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ARCHITECTS

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PROJECT MANUAL

March 3, 2025

For the Project Titled:
Roof Recover/Replacement for
Bartlett Freshman Academy
4734 Shadowlawn Road
Arlington, Tennessee 38002

OWNER
Bartlett City Schools
5705 Stage Road
Bartlett, Tennessee 38134

DESIGNER
Evans Taylor Foster Childress Architects
343 North Main Street
Memphis, Tennessee 38103
Tel: (901) 525-5344 Fax (901) 525-5420
Website: www.etfc-arch.com
ETFC No. 22442

Project:

Roof Recover/Replacement for
Bartlett Freshman Academy
4734 Shadowlawn Road
Arlington, Tennessee 38002

Owner:

Bartlett City Schools
5705 Stage Road
Bartlett, Tennessee 38134
Contact: Jeff Waller, Operations Supervisor
Phone: (901) 870-5143
Email: jwaller@bartlettschools.org

Architects:

Evans Taylor Foster Childress Architects, P.C.
343 North Main Street
Memphis, Tennessee 38103
Phone: (901) 525-5344
Fax: (901) 525-5420
Contact: Mike Childress
Email: mchildress@etfc-arch.com

Mechanical, Plumbing, Fire Protection and Electrical Consultant:

Building Systems Group, LLC
7965 Veteran's Parkway, Suite 108
Millington, Tennessee 38053
Phone: (901) 219-6359
Contact: Jason Needham
Email: jason@bsgeng.com

END OF SECTION

Designer:

Evans Taylor Foster Childress Architects, P.C.
343 North Main Street
Memphis, Tennessee 38103
Phone: (901) 525-5344
Fax: (901) 525-5420



Mechanical, Plumbing, Fire Protection and Electrical Consultant:

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Email: jason@bsgeng.com



END OF SECTION

JOB TITLE: Roof Recover/Replacement for
Bartlett Freshman Academy
4734 Shadowlawn Road
Arlington, Tennessee 38002

ETFC PROJECT NUMBER: 22442

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END OF SECTION

PART 1 - GENERAL

1.01 INVESTIGATION OF SITE BY BIDDERS:

- A. Contract Drawings indicate certain existing site conditions and the proposed new construction. All Bidders are urged to review the existing site along with all Contract Documents, prior to bidding, to ascertain the existing and new conditions under which they will be required to complete their work under this Contract.
- B. The Owner and Architect disclaim any responsibility for the interpretation, investigation, or accuracy of any on-site evaluations by the Bidder. Bidder is solely responsible for verifying all existing data, conditions, and/or work required to complete all work, in full, as required by his contract.
- C. The Contractor is urged to verify all existing conditions prior to actually beginning his work to be certain that conditions shown as existing do actually exist. If inconsistencies are noted, the Architect is to be notified in writing immediately for resolution with the Owner and others prior to beginning work. Claims for delays in this regard will not be entertained by the Owner. Execution of work constitutes acceptance of existing conditions by the Contractor.

1.02 BIDDER'S RESPONSIBILITY

- A. Bidders are required to make their own investigation of the site before bidding. Bidder is solely responsible for verifying all existing data, conditions, and/or work required to complete all work, in full, as required by their Contract.
- B. The Owner and Architect disclaim any responsibility for the interpretation or investigation of any Documents on on-site evaluations referenced above by the Bidder. The Bidder, by submittal of his Bid, acknowledges that he is solely responsible for verifying all existing data, conditions, and/or work required to complete all work in full as required by his Contract and he has investigated all buildings, drawings and data to his satisfaction. Claims to the contrary will not be entertained by the Owner after bids are received.

END OF SECTION

The Bid Bond shall be executed on AIA Document A310, Bid Bond, 2010 Edition, pages 1 through 2, a copy of which is included hereinafter.

END OF SECTION

AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Bartlett City Schools
5705 Stage Road
Bartlett, TN 38134

BOND AMOUNT: \$

PROJECT:

(Name, location or address, and Project number, if any)

Roof Recover/Replacement for Bartlett Freshman Academy
4734 Shadowlawn Road
Arlington, Tennessee 38002

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

ADDITIONS AND DELETIONS:

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

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

Signed and sealed this _____ day of _____, _____

CONTRACTOR AS PRINCIPAL *(Signature)*

(Printed name and title)

(Witness)

SURETY *(Signature)*

(Printed name and title)

(Witness)



AIA Document A101-2017 "Construction Agreement" is hereby made a part of these specifications, and is bound herein as the remainder of Section 00 50 00.

END OF SECTION

AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

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

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

Bartlett City Schools
5705 Stage Road
Bartlett, Tennessee 38134

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



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

Roof Recover/Replacement for Bartlett Freshman Academy
4734 Shadowlawn Road
Arlington, Tennessee 38002

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

Evans Taylor Foster Childress Architects, PC
343 North Main Street
Memphis, Tennessee 38103

The Owner and Contractor agree as follows.

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

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
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- 8 MISCELLANEOUS PROVISIONS
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EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

- ☐ The date of this Agreement.
- ☐ A date set forth in a notice to proceed issued by the Owner.
- ☐ Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)



If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check one of the following boxes and complete the necessary information.)

[] Not later than () calendar days from the date of commencement of the Work.

[] By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
-----------------	-----------------------------

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
------	-------

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance
------	-------	---------------------------

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price
------	-------

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

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

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the [] day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the [] day of the [] month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than [] ([]) days after the Architect receives the Application for Payment.

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

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

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

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

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

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

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

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

§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

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

§ 5.1.9 Except with the Owner’s prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor’s responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner’s final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect’s final Certificate for Payment, or as follows:

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

%

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

- ☐ Arbitration pursuant to Section 15.4 of AIA Document A201–2017
- ☐ Litigation in a court of competent jurisdiction
- ☐ Other *(Specify)*

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

ARTICLE 7 TERMINATION OR SUSPENSION

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

§ 7.1.1 If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner’s convenience.)

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:

(Name, address, email address, and other information)

§ 8.3 The Contractor’s representative:

(Name, address, email address, and other information)

§ 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten days’ prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with a building information modeling exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with a building information modeling exhibit, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 8.7 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction
- .4 Building information modeling exhibit, dated as indicated below:
(Insert the date of the building information modeling exhibit incorporated into this Agreement.)

- .5 Drawings

Number	Title	Date
--------	-------	------

- .6 Specifications

Section	Title	Date	Pages
---------	-------	------	-------

- .7 Addenda, if any:

Number	Date	Pages
--------	------	-------

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

- .8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

☐ AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017 incorporated into this Agreement.)

[] The Sustainability Plan:

Title

Date

Pages

[] Supplementary and other Conditions of the Contract:

Document

Title

Date

Pages

.9 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

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

OWNER (Signature)

(Printed name and title)

CONTRACTOR (Signature)

(Printed name and title)

The Performance and Payment Bonds shall be executed on AIA Document A312, Performance Bond and Payment Bond, 2010 Edition, pages 1 through 4, a copy of each which is included hereinafter.

END OF SECTION

AIA® Document A312® – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Bartlett City Schools

5705 Stage Road

Bartlett, Tennessee 38134

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

Roof Recover/Replacement for Bartlett Freshman Academy

4734 Shadowlawn Road

Arlington, TN 38002

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond:

Company: (Corporate seal)

Company: (Corporate seal)

CONTRACTOR AS PRINCIPAL

(Signature)

(Printed name and title)

SURETY (Signature)

(Printed name and title)

(Any additional signatures appear on the last page of this Performance Bond)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:

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Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:



(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)



AIA® Document A312® – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Bartlett City Schools

5705 Stage Road

Bartlett, Tennessee 38134

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

(Name and location)

Roof Recover/Replacement for Bartlett Freshman Academy

4734 Shadowlawn Road

Arlington, Tennessee 38002

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond:

Company: (Corporate seal)

Company: (Corporate seal)

CONTRACTOR AS PRINCIPAL

(Signature)

SURETY (Signature)

(Printed name and title)

(Printed name and title)

(Any additional signatures appear on the last page of this Payment Bond)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:**OWNER'S REPRESENTATIVE:**

(Architect, Engineer or other party:)

ADDITIONS AND DELETIONS:

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

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required

under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:



(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

- A. AIA Document A201 - 2017, General Conditions of the Contract for Construction, Pages 1 through 41 inclusive, are hereby made a part of these specifications, and are bound herein as the remainder of Section 00 7000.
- B. Division 0 and Division 1 apply to all division and sections indexed and bound herein together as fully as if repeated or specifically referred to in each section.

END OF SECTION

AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Roof Recover/Replacement for Bartlett Freshman Academy
4734 Shadowlawn Road
Arlington, Tennessee 38002

THE OWNER:

(Name, legal status and address)

Bartlett City Schools
5705 Stage Road
Bartlett, Tennessee 38134

THE ARCHITECT:

(Name, legal status and address)

Evans Taylor Foster Childress Architects, PC
343 North Main Street
Memphis, Tennessee 38103

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

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

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™–2017, Guide for Supplementary Conditions.

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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) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 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 person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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

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

§ 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 Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

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

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

§ 1.7 Digital Data Use and Transmission

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

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to written protocols governing the use of, and reliance on, the information contained in the model shall be at the using or relying party's

sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

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

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

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

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

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

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

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

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

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

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

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

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

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

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

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, 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 submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

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

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

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

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction

Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

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

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 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 14 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 that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall

continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

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

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

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

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the

Owner and Architect.

§ 3.11 Documents and Samples at the Site

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

§ 3.12 Shop Drawings, Product Data and Samples

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

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

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

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

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

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

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

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

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

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

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

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

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

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

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

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

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

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

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, 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 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order 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 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

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

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

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

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 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 for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly

make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

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

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

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the

Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

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

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 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, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the 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.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

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

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 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.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

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

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect.

However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

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

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid

Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 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; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time

within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, 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, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of 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. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable

to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. 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 the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

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

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of

the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§ 11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or

destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's 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 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, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the 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 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be 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 place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to 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 tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

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

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

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

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' 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 or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that

sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of

liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten 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 the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived

as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in

writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.



PART 1 – GENERAL

1.01 Conditions of the Contract: The Construction Agreement, a copy of which is bound herein, and these Supplementary Conditions govern all aspects of this Contract and all Technical Specification Sections within this Project Manual and are as binding as if repeated within each Section.

1.02 Forms and Documents: The Contract Documents shall include, by reference, the following sample forms and documents. The provisions of these forms and documents shall be as binding as if written herein. These forms and documents shall be used throughout the Construction phase for their respective purposes.

AIA G701	Change Order
AIA G702	Application and Certificate for Payment
AIA G703	Continuation Sheet for G702
AIA G704	Certificate of Substantial Completion
AIA G705	Certificate of Insurance
AIA G706	Contractor's Affidavit of Payment of Debts and Claims
AIA G706A	Contractor's Affidavit of Release of Liens
AIA G707	Consent of Surety to Final Payment
AIA G707A	Consent of Surety to Reduction in or Partial Releases of Retainage
AIA G714	Construction Change Directive

1.03 Contractor Responsibility: The Contractor acknowledges that additional detailing is necessary to convert the design information to shop fabrication and field construction information. The Contractor shall gather information, including detail dimensions, from his suppliers and Subcontractors, shall compare each to the other and to the design, and shall prepare his submittals accordingly, including all detail dimensioning that can be derived from that comparison. The Contractor shall prepare for his own use, but not for approval, coordination drawings to insure the proper installation of the Work and avoidance of conflicts.

1.04 Inconsistency of Documents: In the case of inconsistency between Drawings and Specifications or within either document not clarified by addendum, the better quality or greater quantity of work shall be provided in accordance with the Architect's interpretation.

