3.041E-06	0.000	1.194E+12	193.5018	12960000.	0.000
213.600	-2.865E-05	-44710.	1402.8705	2.948E-06	0.000	1.194E+12	158.5337	13280000.	0.000
216.000	-2.168E-05	-40886.	1740.5582	2.862E-06	0.000	1.194E+12	122.8727	13600000.	0.000
218.400	-1.491E-05	-36355.	1991.8032	2.784E-06	0.000	1.194E+12	86.4981	13920000.	0.000
220.800	-8.319E-06	-31326.	2154.8316	2.716E-06	0.000	1.194E+12	49.3590	14240000.	0.000
223.200	-1.876E-06	-26012.	2227.7164	2.659E-06	0.000	1.194E+12	11.3783	14560000.	0.000
225.600	4.442E-06	-20633.	2208.3196	2.612E-06	0.000	1.194E+12	-27.5423	14880000.	0.000
228.000	1.066E-05	-15412.	2094.2481	2.575E-06	0.000	1.194E+12	-67.5172	15200000.	0.000
230.400	1.680E-05	-10581.	1882.8240	2.549E-06	0.000	1.194E+12	-108.6694	15520000.	0.000
232.800	2.290E-05	-6374.9107	1571.0731	2.532E-06	0.000	1.194E+12	-151.1230	15840000.	0.000
235.200	2.895E-05	-3039.6303	1155.7323	2.523E-06	0.000	1.194E+12	-194.9943	16160000.	0.000
237.600	3.501E-05	-827.5168	633.2815	2.519E-06	0.000	1.194E+12	-240.3814	16480000.	0.000
240.000	4.105E-05	0.000	0.000	2.518E-06	0.000	1.194E+12	-287.3532	8400000.	0.000

* This analysis makes computations of pile response using nonlinear moment-curvature relationships. The above values of total stress are computed for combined axial and bending stress in elastic sections and do not equal actual stresses in concrete and steel in the range of nonlinear bending.

Output Verification: Computed forces and moments are within specified convergence limits.

Output Summary for Load Case No. 1:

Pile-head deflection	=	0.0173237	inches
Computed slope at pile head	=	-0.0002746	radians
Maximum bending moment	=	2795003.	inch-lbs
Maximum shear force	=	-26190.	lbs
Depth of maximum bending moment	=	21.6000000	inches below pile head
Depth of maximum shear force	=	134.4000000	inches below pile head
Number of iterations	=	11	
Number of zero deflection points	=	2	

Summary of Pile Response(s)	
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Definitions of Pile-head Loading Conditions:

Load Type 1: Load 1 = Shear, lbs, and Load 2 = Moment, in-lbs
 Load Type 2: Load 1 = Shear, lbs, and Load 2 = Slope, radians
 Load Type 3: Load 1 = Shear, lbs, and Load 2 = Rotational Stiffness, in-lbs/radian
 Load Type 4: Load 1 = Top Deflection, inches, and Load 2 = Moment, in-lbs
 Load Type 5: Load 1 = Top Deflection, inches, and Load 2 = Slope, radians

Load Case No.	Load Type No.	Pile-head Condition 1		Pile-head Condition 2		Axial Loading lbs	Pile-head Deflection inches	Maximum Moment in-lbs	Maximum Shear lbs	Pile-head Rotation radians
		V(lbs) or y(inches)		in-lb, rad., or in-lb/rad.						
1	1	V = 6500.0000		M = 2724000.		10000.00000000	0.01732371	2795003.	-26190.	-0.00027463

Summary of Warning Messages	
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The following warning was reported 300 times

**** Warning ****

An unreasonable input value for the compressive strength has been specified for a soil defined using the weak rock criteria. The input value is less than 100 psi. You should check your input data for correctness.

The analysis ended normally.