1.05 Protection of Work:

- A. The Contractor shall continually maintain adequate protection of all of this work from injury due to weather, frost, accident or other cause, and shall protect the Owner's property from injury arising in connection with this Contract. All open trenches of a hazardous nature shall be covered at night and during non-working days.
- B. The Contractor shall erect and maintain barricades and signs around work which presents danger to persons and as necessary for traffic routing.

1.06 Manufacturers Instructions:

- A. When Contract Documents require that installation of work comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition, and adjust all products in strict accordance with such instructions and in conformity with specified requirements. Should job conditions or specified

requirements conflict with the manufacturer's instructions, advise the Owner and the Architect upon submittal of product for approval.

- C. Perform work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by the Contract Documents.

1.07 Delays: Contractor shall be held singularly responsible for delays or changes occurring as a result of his failure to order labor, materials, or services in a timely manner.

1.08 Payment Form and Procedure:

- A. Contractor shall submit to the Architect a schedule of values allocated to various portions of the work within ten days after the award of the Contract.
- B. Upon request of the Owner, values shall be supported with data which substantiate their correctness.
- C. The schedule shall be listed on AIA form G703 Continuation Sheet. Line items shall follow the listings in the Project Manual Table of Contents including breakdowns of mechanical, electrical, and plumbing as directed by the Architect and shall separate material and labor costs for items where payment for materials will be requested prior to complete installation.
- D. Beginning with the second Application for Payment, the Contractor shall furnish with his application certification that he has paid his subcontractors and major material suppliers the amounts drawn on the previous estimate for the respective items.

END OF SECTION

PART 1 GENERAL

1.01 SUMMARY

- A. Requirements which govern the use of "Request for Information Form".

1.02 REQUIREMENTS

- A. Requests For Information (RFI) shall be submitted in writing.
- B. All Requests For Information shall be submitted by the General Contractor.
 - 1. RFI's directly from subcontractors are not acceptable.
- C. RFI's shall be numbered consecutively by the Contractor as submitted.
- D. Submittal of an RFI constitutes representation that the Contractor requires additional information about the Contract Documents AFTER he has made careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior project correspondence or documentation.
- E. If, upon evaluation of the RFI, the Designer finds that the requested information is contained in the Contract Documents or by other documents and/or methods as outlined in Paragraph "D", the Owner has the option to obtain reimbursement from the Contractor for costs incurred by the Owner for the Designer's services and expenses made necessary in answering such requests.

1.03 REQUESTS FOR INFORMATION

- A. Each Request For Information Form shall be complete with data indicating the specific drawing(s) or specification(s) in need of clarification including the following:
 - 1. RFI number
 - 2. SBC project number
 - 3. Date submitted
 - 4. Subject requiring clarification
 - 5. Discipline (Architectural, Structural, Mechanical, Electrical, etc.)
 - 6. Co-author, if applicable
 - 7. Detailed statement of the information requested
 - 8. Date information required
- B. Requests For Information shall be made in a timely manner allowing the Designer a reasonable amount of time to review the request.
 - 1. If the date a response is required is not indicated, the assumed date the response is required shall be 15 working days from the date the Designer received the request.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Roof recover/replacement for Bartlett Freshman Academy – Kitchen Area located at 4734 Shadowlawn Road, Arlington, Tennessee 38002. Design to include complete recover over existing roofing and insulation system, new roofing and flashing systems, including new metal copings, downspouts, scuppers and conductor heads as indicated on the drawings and specifications, and standard 20-year NDL warranty.

1.02 SECTION INCLUDES

- A. Contractor's and/or Subcontractor's General Duties
- B. Contracts
- C. Time of Substantial Completion
- D. Liquidated Damages
- E. Contractor's Use of Adjacent Property
- F. Owner Occupancy
- G. Contractor's Use of Premises
- H. Owner Furnished and Installed Products
- I. Owner Furnished and Contractor Installed Products
- J. Sequence of Construction

1.03 CONTRACTOR'S AND/OR SUBCONTRACTOR'S GENERAL DUTIES

- A. Give required notices to the Owner and the Designer.
- B. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of Work.
- C. Contractor, and/or Subcontractors through the Contractor, is to promptly submit written notice to Designer of observed variances of Contract Documents from legal requirements. The Building Codes used for this project are listed on the Drawings.

Note: This project is to also comply with the 2010 Americans with Disabilities Act (ADA).

- D. Enforce strict discipline and good order among employees. Do no employ on work:
 - 1. Unfit persons.
 - 2. Persons not skilled in assigned task

1.04 CONTRACTS

- A. Contracts for this project will be on the basis of a single "Lump Sum" General Construction Contract.

1.05 TIME OF SUBSTANTIAL COMPLETION

- A. Construction of this project shall begin within ten (10) days of the date of the written "Notice To Proceed" issued by the Architect upon written instructions of the Owner. Project construction is to commence on May 22, 2025, and be complete by August 1, 2025.
- B. As an additional condition for substantial completion, all final governmental inspections and occupancy approvals shall be obtained.

1.06 LIQUIDATED DAMAGES

- A. If the Contractor fails to substantially complete the Work within the time constraints noted within these documents, a deduction will be made for the money due the Contractor from the Owner hereunder, not as a penalty, but as liquidated damages (hereinafter "Liquidated Damages")> For each calendar day after the substantial completion date that the Contractor fails to achieve substantial completion of the Work, the amount of Liquidated Damages shall be \$500.00 per consecutive calendar day. As an additional stipulation to achieve substantial completion, the Contractor must obtain all final governmental inspections and occupancy approvals from all Authorities Having Jurisdiction (AHJ). In addition to the foregoing sum, the Contractor agrees to pay the Owner the sum of \$500.00 per consecutive calendar day for each calendar day that the Contractor does not achieve final completion of the Project after thirty (30) days from the substantial completion date.

1.07 CONTRACTOR'S USE OF ADJACENT PROPERTY

- A. No Contractor and/or Subcontractor on any operation on this project, may enter upon, use or in any way encumber the legal use of adjacent property by the Owners or legal tenants or cause unreasonable inconvenience to their use thereof without the written consent of such Owner or tenant delivered through the Owner.
- B. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. He shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to (1) all employees on the Work and other persons including Bartlett City Schools Staff, Students and the Public who may be affected thereby, (2) all the Work and all materials and equipment to be incorporated therein, and (3) other existing property at the site or elsewhere. Contractor shall bear all risk of loss to the work, materials, equipment for the work and to the existing facility due to fire, theft, vandalism, water damage or other casualty or cause, until the work is fully completed and accepted by the Owner. He shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. As this building is currently occupied and will remain so during the extent of this Project, the Contractor shall bear all costs and responsibility for any and all damage or loss to any property new or existing caused in whole or in part by the Contractor, any Sub Contractor, any Sub-Subcontractor or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. All repair or replacement work required due to this damage or loss shall be remedied by the Contractor at his cost and efforts.

1.08 OWNER OCCUPANCY

- A. Occupancy By Owner Of Existing Building Spaces During Construction:

1. The Owner will occupy all Existing Building Spaces within and/or around the existing building during the completion of the Work required under this Contract for the conduct of his normal operations. The Contractor shall note that the Owner must remain operable at all times on a 24 hour basis and his operations shall not be interrupted or interfered with to the point that his operations shall cease because of construction.
2. Contractor shall not disconnect or remove utilities serving existing portions of the building without the coordination and approval of the Owner or his authorized representative.
3. Contractor shall at all times conduct his operations to ensure the least inconvenience to the Facility transacting normal business within and/or around the Existing Building Spaces.

1.09 CONTRACTOR'S USE OF PREMISES

- A. The Contract Documents define the Work requirements of this Contract. Contractor and all Subcontractors shall note above that the Owner must remain operable within the existing building at all times.
- B. Access to and security of the Existing Building must be maintained during the extent of this Contract. Job conditions in coordination with Owner and Designer will determine the exact access routes, however, this Contractor and all Subcontractors are advised that all necessary precautions must be taken to prevent interference with the Owner's operation and security requirements. Contractor shall coordinate all work in this Contract which affects the Owner's operation and security requirements with the Owner. Contractor's personnel with NOT be allowed to enter the interior of any building under any circumstance. Violation of this policy is subject to Campus and Project immediate dismissal of those Contractor's employees by the Owner.
- C. Contractor and all Subcontractors shall use and maintain in clean condition, site access roads and/or routes as designated by the Owner and Designer. No other access shall be used for materials, vehicles or men.
- D. Parking by or for Contractor's workman and/or their personal vehicles will only be permitted within the designated Contractor's Staging, Storage and Parking Area. No other parking areas may be utilized by the Contractor. Parking within other areas of the Site will be permitted only during material unloading and must be removed as they are unloaded.
- E. Contractors, Subcontractors and Workmen shall not trespass into existing finished and completed areas of the building without permission of the Owner.
- F. Confine operations at site to areas permitted by:
 1. Law
 2. Ordinances
 3. Permits
 4. Contract Documents with Contract "Work Limits"
- G. Do not unreasonably encumber site with materials or equipment. Contractor shall limit his use of the premises for his Subcontractors, work and for storage per Section 01 50 00, to allow for:
 1. Work By Other Contractors and/or Subcontractors
 2. Owner Occupancy
 3. Public Use
- H. Do not load structure with weight that will endanger structure.
- I. Assume full responsibility for protection and safekeeping of products stored on premises.

- J. Move any stored products under Contractor's and/or Subcontractors' control which interfere with the operations of the Owner as, if and when instructed by the Owner.

1.10 OWNER FURNISHED AND INSTALLED PRODUCTS

- A. Owner Furnished and Owner Installed: (to include but not limited to the following):
 - 1. No items listed at this time.
- B. Owner's Responsibilities:
 - 1. Purchase, handle, deliver, store, set, secure or attach in place at his own expense all items listed herein.
 - 2. Will not interfere with the Contractor's and/or Subcontractors' work, but the Contractor and/or Subcontractors must cooperate with this work.
 - 3. May install this equipment before or after completion of the project by the Contractor. He will not, however, install equipment requiring connection to utilities or other contract items at such time as to require the Contractor and Subcontractor to expend overtime labor.
 - 4. Installation or storage of these items, by the Owner in any area, does not necessarily constitute acceptance of this area.
 - 5. Make final utility and/or vent connections to his equipment, test balance, etc. as required to put equipment into operation.
 - 6. Provide shop drawings and other related literature for all equipment which will affect the Contractor's and Subcontractors' work.
- C. Contractor's Responsibilities:
 - 1. Contractor will provide space, access, electric power, water, lights, etc. to the installers of this equipment as shown on the Contract Drawings or Specifications including work as required by his appropriate Subcontractors.
 - 2. Review Shop Drawings, Product Data, etc. as necessary with the Owner to identify discrepancies or problems anticipated in use of the Product.
 - 3. Cooperate with Owner and/or his installer in the installation of his equipment.
 - 4. Contractor and/or his Subcontractors as appropriate to the work required will furnish and install all electric, water, air, vacuum, waste, exhaust, vents, etc. as shown and/or specified in Contract Documents for final connection by the Owner.
 - 5. Indicate on the Construction Schedule a line item for telephone and data wiring.

1.11 OWNER FURNISHED AND CONTRACTOR INSTALLED PRODUCTS

- A. Products furnished and paid for by Owner and installed by this Contractor as applicable, are as follows:
 - 1. No items listed at this time.
- B. Owner's Responsibilities:
 - 1. Arrange for and deliver necessary Shop Drawings, Product Data and Samples to the Contractor.
 - 2. Arrange and pay for Product delivery to the site, in accordance with the Construction Schedule.
 - 3. Deliver Supplier's bill of materials to Contractor.
 - 4. Inspect deliveries jointly with Contractor.
 - 5. Submit claims for transportation damage.
 - 6. Arrange for replacement of damaged, defective or missing items.
 - 7. Arrange for manufacturer's warranties, bonds, service, inspections, as required.
- C. Contractor's and/or his Subcontractors' (as applicable) Responsibilities:

1. Designate delivery date for each Product in the Construction Schedule.
2. Review Shop Drawings, Product Data and Samples for any discrepancies or problems anticipated in the use of the product.
3. Receive and unload at the site.
4. Promptly inspect products jointly with Owner, record shortages, damaged or defective items.
5. Handle products at the site, including uncrating and storage and disposing of crating.
6. Protect products from exposure to elements and from damage.
7. Assemble, install, connect, adjust and furnish electric, water, air, vacuum, waste, exhaust, vents, etc. as shown and/or specified in the Contract Documents.
8. Repair or replace items damaged by Contractor and/or Subcontractors.

1.12 SEQUENCE OF CONSTRUCTION

- A. Contractor and/or Subcontractors as applicable are to construct the work in stages to accommodate the Owner's use of the existing premises during the construction period. Refer to Construction Phasing Plan on drawings.
- B. Coordinate the construction sequencing with the Owner's representative. Do not close off operational use of the existing facility until completion of one stage of construction will provide alternative usage.
- C. The following general sequencing is to be utilized and followed in the construction of this work:
 1. Once the Contractor has received the Notice to Proceed from the Designer, the Contractor can then begin to mobilize on site and begin work.
 2. Erect temporary construction fencing, storage areas for materials, and locate all construction trailers and sheds where designated on the Drawings. Workmen's personal vehicles will be permitted to park within the area as designated on the Drawings. Only vehicles unloading materials will be allowed within other areas of the site perimeter. These vehicles must go directly to the material staging area for unloading and will be moved immediately upon unloading. Any and all temporary fencing erected for construction security and staging will be promptly removed and relocated sequentially to maintain a safe, protected and separate work area during the full construction period.
 3. Confirm written construction sequence schedule with the Owner and Designer. Coordinate with the Owner prior to beginning the work and maintain sequence to permit the orderly rearrangement of the Owner's personnel.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. The Architect-Engineer, if requested, will provide the General Contractor with one (1) electronic copy of the Contract Document Drawings for distribution to subcontractors and suppliers as a convenience in the preparation of Shop Drawings. The cost for the electronic copy shall be as stated in Paragraph 1.2.B. The electronic copy will be provided electronically in Autocad 2021 format.
- B. The Architect-Engineer shall be paid a service fee of fifty dollars (\$50.00) for each sheet as requested by the General Contractor in accordance with the Agreement. This fee shall be paid by the General Contractor upon acceptance of the electronic copy.

1.03 REFERENCES

- A. A copy of the Agreement is included at the end of this Section.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION (NOT APPLICABLE)

END OF SECTION

Agreement Between Architect-Engineer of Record and Contractor for
Transfer of Computer Aided Drafting (CAD) Files on Electronic Media

{Contractor's Name} _____

At your request, Evans Taylor Foster Childress Architect, P.C. (ETFC) will provide electronic files for your convenience and use in the preparation of shop drawings related to Roof Recover/Replacement for Bartlett Freshman Academy subject to the following terms and conditions:

ETFC's electronic files are compatible with: AUTOCAD 2024. ETFC makes no representation as to the compatibility of these files with your hardware or your software beyond the specified release of the referenced specifications.

Data contained on these electronic files is part of ETFC's and the Owner's instruments of service and shall not be copied for distribution to others or used by you or anyone else receiving this data through or from your for any purpose other than as a convenience in the preparation of shop drawings for the specific referenced project. Any other use or reuse by you or by others, will be at your sole risk and without liability or legal exposure to the Owner or ETFC. You agree to make no claim and hereby waive, to the fullest extent permitted by law, any claim or cause of action of any nature against the Owner, ETFC, its officers, directors, employees, agents or subconsultants which may arise out of or in connection with your use of the electronic files.

Furthermore, you shall, to the fullest extent permitted by law, indemnify and hold harmless the Owner and ETFC from all claims, damages, losses and expenses, including attorney's fees arising out of or resulting from your use of these electronic files.

These electronic files are not contract documents. Significant differences may exist between these electronic files and corresponding hard copy contract documents due to addenda, change orders or other revisions. The Owner and ETFC makes no representation regarding the accuracy or completeness of the electronic files you receive. In the event that a conflict arises between the signed contract documents prepared by ETFC and electronic files, the signed contract documents shall govern. You are responsible for determining if any conflict exists. By your use of these electronic files, you are not relieved of your duty to fully comply with the contract documents, including and without limitation, the need to check, confirm and coordinate all dimensions and details, take field measurements, verify field conditions and coordinate your work with that of other contractors for the project.

Because of the potential that the information presented on the electronic files could be modified, unintentionally or otherwise, ETFC and the Owner reserves the right to remove all indication of it's or the Owner's ownership and/or involvement from each electronic display.

As condition of sending you CAD electronic files, I would like you to sign this letter below, stating that as a representative of your firm, that you will abide by the same agreement.

ETFC will furnish you electronic files of the following drawing sheets: _____

Under no circumstances shall delivery of the electronic files for use by you be deemed a sale by ETFC and ETFC makes no warranties, either express or implies, of merchantability and fitness for any particular purpose. In no event shall ETFC be liable for any loss of profit or any consequential damages.

Michael Childress, AIA, Principal

[Contractor]

[Date]

[Date]

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Products and installation for patching and extending work
- B. Transition and adjustments
- C. Repair of damaged surfaces, finishes and cleaning

1.02 QUALITY ASSURANCE

- A. Assign moving, removal, cutting and patching to trades qualified to perform work in a manner to cause least damage to each type of work, and provide means of returning surfaces to appearance of new work.
- B. Patch and extend existing work using skilled mechanics who are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that specified for new work.

PART 2 PRODUCTS

2.01 PRODUCTS FOR PATCHING AND EXTENDING WORK

- A. New Materials: As specified in product Sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspection and testing products where necessary, referring to existing work as a standard. Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be performed as necessary to make work complete and consistent with existing quality.
- C. Salvage sufficient quantities of cut or removed material to replace damaged work of existing construction when material is not readily obtainable on current market.
- D. Do not incorporate salvaged or used material in new construction except with permission of Designer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that demolition is complete and areas are ready for installation of new work.
- B. Beginning of restoration work means acceptance of existing conditions.

3.02 PREPARATION

- A. Cut, move, or remove items as necessary for access to alterations and renovation work. Replace and restore at completion.
- B. Remove unsuitable material not marked for salvage, such as abandoned furnishings, rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished work.
- C. Remove debris and abandoned items and items serving no useful purpose, such as abandoned piping, conduit, and wiring from concealed and exposed spaces.
- D. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.
- E. Close openings in exterior surfaces to protect existing work and salvage items from weather and extremes of temperature and humidity. Insulate ductwork and piping to prevent condensation in exposed areas.

3.03 INSTALLATION

- A. Coordinate work of alterations and renovations to expedite completion sequentially and to accommodate Owner occupancy.
- B. Project: Complete in all respects including operational mechanical, plumbing, fire protection and electrical work.
- C. Remove, cut, and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to specified condition.
- D. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
- E. In addition to specified replacement of equipment and fixtures restore existing plumbing, heating, ventilation, air conditioning, and electrical systems to full operational condition.
- F. Install products as specified in individual sections.

3.04 TRANSITIONS

- A. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.
- B. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.

3.05 ADJUSTMENTS

- A. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
- B. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Architect review.

- C. Trim existing doors as necessary to clear new floor finish. Refinish trim as required.
- D. Fit work at penetrations of surfaces as specified in Section 01 3900.

3.06 REPAIR OF DAMAGED SURFACES

- A. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- B. Repair substrate prior to patching finish.

3.07 FINISHES

- A. Finished surfaces as specified in individual product sections.
- B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.
- C. Cut finish surfaces such as masonry, tile, plaster, or metals, by methods to terminate surfaces in a straight line at a natural point of division.

3.08 CLEANING

- A. In addition to cleaning specified in Section 01 5000, clean Owner occupied areas of work.
- B. Clean surfaces and remove surface finishes as needed to install new work and finishes.
- C. Clean spillage, overspray and heavy collection of dust in Owner-occupied areas immediately.
- D. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.
- E. At completion of alterations work in each area, provide final cleaning and return space to a condition suitable for use by Owner.

3.09 PROTECTION

- A. Protect existing finishes, equipment, and adjacent work which are scheduled to remain, from damage.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Schedule of Values
- B. Application for Payment
- C. Change Procedures

1.02 RELATED REQUIREMENTS

- A. Related Requirements in other parts of the Project Manual:
 - 1. Additional requirements of all parties to the Contract: General and Supplemental Conditions of the Contract.

1.03 SCHEDULE OF VALUES

- A. Submit itemized Schedule of Values on Typed AIA Document G702 and Continuation Sheet G703. Use additional Continuation Sheets as required.
- B. Identify schedule with:
 - 1. Name of Project and location.
 - 2. Architect name and project number.
 - 3. Name and Address of General Contractor.
 - 4. Date of submission.
- C. General Contractor is to submit to the Architect four (4) copies of Schedule of Values allocated to the various portions of the Work within fifteen (15) days after award of contract in accordance with General and Supplemental Conditions. Architect will review with Owner for agreement and return one (1) copy to the General Contractor and transmit one (1) copy to the Owner.
- D. Schedule of Values for each trade or operation shall have an identifiable relationship with Construction Progress Schedule: Section 01 3000.
- E. Schedule shall list the installed value of the component parts of the works in sufficient detail to serve as a basis for computing values for Application For Payment (Article 1.06) during construction. Round off dollar values to nearest dollar.
- F. Follow generally the table of contents of this Project Manual as the format for listing component items. Identify each line item with the number and title of the respective major section of the specifications.
- G. For each major line item list sub-values of major projects or operations under each item. Provide a separate listing for:
 - 1. Bonds
 - 2. Insurance Premiums
 - 3. Job Start-up or Mobilization
 - 4. Field Supervision and Layout
 - 5. General Contractor Profit/Overhead

- H. For items on which progress payments will be requested for stored materials, break down the value into:
 - 1. The cost of materials, delivered, and unloaded.
 - 2. The total installed value.
- I. The sum of all values listed in the Schedule shall equal the General Contractor's total Contract Sum.

1.04 APPLICATION FOR PAYMENT

- A. Submit Applications For Payment To Architect in accord with the time frame established by General and Supplemental Conditions.
- B. Submit each application typed on AIA Document G702, Application and Certificate For Payment and Continuation Sheets G703.
- C. Provide itemized data on Continuation Sheet in format, schedule, line items and values as approved for Schedule of Values (Article 1.05 above).
- D. Preparation of Application for each Progress Payment
 - 1. Application Form:
 - a. Fill in all required information for identification of project as Schedule of Values.
 - b. Complete all information, including that for Change Orders executed prior to the date of submittal of application.
 - c. Fill in summary dollar values to agree with Continuation Sheet.
 - d. Execute certification with a signature of contracting officer of the contract firm and notarization as indicated.
 - 2. Continuation Sheets:
 - a. Fill in total list of all scheduled component items of work with appropriate scheduled dollar value in accord with Schedule of Values.
 - b. Fill in the dollar value for each scheduled line item when work has been performed or products stored.
 - c. List each Change Order executed prior to date of submission at the end of the Continuation Sheet as for an original component item. Identify Change Order Numbers and date.
 - 3. Application for Payment Attachments:
 - a. To each Application For Payment copy attach the following:
 - 1) Revised Construction Progress Schedule: Section 01 3000 with applicable support data required.
- E. Substantiating Data for Progress Payments
 - 1. The General Contractor, beginning with the second Application For Payment, shall verify that he has paid all Subcontractors and major material suppliers those respective amounts representing all Work and material which have formed the basis of previous progress payments.
 - 2. Submit suitable information with a cover letter identifying:
 - a. Project name.
 - b. Application number and date.
 - c. Detailed list of enclosures.
 - d. For stored products or materials:
 - 1) Item number and identification as shown on application.
 - 2) Description of specified material and its stored location with appropriate insurance data, etc. as required.
 - 3. Submit one copy of data and cover letter for each copy of application.

- F. Preparation of Application for Final Payment
 - 1. Fill in Application Form as specified for progress payments.
 - 2. Use Continuation Sheet for presenting the final statement of accounting as specified in Section 01700 - Contract Close Out.
- G. Submittal Procedure
 - 1. Submit six (6) copies of Applications For Payment with all attachment data to Architect as stipulated in Supplemental Conditions.
 - 2. Upon review and approval of Application For Payment, Architect will transmit two (2) copies to the Owner for payment with one copy to the General Contractor.

1.05 CHANGE ORDER PROCEDURES

- A. The General Contractor shall prepare and submit to the Architect a letter identifying changes in the contract scope and material for each change complete with detailed material and labor breakdown, calculations or other data as necessary to support request for change approval.
- B. On approval from the Owner, the Architect will prepare six (6) copies of Change Order typed on AIA Document G701 modified to project signature requirements.
- C. Signature of party signing the original Owner/Contractor Agreement Form will be required to sign the Change Order in the following sequence:
 - 1. Change Order will be forwarded to the Contractor for his signature and return six (6) copies to the Architect.
 - 2. Upon receipt of signed Change Order from the Contractor, six (6) copies will be forwarded to the Owner for his signature. Owner will retain three copies and return three (3) signed copies to the Architect.
 - 3. Architect will retain one copy and forward one copy to the Contractor.
- D. Change Orders must be signed by the Owner and Architect prior to inclusion under monthly Application For Payment. See Article 1.06 of this Section.
- E. Project Record Data:
 - 1. All Change Orders are to become a part of the Project Record Data, Section 01720. One (1) copy shall be kept at the project site as a part of the permanent records.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. List of unit prices, for use in preparing Bids.
- B. Measurement and payment criteria applicable to Work performed under a unit price payment method.
- C. Defect assessment and non-payment for rejected work.

1.02 COSTS INCLUDED

- A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.03 MEASUREMENT OF QUANTITIES

- A. Take all measurements and compute quantities. Measurements and quantities will be verified by Architect.
- B. Assist by providing necessary equipment, workers, and survey personnel as required.
- C. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
- D. Measurement by Area: Measured by square dimension using mean length and width or radius.
- E. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
- F. Stipulated Price Measurement: Items measured by weight, volume, area, or linear means or combination, as appropriate, as a completed item or unit of the Work.

1.04 PAYMENT

- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Architect, multiplied by the unit price.

1.05 DEFECT ASSESSMENT

- A. Replace Work, or portions of the Work, not conforming to specified requirements.

1.06 SCHEDULE OF UNIT PRICES

- A.

Item No.	Related Sections	Base Quantity	Unit	Unit Price Per Unit	Work Included
1	05 31 10	1	Sq. Ft.		Remove & replace deteriorated steel roof deck
2	03 51 14	1	Sq. Ft.		Remove and replace deteriorated tectum roof deck.
3	03 39 30	1	Sq. Ft.		Repair deteriorated concrete roof deck

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnishing of and paying for all labor, materials, services, equipment, and appliances required for execution, installation and completion of all work for all alternates specified herein and shown on the drawings.

1.02 SECTION INCLUDES

- A. Submission procedures
- B. Documentation of changes to Contract Sum/Price and Contract Time

1.03 RELATED REQUIREMENTS

- A. Related Requirements in Other Parts of the Project Manual:
 - 1. Additional requirements of all Parties to the Contract: General and Supplemental Conditions of the Contract.

1.04 REQUIREMENTS

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement. Offer Alternates only if requested by the Contract Documents.
- B. Offer alternates only as requested by Article 1.06, Schedule of Alternates.
- C. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.

1.05 ALTERNATES AS LISTED ON BID FORM

- A. Indicate variation of Bid Price for Alternates described below and list in Bid Form Document or any supplement to it, which requests a "difference" in Bid Price by adding to or deducting from the base bid price.

1.06 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: (Roof Replacement of Existing Gymnasium)
This alternate includes all work related to the removal of the existing roofing and flashing systems of the existing Gymnasium Building and Replacement with new, as indicated on drawings.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

University Place Apartments Memphis, TN



- Three story housing facility with 118 apartments located in midtown Memphis
- Amenities
 - 3 laundry facilities
 - Beauty salon
 - Bike racks
 - Billiards room
 - Visiting doctor exam rooms
 - Business center
 - Library
 - Community room
 - Fitness center
 - Screened and open patios



PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Submittal Procedures
- B. Construction Progress Schedules
- C. Proposed Products List
- D. Shop Drawings
- E. Product Data
- F. Samples
- G. Manufacturers' Instructions
- H. Manufacturers' Certificates
- I. Applicator or Installer's Certification

1.02 RELATED REQUIREMENTS IN OTHER PARTS OF THE PROJECT MANUAL

- A. General and Supplemental Conditions of the Contract

1.03 CONTRACTOR RESPONSIBILITIES

- A. The Contractor, or any Subcontractor, as applicable to his submittals, shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Designer's approval of Shop Drawings, Product Data or Samples unless the Contractor and Subcontractor have specifically informed the Designer, in writing, of such deviation at the time of submission and the Designer has given written approval to the specific deviation. The Contractor or any Subcontractor, as applicable to his submittals, shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or samples by the Designer's approval thereof. The Designer's approval of a separate item shall not indicate approval of an assembly in which the item functions.
- B. Provide originals or first generation copies for product data and "cut sheets".

1.05 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Designer accepted form.
- B. Sequentially number the transmittal forms. Resubmittals to have original number with an alphabetic suffix.
- C. Identify Project, SBC Project Number, Contractor, Subcontractor or Supplier; pertinent drawing sheet and detail number(s), and specification section number, as appropriate.

- D. Apply Contractor's stamp, signed or initialed certifying that review, verification of products required, field dimensions, adjacent construction work, and coordination of information, is in accordance with the requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite the project and deliver to Designer. Coordinate submission of related items.
- F. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of the completed Work.
- G. Provide 8 inch x 3 inch blank space for Contractor and Designer review stamps.
- H. Contractor/Subcontractor resubmission requirements:
 - 1. Make any corrections or changes in the submittals required by the Designer and resubmit until approved. "Field Copy" of Shop Drawings without Designer's stamp will be removed from the Project Site.
 - 2. Shop Drawings and Product Data:
 - a. Revise initial drawings or data, and resubmit as specified for the initial submittal.
 - b. Indicate any changes which have been made other than those requested by the Designer.
 - 3. Samples: Submit new samples as required for initial submittal if rejected by initial submittal.
- I. Distribution:
 - 1. The General Contractor shall distribute (without additional cost to the Owner) reproductions of Transparencies and copies of Product Data which carry the Designer's stamp of review and/or approval to:
 - a. Job site file.
 - b. Record Documents file.
 - c. Other affected contractors.
 - d. Subcontractors as applicable.
 - e. Supplier or Fabricator as applicable.
 - 2. Distribute samples which carry the Designer's stamp of approval as directed by the Designer.

1.06 PROPOSED PRODUCTS LIST

- A. Within fifteen (15) days after date of Owner-Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.07 SHOP DRAWINGS

- A. Definitions:
 - 1. Shop Drawings are drawings, diagrams, schedules and other data specifically prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor or illustrate some portion of the Work.
 - 2. Drawings shall be presented in a clear and thorough manner in appropriate size and scale with details, identified by reference to sheet and detail, schedule or room numbers shown on Contract Drawings.
- B. Submit six (6) reproductions of required shop drawings. Designers will retain two (2) reproductions, provide one (1) copy to the Owner and return three (3) copies to Contractor.

- C. After review, distribute in accordance with article on Submittal Procedures (1.05) above and for Record Documents described in Section 017770.

1.08 PRODUCT DATA

- A. Definitions:
 - 1. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor or any Subcontractor to illustrate a material, product or system for some portion of the Work.
 - 2. Preparation:
 - a. Clearly mark each copy to identify pertinent products or models.
 - b. Show performance characteristics and capacities.
 - c. Show dimensions and clearances required.
 - d. Show wiring or piping diagrams and controls.
 - 3. Manufacturer's standard schematic drawings and diagrams:
 - a. Modify drawings and diagrams to delete information which is not applicable to the Work.
 - b. Supplement standard information to provide information specifically applicable to the Work.
- B. Submit the number of copies which the Contractor requires, plus two (2) copies which will be retained by the Designers.
- C. After review, distribute in accordance with Article on Procedures (1.05) above and provide copies for Record Documents described in Section 01 78 01.

1.09 SAMPLES

- A. Definitions:
 - 1. Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the work will be judged.
- B. Submit samples to illustrate functional and aesthetic characteristics of the Product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- C. Submit samples of finishes from the full range of manufacturers' standard colors in custom colors selected, textures, and patterns for Designer's selection.
- D. Include identification on each sample, with full project information.
- E. Submit the number or samples specified in individual specification sections; two (2) of which will be retained by Designer.
- F. Reviewed samples which may be used in the Work are indicated in individual specification sections.

1.10 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, retain at the project site one (1) copy of manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, in quantities specified for Product Data.
- B. Identify conflicts between manufacturers' instructions and Contract Documents, if any exist.

1.11 MANUFACTURER'S CERTIFICATES

- A. When specified in individual specification sections, submit manufacturers' certificate to Designer for review, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to Designer.

1.12 Applicator or Installer's Certification:

- A. When specified in individual specification sections under Article entitled "Qualification" that the applicator or installer is certified approved by the manufacturer for the product specified.

1.13 Submittal Schedule:

- A. All submittals, including shop drawings, product data, samples, manufacturer's instructions, and manufacturer's certificates must be delivered to the Designer for review within thirty (30) days after date of Owner-Contractor Agreement or sooner, as necessary not to delay progress to the project completion per the approved construction schedule. Untimely submittals and the acquisition of materials as a result of, will not be a consideration for the basis of a delay claim.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Contractor Project Coordinator
- B. Contractor Coordination Schedule
- C. Field Engineering and Layout
- D. Alteration Project Procedures
- E. Cutting and Patching
- F. Project Meetings:
 - 1. Preconstruction Conference
 - 2. Progress Meetings
 - 3. Preinstallation Conference

1.02 RELATED REQUIREMENTS

- A. Related Requirements in other parts of the Project Manual:
 - 1. Additional requirements of all parties to the Contract: General and Supplemental Conditions of the Contract.

1.03 CONTRACTOR PROJECT COORDINATOR

- A. General Contractor is to employ the services of a qualified Coordinator at the project site for the duration of this Work with his sole duties allocated to this project only. Coordinator may be the non-working superintendent required by General Conditions and must coordinate all phases of the work. Subcontractors are required to provide a working foreman who will serve as his coordinator to the General Contractor.
 - 1. Qualifications: Must have prior construction experience on successful projects within the last five (5) years. A listing of projects with references will be required for review.
 - 2. Submit name, address and qualifications to the Architect.
- B. Coordinator Duties:
 - 1. Coordinate his work with the Owner, all Subcontractors and all other Contractors:
 - a. For temporary utilities.
 - b. With the work of trades specified in Divisions 2 thru 33.
 - c. Throughout this work, it will be required that the Contractor and/or Subcontractors apply their material to or over work, either existing or done by others, and which would affect his work. The coordination of all such work is the responsibility of this Coordinator. However, it is the responsibility of each Contractor, Subcontractor or Supplier to comply with this Section and 01 6000 whether or not it is specifically required, by repeating in his particular section of these specifications.
 - 2. Coordinate his schedule with the Owner, all Contractors and/or Subcontractors.
 - a. Verify timely deliveries of products for installation by his forces or by other trades.
 - b. Verify that labor and materials are adequate to maintain construction schedules.
 - 3. All Contractors and/or Subcontractors receiving items from other Contractors and/or Subcontractors for installation in his work, as specified or as required, shall at his expense, do the following:

- a. Receive, unload, transport, store, protect and install.
 - b. Inspect all items, at time of receiving from carrier, for all damage, concealed or otherwise.
 - c. Record with the Contractor the receiving of all items and report any damage immediately after receiving. Failure to do so will make the receiving Contractor and/or Subcontractor responsible for damage, late shipment, short shipment, etc.
4. All Contractors and/or Subcontractors furnishing items to other Contractors and/or Subcontractors for installation shall:
 - a. Properly schedule delivery with using Contractor and/or Subcontractor.
 - b. Deliver at such time and sequence as necessary to not delay the work of the installing Contractor, other Subcontractors or the overall job schedule.
 - c. Furnish at proper time to meet 4.b above, all instruction and/or drawings necessary for installation and if necessary, his personnel at the job site or installation point, for instruction or supervision.
 - d. Periodically inspect the installation with his personnel at the job site or installation point for conformity to his needs. Report to Contractor any discrepancies.
 - e. Deliver all items F.O.B. job site or point of installation.
5. Conduct conferences among his Subcontractors and other concerned parties as necessary to:
 - a. Maintain coordination and schedules.
 - b. Resolve matters in dispute.
 - c. Contractor to record minutes of all meetings.
6. Participate in Project Meetings:
 - a. Report his progress and his Subcontractors' progress.
 - b. Recommend needed changes in schedules.
 - c. Contractor to record minutes of all meetings.
7. Temporary Utilities:
 - a. Coordinate installation, operation and maintenance, to verify compliance with Project requirements and with Contract Documents.
 - b. Verify adequacy of service and maintenance at required locations.
8. Shop Drawings, Product Data and Samples:
 - a. Prior to submittal, review for compliance with Contract Documents.
 - 1) Check field dimensions and clearance dimensions.
 - 2) Check relation to available space.
 - 3) Check anchor bolt settings.
 - 4) Review the effect of any changes on the work of other contracts or trades.
 - 5) Check compatibility and space requirements with equipment, materials and/or finishes and work of other trades.
 - 6) Check motor voltages, control characteristics, controls, interlocks, wiring and control diagrams.
9. Coordination Drawings:
 - a. Prepare one (1) coordinated drawing, to assure coordination of work of, or affected by ceiling work, plumbing, sprinkler, mechanical and electrical, or to resolve conflicts.
 - b. Reproduce and distribute reviewed copies of all concerned parties.
10. Verify that his Contractor and his Subcontractor maintain accurate Record Documents.
11. Substitutions and Changes:
 - a. Review proposals and requests:
 - 1) Check for compliance with Contract Documents.
 - 2) Verify compatibility with work and equipment of other trades.
 - b. Recommend action to Contractor, Architect and/or Owner as applicable.
12. Observe Work for compliance with requirements of Contract Documents.
 - a. Maintain list of observed deficiencies and discrepancies.
 - b. Promptly report deficiencies or discrepancies to Architect.

13. Assemble documentation for handling of claims or disputes involving the various work trades.
14. Equipment Startup:
 - a. Check to assure that utilities and specified connections are complete and that equipment is in operable condition.
 - b. Observe test, adjust and balance.
 - c. Record results, including time and date of startup and promptly report same to Contractor and Architect.
15. Inspection of Materials and Equipment:
 - a. Prior to inspection, check that equipment and materials are clean, repainted as required, tested and operational.
 - b. Assist inspector; prepare list of items to be completed or corrected.
16. Assemble Record Documents and transmit to Architect in complete form. Do not send data that is not complete covering all items.
17. Verify and be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.
18. Coordinate scheduling, submittals, and work of the various sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
19. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with line of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
20. In finished areas, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

1.04 CONTRACTOR'S COORDINATION SCHEDULE

- A. The Coordination Schedule designates areas of basic responsibility of Contractors and Subcontractors for items of work but does not define scope.
- B. Refer to the respective sections of specifications for detailed descriptions of work required.
- C. Coordinator:
 1. Maintain Coordination Schedule throughout construction period.
Record changes in responsibilities due to:
 - a. Modifications to Contract.
 - b. Field Orders.
 - c. Delays beyond control of Contractor.
 2. Reproduce and distribute revised Schedule promptly after each change to the Contractors, Subcontractors and one (1) copy to the Architect.

1.05 FIELD ENGINEERING AND LAYOUT

- A. General Contractor is to provide and pay for field engineering layout services as required for this Work.
 1. Survey or layout work required in execution of the Project.
 2. Civil, structural or other professional services required to execute construction methods.
- B. Qualifications of Layout Coordinator, Surveyor or Professional:
 1. Experienced in field layout work of the type required for this project.
 2. Submit name, address and qualifications to Architect.
- C. Survey and Layout Reference Points:

1. The Contract Drawings indicate the principal exterior wall line and vertical control points for this project.
- D. Project Survey and Layout Requirements:
 1. Establish a minimum of two permanent bench marks on the site. Record locations, with horizontal and vertical data, on Project Record Documents.
 2. Establish lines and levels, locate and lay out, by instrumentation and/or similar appropriate means:
 - a. Site improvements:
 - 1) Stakes for grading, fill and topsoil placement.
 - 2) Utility slopes and invert elevations.
 - b. Batter boards for structures.
 - c. Building foundation and floor levels.
 3. Establish base column lines on all floors conforming to the requirements of the Contract Documents and maintaining same control lines throughout layout to execute construction methods.
- E. Records:
 1. Maintain a complete, accurate log of all control, layout and survey work as it progresses with documentation of discrepancies and solutions.

1.06 ALTERATION PROJECT PROCEDURES

- A. Materials: As specified in product Sections, match existing products and work for patching and extending work.
- B. Close openings in exterior surfaces to protect existing work from weather and extremes of temperature and humidity.
- C. Remove, cut and patch work in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.
- D. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent finishes.
- E. Where new work abuts or aligns with existing, perform a smooth and even transition. Patched work to match existing adjacent work in texture and appearance.
- F. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
- G. Where a change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition for Architect's review.
- H. Patch or replace portions of existing surfaces which are damaged, lifted, discolored or showing other imperfections.
- I. Finish surfaces as specified in individual product Sections.

1.07 CUTTING AND PATCHING

- A. Description:
 - 1. General Contractor and/or Subcontractors, applicable to their portion of the Work, shall be responsible for all cutting, fitting and patching, including excavation and backfill, required to complete the Work or to:
 - a. Make its several parts fit together properly.
 - b. Uncover portions of the Work to provide for installation of ill-timed work.
 - c. Remove and replace defective Work.
 - d. Remove and replace Work not conforming to requirements of Contract Documents.
 - e. Remove samples of installed Work as specified for testing.
 - f. Provide routing penetrations of non-structural surfaces for installation of piping and electrical conduit.
- B. Submittals:
 - 1. Submit a written request to Architect thru the General Contractor well in advance of executing any cutting or alteration which affects:
 - a. The work of the Owner or any separate Contractor or Subcontractor.
 - b. The structural value or integrity of any element of the Project.
 - c. The integrity or effectiveness of weather-exposed or moisture resistant elements or system.
 - d. The efficiency, operational life, maintenance or safety of operational elements.
 - e. The visual qualities of sight-exposed elements.
 - 2. The request shall include:
 - a. Identification of the Project.
 - b. Description of the affected work.
 - c. The necessity for cutting, alteration or excavation.
 - d. The effect on the work of the Owner or any separate Contractor or Subcontractor, or the structural or weatherproof integrity of the Project.
 - e. Description of the proposed work:
 - 1) The scope of cutting, patching, alteration, or excavation.
 - 2) The trades who will execute the work.
 - 3) Products proposed to be used.
 - 4) The extent or refinishing to be done.
 - f. Alternatives to cutting and patching.
 - g. Cost proposal, when applicable.
 - h. Written permission of any separate Subcontractor whose work will be affected.
 - 3. Submit a written notice to Architect designating the date and time the work will be uncovered.
- C. Materials:
 - 1. Comply with specifications and standards for each specific product involved.
- D. Execution:
 - 1. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.
 - 2. After uncovering work, inspect the conditions affecting the installation of Products, or performance of the Work.
 - 3. Report unsatisfactory or questionable conditions to the Architect in writing; do not proceed with the work until the Architect has provided further instructions.
- E. Preparation:
 - 1. Provide adequate temporary support as necessary to assure the structural value or integrity of the affected portion of the Work.

2. Provide devices and methods to protect other portions of the Project from damage.
 3. Provide protection from the elements for that portion of the Project, which may be exposed by cutting and patching work, and maintain excavations free from water.
- F. Performance:
1. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.
 2. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
 3. Employ the original qualified Subcontractor, Installer or Fabricator to perform cutting and patching for:
 - a. Weather-exposed moisture-resistant elements.
 - b. Sight-exposed finished surfaces.
 4. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
 5. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
 6. Restore work which has been cut or removed; install new products to provide completed Work in accord with requirements of Contract Documents.
 7. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.
 8. At penetration of fire rated wall, ceiling or floor construction, completely seal voids with fire rated material, full thickness of the construction element.
 9. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - a. For continuous surfaces, refinish to nearest intersection.
 - b. For an assembly, refinish the entire unit.

1.08 PROJECT MEETINGS

- A. Description:
1. The Owner will initiate the Preconstruction Conference, coordinating with the Architect and the Contractor. The General Contractor, thru his Project Coordinator, will schedule and administer progress meetings on a biweekly basis (or as required by progress of the work) and preinstallation meeting (where required by individual specification sections). Contractor is to:
 - a. Prepare agenda and preside for meetings.
 - b. Distribute written notice of each meeting in advance of meeting date with a copy to Architect.
 - c. Make physical arrangements for meetings.
 - d. Record the minutes.
 - e. Reproduce and distribute copies of minutes within a reasonable time after each meeting:
 - 1) To all Contractors, Subcontractors and/or participants in the meeting.
 - 2) To all parties affected by decisions made at the meeting.
 - 3) Furnish one (1) copy each of minutes to Architect, Mechanical and Electrical Engineers and Owner.
 - 4) Submit under provisions of Section 01 7200.
 2. Coordination representatives of the Contractor, Subcontractors and Suppliers are required to attend the meetings and shall be qualified and authorized to act on behalf of the entity each represents. Refer to Article 1.04.
- B. Preconstruction Conference:
1. The Owner will initiate the Preconstruction Conference, coordinating with the Architect and the Contractor. This meeting will normally be held at the site of the project immediately after or concurrent with the award of the contract.

2. Record of attendance and identification of representatives:
 - a. Owner Agency and Facility Representatives
 - b. Architect Principal, Project Manager, Superintendent, Subcontractors, and Suppliers
 3. Confirm status of contract
 4. Communication:
 - a. All communication between Owner and Contractor shall be through Architect.
 - b. All correspondence to bear project name and Architect's Commission Number.
 5. Check need for Contract Documents, including Record Documents set, and Fire Marshal's stamped set, when appropriate.
 6. Construction Schedules:
 - a. Notice to Proceed
 - b. Contract time
 - c. Critical work sequencing, initial progress schedule
 - d. Major equipment deliveries and priorities
 - e. Coordination
 - f. Projected substantial and final completion
 7. Builder's Risk Insurance
 8. Contractor's use of premises
 - a. Site
 - b. Facility policies and procedures
 - c. Security and housekeeping
 9. Construction facilities and temporary utilities
 10. Architect's and Owner's field observation reports
 11. Progress meetings and other meetings
 12. Progress payments, Applications for Payment
 - a. Form, content, and procedure
 - b. Stored materials
 - c. Retainage and Consent of Surety
 - d. Schedule of Values
 - e. Attachments
 13. Submittals:
 - a. Initial construction schedule
 - b. Updated progress schedules
 - c. Shop drawing log
 - d. Shop drawings, product data and samples
 14. Change Orders and written orders for minor changes:
 - a. Itemization of costs
 - b. Extensions of time
 15. Weekly payroll reports and wage rate regulations, if applicable
 16. Testing and laboratory reports
 17. Contract Close Out
 - a. Substantial Completion
 - b. Final Inspection
 - c. Project Record Documents
 - d. Final Payment
- C. Progress Meetings:
1. Schedule regular biweekly Project meetings.
 2. Location of meetings: The project field office of the General Contractor unless otherwise notified.
 3. Attendance:
 - a. Architect and/or Owner as needed.
 - b. Contractor and/or his coordination representatives.
 - c. Subcontractors as appropriate to the agenda.

- d. Suppliers as appropriate to the agenda.
- e. Others as needed appropriate to the agenda.
- 4. Suggested Agenda:
 - a. Review and approval of minutes of previous meeting.
 - b. Review of work progress.
 - c. Field observations, problems, conflicts.
 - d. Problems which impede Construction Schedule.
 - e. Review of offsite fabrication, delivery schedules.
 - f. Corrective measures and procedures to regain projected schedule.
 - g. Coordination of schedules.
 - h. Maintenance of quality standards.
 - i. Other business as appropriate.
- D. Preinstallation Conferences:
 - 1. When required in individual specification Section, convene a preinstallation conference at agreed location prior to commencing work of the Section.
 - 2. Require attendance of parties directly affecting, or affected by, work of the specific Section.
 - 3. Notify Architect four (4) days in advance of meeting date.
 - 4. Prepare agenda, preside at conference, record minutes, and distribute copies within two (2) days after conference to participants, with one (1) copy each to the Owner and to the Architect.
 - 5. Review conditions of installation, preparation and installation procedures, and coordination with related work.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Contractor Quality Assurance/Control of Installation
- B. References
- C. Schedule of References
- D. Field Samples
- E. Manufacturers' Field Services and Reports

1.02 CONTRACTOR QUALITY ASSURANCE/CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship to produce Work of specified quality.
- B. Comply full with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Designer 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.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

1.03 REFERENCES

- A. Reference in the specifications to known standards, such as codes, specifications, etc. promulgated by professional or technical associations, institutes and societies, are intended to mean the latest edition of each such standard adopted and published as of the date of the Bid Date on this project except where otherwise specifically indicated. Referenced portion of such standards shall be considered a part of these specifications as if reproduced in full.
- B. Conform to reference standard by date of issue current on Bid Date.
- C. Maintain copy of standards at job site when required by Contract Documents.
- D. Should specified reference standards conflict with Contract Documents, request clarification from Designer before proceeding.
- E. 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.

1.04 SCHEDULE OF REFERENCES

- A. The following is a representative, but not necessarily the total list of such associations, institutes and societies, together with the abbreviation by which each is identified.
AAMA Architectural Aluminum Manufacturer's Association

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
ASA	American Standards Association
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing and Materials
AWI	Architectural Woodwork Institute
AWS	American Welding Society
AWSC	American Welding Society Code
AWWA	American Water Works Association
BIA	Brick Institute of America
CSI	Construction Specifications Institute
DHI	Door and Hardware Institute
EPA	Environmental Protection Agency
FIA	Factory Insurance Association
FS	Federal Specifications
GA	Gypsum Association
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
IGSS	Insulating Glass Certification Council
NBFU	National Board of Fire Underwriters
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NWMA	National Woodwork Manufacturers Association
NWWDA	National Wood Window and Door Association
OSHA	Occupational Safety and Hazard Act
PCA	Portland Cement Association
SDI	Steel Door Institute
SIGMA	Sealed Insulating Glass Manufacturer's Association
SJI	Steel Joists Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association, Inc.
SPRI	Single Ply Roofing Institute
SSPC	Steel Structures Painting Council
TCA	Tile Council of American, Inc.
UL	Underwriters' Laboratories, Inc.
USASI	United States of America Standards Institute
WWPA	Western Wood Products Association

1.05 FIELD SAMPLES

- A. Install field samples at the site as required by individual specification 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 Designer.

1.06 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. Submit qualifications of observer to Designer fifteen (15) days in advance of required observations. Observer subject to approval of Designer.
- B. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance of equipment as applicable, and to initiate instructions when necessary.
- C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Submit report in duplicate within ten (10) days of observation to Designer and Owner for review.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities: Electricity, Heat and Ventilation, Water, Sanitary Facilities
- B. Temporary Fire Protection
- C. Construction Aids
- D. Noise and/or Vibrations During Construction
- E. Exterior Enclosures
- F. Interior Enclosures
- G. Barriers and Barricades
- H. Protection of Work
- I. Security
- J. Vehicular Access and Parking
- K. Progress Cleaning and Dust Control

1.02 TEMPORARY ELECTRICITY AND LIGHTING

- A. Temporary electric power required for the performance of work under this Contract may be obtained from the Owner's present power source.
- B. The contractor is to furnish and install at his expense and arrangement, all means of bringing electrical power, wiring, etc. from this Owner's point of source to the point of use or need including receptacle devices, wiring, etc. and their complete removal at completion as may be needed to provide adequate artificial lighting and power for all areas of the Work. Owner's electrical power source shall not be interrupted without specific approval and arrangement with the Owner.
- C. If requirements for current/voltage exceed the Owner's capacity or type as described above, the needing Contractor shall arrange for, pay and provide his own source at his total expense including removal of same at completion of the Work.
- D. The contractor must pay for and provide adequate protection and/or protection devices to protect the Owner's electrical source and supply including branch circuits, panelboards, etc. as may be deemed necessary for a complete system in accord with all local and national codes.
- E. The Owner will pay directly to the Power Company the cost of all electric power consumed.

1.03 TEMPORARY HEAT AND VENTILATION

- A. The General Contractor is to provide temporary heat and ventilation as required to maintain adequate environmental conditions to facilitate progress of the Work, to meet specified conditions for the installation of materials and to protect materials and finishes from damage due to temperature and/or humidity.

- B. Provide adequate forced ventilation of enclosed areas for curing of installed materials, to disperse humidity, and to prevent hazardous accumulations of dust, fumes, vapors or gases, including but not limited to interior occupied spaces.
- C. Portable heaters shall be standard non-smoke producing approved units such as gas (natural or LP) or approved oil burners complete with controls. NO Salamanders or open fires will be permitted.
- D. Pay all cost of installation, maintenance, operation, removal and for fuel consumed.

1.04 TEMPORARY WATER

- A. Water required for the performance of work under this Contract may be obtained from the Owner's present supply.
- B. The contractor is to furnish and install all valves, piping, hose, fittings, vacuum breakers, back flow preventers and/or devices required to connect and transmit water from the Owner's point of source to the point of his need in adequate quantity for progress of the work at his expense. All such shall be removed at the end of the work. Owner's piping and water supply shall not be interrupted without specific approval and arrangement with the Owner.
- C. If requirements for water exceed the Owner's provided service as described above, the needing Contractor shall provide his own source at his total expense including removal of same at completion of the Work.
- D. The Owner will pay directly to the utility company the cost of all temporary water consumed.

1.05 TEMPORARY SANITARY FACILITIES

- A. The General Contractor is to provide adequate enclosed sanitary toilet facilities for each gender in compliance with local laws, and regulations including service, cleaning, maintenance, with privacy locking.
- B. The Owner's Existing Toilet Facilities may not be used by construction personnel.

1.06 TEMPORARY FIRE PROTECTION

- A. The General Contractor is to provide proper and adequate portable fire extinguishing equipment at his operation when work is in progress, including requirements for Field Offices and Storage Sheds.

1.07 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required by personnel and to facilitate the execution of the Work: Scaffolds, staging, ladders, ramps, runways, platforms, lifts, railings, hoists, cranes, chutes, appliances, equipment and other facilities. Maintain all facilities and equipment in a first-class condition for the safety and use of this construction.
- B. Prolonged parking or blocking of traffic at the site will not be permitted. Provide protection necessary to maintain traffic arteries in a first class condition.
- C. The Owner's present loading dock facilities, compaction equipment, and trash containers may not be used for construction purposes.

1.08 NOISE AND/OR VIBRATIONS DURING CONSTRUCTION

- A. Noise and/or vibrations generated by construction of this work may at times create a problem for the Owner. The Owner recognizes and can tolerate the normal level of noise created by a majority of construction activity and, therefore, does not feel any need to set certain hours of the day when noise will be restricted. The Contractor will, however, make every effort to keep noise to a minimum.
- B. However, the Owner also recognizes that during certain construction work the noise and vibration level is unusually higher than normal. These higher levels of noise and vibration may conflict with a specific activity being simultaneously conducted by the Owner. It is required of the Contractor that agreement be secured from the Owner prior to scheduling any such activity and that the Contractor cooperates if an ongoing activity becomes objectionable by its longevity or overlapping into a program started later by the Owner. It is understood and agreed that both parties will cooperate to this end so that neither will be unduly inconvenienced by this requirement.

1.09 EXTERIOR ENCLOSURES

- A. Provide temporary insulated weather-tight enclosure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.10 INTERIOR ENCLOSURES

- A. Provide temporary enclosures to separate work areas from the areas of existing building occupied by Owner, to prevent penetration of dust or moisture into occupied areas, to prevent damage to existing equipment, to protect Owner's employees and operations from construction work and to protect the public from construction work.
- B. Temporary partition and ceiling enclosures: Framing and sheet materials must comply with structural and fire rating requirements of applicable codes and standards. Close joints between sheet materials and seal edges and intersections with existing surfaces to prevent penetration of dust or moisture.

1.11 BARRIERS AND BARRICADES

- A. Provide, install and maintain suitable barricades, partitions and/or barriers as required to prevent and protect public entry, personnel entry, safety and to protect the Work and existing facilities.
- B. Provide protection of existing trees, plants and landscaping to remain within construction limit lines or areas as shown on drawings.
- C. Remove barriers and barricades when no longer needed or at completion of work.

1.12 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Provide temporary and removable protection for installed products. Control activity in immediate work area to minimize damage.
- C. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

- D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- E. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- F. Prohibit traffic from landscaped areas.

1.13 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism or theft.
- B. Coordinate with Owner's security program.

1.14 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Designated existing on-site roads may be used for construction traffic.
- F. Parking by or for Contractor's workers and/or their personal vehicles will be permitted within existing paved areas as indicated on drawings. Contractor to coordinate and verify with Owner prior to the start of construction.

1.15 PROGRESS CLEANING AND DUST CONTROL

- A. Execute periodic cleaning to keep the Work, the site and adjacent properties free from accumulations of waste materials, rubbish and wind blown debris, resulting from construction operations. Water sprinkle construction site as required to prevent free blowing of dust. Keep surrounding streets on property clean and free from dirt accumulations. Remove same periodically as required.
- B. Provide on-site containers for the collection of waste materials, debris and rubbish.
- C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.
- D. Remove debris and rubbish from pipes, chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- E. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly-coated surfaces.

PART 2 - PRODUCTS

2.01 MATERIALS, GENERAL

- A. Materials may be new or used, but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Consult with Owner, review site conditions and factors which affect this section of specifications.
- B. Relocate construction aids, barriers and barricades as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of the Owner and other contractors and subcontractors employed at the site.

3.02 GENERAL

- A. Comply with applicable requirements specified in sections of Division 2 thru 32.
- B. Maintain and relocate barricades and barriers during construction period as appropriate.
- C. Install facilities of a neat and reasonable uniform appearance, structurally adequate for the required purposes.

3.03 REMOVAL OF UTILITIES, FACILITIES AND CONTROLS

- A. Remove temporary above grade or buried utilities, equipment, facilities and materials prior to Substantial Completion or no longer needed.
- B. Remove underground installations to a minimum depth of two feet.
- C. Clean and repair damage caused by installation or use of temporary work.
- D. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Products
- B. Existing Material
- C. Transportation and Handling
- D. Storage and Protection
- E. Product Options
- F. Acceptance of Specified Material
- G. Substitutions
- H. Examination of Surfaces
- I. Manufacturers' Instructions
- J. Hazardous Material Certification

1.02 RELATED REQUIREMENTS IN OTHER PARTS OF THE PROJECT MANUAL

- A. General and Supplemental Conditions of the Contract

1.03 PRODUCTS

- A. Material and equipment incorporated into the Work:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type and quality specified, or as specifically approved in writing by the Architect.
 - 3. Manufactured and fabricated products:
 - a. Design, fabricate and assemble in accord with the best engineering and shop practices.
 - b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - c. Two or more items of the same kind shall be identical, by the same manufacturer.
 - d. Products shall be suitable for service conditions.
 - e. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 - 4. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.04 EXISTING MATERIAL

- A. Do not use material and equipment removed from existing premises except as specifically permitted by the Contract Documents.
- B. Use special care in removal, handling, storage, and reinstallation to assure proper function in the completed work.

- C. Arrange for transportation, storage and handling of products which require off-site storage, restorage, or renovation. Pay all costs for such work.

1.05 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of products in accord with the Construction Schedules, coordinate to avoid conflict with work and conditions at the site.
- B. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
- C. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.
- D. All materials and equipment for which U.L. labels are required or available, provide appropriate labels on containers or packaging.
- E. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.06 STORAGE AND PROTECTION

- A. Store and protect products in accord with manufacturer's instructions, with seals and labels intact and legible.
 - 1. Store products subject to damage by the elements in weather-tight enclosures.
 - 2. Maintain temperature and humidity within the ranges required by manufacturer's instructions.
- B. Exterior Storage
 - 1. Store fabricated products above the ground, on blocking or skids, prevent soiling or staining. Cover products which are subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation and wind blow off.
 - 2. Store loose granular materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- C. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions and free from damage or deterioration.
- D. Protection After Installation. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations. Remove when no longer needed.

1.07 PRODUCT OPTIONS

- A. Products specified by reference standards or by description only: Any product meeting those standards or description.
- B. Products specified by naming one or more manufacturers: Products of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products specified by naming one or more manufacturers with a provision for substitutions: Submit a request for substitution for any manufacturer not named. Reference Article 1.09.
- D. Certain products are marked "No Substitution" and do not qualify under the above Para. 1.07C.

1.08 ACCEPTANCE OF SPECIFIED MATERIALS

- A. Contractor and/or any Subcontractor, by entering into a contract to furnish material and/or furnish labor and material for any part of this work, agrees that the material and methods specified herein are suitable to achieve the end results required and to permit the guarantees required, unless stated otherwise in writing to the Architect prior to execution of his Contract.
- B. Though the Architect generally specifies a result rather than a method, it is considered essential to the usefulness of this specification that methods be generally outlined. No departure from results or methods specified herein will be permitted unless such permission is granted by the Architect in writing. Such permission must be obtained prior to executing each appropriate contract. If the above is not complied with, no future claims for failure because of materials, methods, etc. specified will be valid or entertained.

1.09 SUBSTITUTIONS

- A. Contractors desiring to use another brand, material or manufacturer of same quality, appearance and utility to that specified may request substitution as provided below:
 - 1. Substitutions prior to Bidding must be made in writing and must be received by the Architect a minimum of ten (10) days prior to bid. The burden of delivery to the Architect remains totally the responsibility of the Bidder. Architect will approve or disapprove the request for substitution, in writing, and his decision shall be final and will be recorded by appropriate Addenda issued to all bidders within three (3) days prior to bid.
 - 2. Substitutions After Bidding will not be allowed.
 - 3. Unless substitutions are requested within the time periods stated above and provided above, no deviation from the specifications will be allowed. Requests for substitutions will only be considered if the Contractor submits the following:
 - a. Complete technical and cost data including drawings, literature, complete specifications, test data, and samples (if requested) and such additional information as may be required by the Architect on the proposed for substitution.
 - b. Similar data to above for items, if any, to be deleted by proposed substitution.
 - c. Statement by Contractor that the proposed substitution is in full compliance with the Contract Documents and written statements that he:
 - 1) represents that he has personally investigated the proposed substitute product and determined that is equal to or superior in all respects to that specified;
 - 2) represents that he will provide the same warranty for the substitute that he would for that specified;
 - 3) certifies that the cost data presented is complete and includes all related costs and waives all claims for additional costs related to the substitution which subsequently become apparent;
 - 4) will coordinate the installation of the accepted substitute, making such changes as may be required for the work to be complete in all respects and
 - 5) will disclose the existence and extent of financial interests, whether direct or indirect, he has in subcontractors and material suppliers which he may propose for the project. Include disclosure with submittal.

1.10 EXAMINATION OF SURFACES

- A. Throughout this work, it will be required that certain contractors and/or subcontractors apply their material to or over work done by others, and which would affect his work. The general coordination of all such is the responsibility of the Contractor. However, it is the responsibility of each Contractor, Subcontractor or Supplier, to which it applies, to abide by the following whether or not it is specifically required, by repeating, in his particular section of these specifications.

- B. Before commencing application of his Work, he shall thoroughly examine all surfaces to receive his Work and immediately notify the Architect in writing, of any imperfections in surfaces which would, in any way, affect satisfactory completion of Work. Absence of such notification shall be construed as acceptance of surfaces to receive Work. Later claims of defects in such Work will not, in any way affect guarantee of this contractor.

1.11 MANUFACTURER'S INSTRUCTIONS

- A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in the installation.
 - 1. Maintain one set of complete instructions at the job site during installation and until completion.
- B. Handle, install, connect, clean, condition, prepare and adjust products in strict accord with such instructions and in conformity with specified requirements. Do not proceed with work without clear instructions.

1.12 HAZARDOUS MATERIAL CERTIFICATION

- A. All materials and/or systems used for completion of this project are to be free of asbestos and/or other hazardous materials per requirements of OSHA, EPA and all other regulatory agencies. All certification letters are to be attached to each product and included in Section 01 7000 Close Out Documents as permanent record of same.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. General Requirements
- B. Substantial Completion
- C. Final Review
- D. Re-inspection Fees
- E. Final Application for Payment
- F. Contractor Close Out Submittals to Architect
- G. Volume Format
- H. Format - Close Out Submittal - Volume 1
- I. Final Cleaning
- J. Spare Parts and Maintenance Material

1.02 GENERAL REQUIREMENTS

- A. Comply with requirements stated in General and Supplemental Conditions of the Contract and in Specifications for administrative procedures in closing out the Work unless modified herein.

1.03 SUBSTANTIAL COMPLETION

- A. When Contractor considers the Work is substantially complete, he shall submit to Architect:
 - 1. A written notice that the Work is sufficiently complete that the Owner may occupy the Work for the use for which it is intended and is therefore substantially complete.
 - 2. A list of items to be completed or corrected and dates scheduled for completion or correction of each item.
- B. Within a reasonable time after receipt of such notice, the Architect will schedule a review with the Owner to determine the status of completion. Status of completion will be judged by the entire project completion without limitation to any one phase or part of the total construction.
- C. Should Architect and the Owner determine that the Work is not substantially complete, the Architect will promptly notify the Contractor in writing, stating the reasons.
- D. Contractor shall remedy the deficiencies in the Work and send a second written notice of substantial completion to the Architect.
- E. Architect will review the Work again under the above Para. 1.03B.
- F. When Architect and Owner concur that the Work is substantially complete, Architect will:

1. Prepare a Certificate of Substantial Completion on AIA Form G704 accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the Architect.
2. Submit the Certificate to Owner and Contractor for their written acceptance of the responsibilities assigned to them in the Certificate of Substantial Completion.

1.04 FINAL REVIEW

- A. When Contractor determines the Work is complete, he shall submit to the Architect written certification that:
 1. Contract Documents have been reviewed.
 2. Work has been inspected by a qualified person authorized by the Contractor for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents.
 4. Equipment and systems have been tested and demonstrated in the presence of the Owner's representative and are operational.
 5. Inspections or letters of acceptance for items requiring approval from a governing authority.
 6. Materials and/or systems used for completion of this project are free of asbestos and/or other hazardous materials per requirements of OSHA, EPA and all other regulatory agencies. All certification letters are to be attached thereto for the permanent record. (Reference Section 01 6000, Article 1.12.)
 7. Work is complete and ready for final inspection.
- B. Within a reasonable time after receipt of the Certification above, the Architect and Owner will schedule a review to determine the status of completion. Status of Completion will be judged by the entire project completion without limitation to any one phase or part of the total construction.
- C. Should Architect and/or Owner consider that the Work is incomplete or defective:
 1. Architect will promptly notify the Contractor in writing, listing the incomplete or defective work.
 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Architect that the Work is complete.
 3. Architect will review the Work again as Para. 1.04B above.
- D. When the Architect and Owner find the Work acceptable under the Contract Documents, the Contractor will be asked to submit Close Out Submittals. Refer to Article 1.07.

1.05 RE-INSPECTION FEES

- A. Should Architect perform additional reviews due to failure of the Work to comply with the claims of status of completion made by the Contractor:
 1. Owner will compensate Architect for such additional services.
 2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

1.06 FINAL APPLICATION FOR PAYMENT

- A. Submit the Final Application For Payment accompanied by a final statement of accounting to the Architect.
- B. Statement shall reflect all adjustments to the Contract Sum.
 1. The original Contract Sum
 2. Additions and deductions resulting from:
 - a. Previous Change Orders

- b. Deductions for non-conforming work
 - c. Other adjustments as appropriate.
 - 3. Total Contract Sum as adjusted
 - 4. Previous payments
 - 5. Sum remaining due
- C. When the Architect and owner determine that the Close Out Submittals are complete and correct and has received the Final Application For Payment with the Statement of Account, the Architect will prepare a Final Change Order reflecting the approved adjustments to the Contract Sum which were not previously made by Change Order subject to Owner's approval.

1.07 CONTRACTOR'S CLOSE OUT SUBMITTALS TO ARCHITECT

- A. The close out submittal shall be complete and submitted to the Architect as a single package in three (3) separate volumes:
- 1. Volume 1: Legal Close Out Data - Project Close Out Data as required by Section 01 7000, Article 1.09.
 - 2. Volume 2: Project Record Documents - Per requirements of Section 01 7200.
 - 3. Volume 3: Project Warranties, Operation and Maintenance Data - Operating and Maintenance Data, Warranties and Bonds, Instructions to Owner's Personnel - Per requirements of Section 01 7250.
- B. Refer to Article 1.08 for Volume Format.

1.08 VOLUME FORMAT

- A. Each volume shall consist of commercial quality three ring binder with durable plastic covers. Use ring size appropriate to the amount of material to be included.
- B. On face and edge of binder covers, print title of project and subject matter of binder when multiple binders are required.
- C. Internally subdivide the binder contents with permanent page dividers with tab titles clearly printed under reinforced plastic tabs.
- D. Contents: Prepare a Table of Contents for each volume with each item, product or system identified on white paper.
- E. Refer to Article 1.07 for Contractor Close Out submittal of each volume.

1.09 CLOSE OUT SUBMITTAL - VOLUME 1

- A. Furnish two (2) complete bound sets of Legal Close Out Data and one (1) electronic PDF file.
- B. Volume 1 Format shall be prepared as per Article 1.08. If two or more binders are required, identify as Volume 1A, 1B, etc.
- C. Contents of this volume to include the following:
- 1. Table of Contents indicating complete contents related to tab dividers.
 - 2. Cover sheet or sheets giving complete Project Name, Contractors and Subcontractors' Name, Address, and Telephone Number, Name of Project Superintendent, Project Manager and related general information.
 - 3. Consent of Surety to Final Payment, AIA Form G707.

4. Releases of Liens from the Contractor, all Subcontractors and major material suppliers, AIA Form G706A.
5. Contractor Affidavit of Payment of Debts and Claims, AIA Form G706.
6. Final Application For Payment, AIA Form G702 with Continuation Sheet AIA Form G703
7. Final Statement of Accounting
8. Signed Change Orders (if any)
9. Certifications - Refer to Article 1.04.
10. Other documents related to fiscal provisions
11. Contractor letters of Substantial Completion
12. Architect Prepared Certificate of Substantial Completion (AIA Form G704) with Final Architectural Punch List with each item initialed by Contractor.
13. Occupancy Permit
14. Non-Lead, Asbestos Hazardous Material Certification Letter

D. Architect will transmit one (1) copy of Volume to Owner and retain one for his records.

1.10 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean debris from roofs, gutters, downspouts, and drainage systems.
- C. Clean site; sweep paved areas; rake clean landscaped surfaces.
- D. Remove waste and surplus materials, rubbish, and construction facilities from the site.

1.11 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Provide products, spare parts, maintenance and extra materials in quantities specified in individual specification sections.
- B. Deliver to project site and place in location as directed prior to final payment.

PART 2 - PRODUCTS
Not used

PART 3 - EXECUTION
Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Record Documents
- B. Reproducible "Record As-Built Drawings"
- C. Close Out Submittal

1.02 RECORD DOCUMENTS

- A. General:
 - 1. General Contractor is to maintain at the site in good condition, one complete record set of all Contract Documents for use as "Record Documents."
 - a. Contract Drawings
 - b. Project Manual and Specifications
 - c. Addenda
 - d. Supplemental Drawings
 - e. Change Orders and other Modifications to the Contract
 - f. Minutes of all project meetings
 - g. Architect Field Orders or written instructions
 - h. Construction Schedules including all revisions
 - i. Approved Submittals:
 - 1) Shop Drawings
 - 2) Product Data
 - 3) Samples
 - 4) Design Data
 - 5) Test Reports
 - 6) Manufacturer's Instructions
 - 7) Manufacturer's Certificates
 - 8) Applicator or Installer's Certification
 - 9) Certifications
 - j. Applicator certification of substrate
 - k. Manufacturer's Field Reports
 - l. Field Test Reports (as applicable)
- B. Maintenance of Documents:
 - 1. Store Record Documents in General Contractor's field offices apart from documents used for construction. Provide secure storage space for files and racks for storage of Record Documents.
 - 2. Maintain Record Documents in a clean, dry, legible condition and in good order. Do not use Record Documents for reference or construction use.
 - 3. Make Record Documents available for inspection by the Architect or Owner, upon request.
- C. Marking Devices:
 - 1. Provide felt tip marking pens for recording information in the color code identified and cross-referenced to the trade required by Contract Specifications.

- D. Recording:
1. Label each document "PROJECT RECORD" in neat large printed letters.
 2. Record Information on a weekly basis, concurrently with construction progress. Do not "conceal" any work until required information is recorded.
 - a. "Concealed" under this section is defined as not exposed after completion of construction. Concealed locations include the following: In walls (hollow or solid of all types), above ceilings (all ceilings), in floors, beneath earth, floors, etc. Record exact location, routing, and identification.
 3. Drawings: Legibly mark to record actual construction:
 - a. Field changes of dimension and detail.
 - b. Changes made by Field Order or by Change Order.
 4. Specifications: Legibly mark and record at each Product section description of actual Products installed, including the following:
 - a. Manufacturer's name and product model and number.
 - b. Product substitutions or alternates utilized.
 - c. Changes made by Addenda and Modifications.
 5. Submit Record Documents as part of Close Out Submittal - Volume 2.

1.03 "RECORD AS-BUILT DRAWINGS":

- A. "Record As-Built Drawings" will be required by the following Subcontractors:
1. Contractor (Architectural Modifications)
 2. Mechanical
- B. Prepare "Record As-Built Drawings" to show construction as actually accomplished as recorded on "Project Record Documents" in Para. 1.02D above. The drawings shall be prepared by the appropriate Subcontractor by using the Record Drawings.
- C. "As-Built Drawings" will be required of the above listed Subcontractors and shall show as record:
1. All deviations from the sizes, locations and all other features of all installations shown by the Contract Documents.
 2. Where the Contract Documents show installations in diagrammatic or schematic form the actual location will be recorded.
 3. It shall be possible, using these drawings, to correctly and easily locate, identify and establish sizes of all piping, conduit, etc. and such other features of work which will be concealed per Article 1.02 above by the following means:
 - a. Locations of underground Work shall be established by dimensions to column lines or walls, and by properly referenced centerline or invert elevations and rates of fall.
 - b. For work concealed in the building sufficient information shall be given so it can be located with reasonable accuracy and ease. This shall be by dimension wherever possible. Where this is not reasonably practical, illustrate the Work on the drawings in relation to the spaces in the building near which it was actually installed.
 - c. Such other notes as required to designate size, service, etc.
 4. All such drawings shall be done carefully and neatly by a competent draftsman and in a form approved by the Architect.
 5. Submit "As-Built" Drawings as part of Close Out Submittal - Volume 2.

1.04 CLOSE OUT SUBMITTAL - VOLUME 2

- A. Furnish one (1) complete set of Project Record Documents with additional required sets of Record "As-Built" Drawings and one (1) electronic PDF file.

- B. Volume 2 of Close Out Submittal shall be submitted along with Volume 1 and 3 as defined in Section 01 7000, Article 1.07.
- C. Volume 2 Format shall be prepared as per Section 01 7000, Article 1.08. If two or more binders are required, identify as Volume 2A, 2B, etc.
- D. Contents of this volume to be in the following format:
 - 1. Table of Contents indicating complete contents related to tab dividers and items separated from binders.
 - 2. Cover sheet or sheets giving complete Project Name, Contractor and Subcontractor's Name, Address, Telephone Numbers, Name of Project, Superintendent, Project Manager and related general information.
 - 3. Project Record Documents not required to be in binders. List in Table of Contents.
 - 4. One (1) set of marked-up blue-line "Record Drawings" from the project site.
 - 5. Four (4) sets of Project Record bond copies of "As-Built" drawings.
 - 6. Four (4) sets of Project Manual marked to show in each Specification Section the actual manufacturer, trade names, catalog number, and supplier of each product.
 - 7. Supplemental Drawings not required to be in binder. List in Table of Contents.
 - 8. Shop Drawing Submittals:
 - a. Submit one copy of each document bearing Architect's "Review for General Compliance" stamp denoted "No Exception Taken" or "Make Correction Noted."
 - b. Include documents in binders where possible. List in Table of Contents those items not included in binder.
 - 9. Minutes of all project meetings..
 - 10. Paint color schedules.
 - 11. Testing Laboratory "Product Test Reports".

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. General Requirements
- B. Warranties and Bonds
- C. Materials and Finishes
- D. Equipment and Systems
- E. Close Out Submittals
- F. Instruction of Owner Personnel

1.02 GENERAL REQUIREMENTS

- A. The Contractor, his Subcontractors and Material Suppliers, as applicable to their portion of the work, shall compile and maintain accurate Project Record Documents, Submittals (Shop Drawings, Product Data, Manufacturer's Service), Maintenance and Operation Data, Internal Wiring Diagrams and related information that the Owner may need for his use in maintenance, operation, repair, renovation or future additions to the Project and/or its equipment. Manufacturers, Suppliers, Subcontractors, Representatives, bidding the work under this Contract are advised that proprietary information on their equipment is and will be required for submittal herein. Final payment will not be made until all data is submitted in quantity and form required herein.
- B. Furnish all warranties, applicator/manufacture certifications, letters of acceptance, maintenance agreements, bonds, operation data, maintenance service data, parts list, wiring diagrams and other documents as required by this Section of Specifications.

1.03 WARRANTIES AND BONDS

- A. Assemble warranties and bonds, service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors, neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product or work item
 - 2. Firm, with name of principal, address and telephone number
 - 3. Scope
 - 4. Date of beginning of warranty, bond, or service and maintenance contract
 - 5. Duration of warranty, bond, or service and maintenance contract
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure
 - b. Instances which might affect the validity of warranty or bond
 - 7. Contractor, name of responsible principal, address and telephone number

1.04 MATERIALS AND FINISHES

- A. Content, for architectural products, applied materials and finishes:
 - 1. Manufacturer's data, giving full information on products
 - a. Catalog number, size, composition

- b. Color and texture designations
 - c. Information required for reordering special manufactured products
 - 2. Instructions for care and maintenance
 - a. Manufacturer's recommendation for types of cleaning agents and methods
 - b. Cautions against cleaning agents and methods which are detrimental to the product
 - c. Recommended schedule for cleaning and maintenance
- B. Content, for moisture protection and weather-exposed products:
 - 1. Manufacturer's data, giving full information on products
 - a. Applicable standards
 - b. Chemical composition
 - c. Details of installation
 - 2. Instructions for inspection, maintenance and repair
- C. Additional requirements for maintenance data: The respective sections of Specifications

1.05 EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include description of unit or system and component parts including all proprietary information. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data, wiring diagrams, and tests, and complete nomenclature and commercial number of replaceable parts.
- B. Maintenance Requirements: Include routine procedures and guide for trouble-shooting; disassembly, repair, and re-assembly instructions; and alignment, adjusting, balancing and checking instructions.
- C. Include manufacturer's printed operation and maintenance instructions.
- D. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance. Proprietary information to be included.
 - 1. Predicted life of parts subject to wear.
 - 2. Items recommended to be stocked as spare parts.
- E. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- F. Additional Requirements: As specified in individual product specification sections.
- G. Additional requirements for operating and maintenance data: Reference respective sections of Specifications.

1.06 CLOSE OUT SUBMITTAL - VOLUME 3

- A. Furnish four (4) complete sets of Project Warranty, Operation and Maintenance Data.
- B. Volume 3 of Close Out Submittal shall be submitted along with Volume 1 and 2 as defined in Section 01 7000, Article 1.07.
- C. Volume 3 Format shall be prepared as per Section 01 7000, Article 1.08. If two or more binders are required, identify as Volume 3A, 3B, etc.
- D. Contents of this volume to be in the following format:

1. Table of Contents indicating complete contents. Relate to tab dividers.
2. Cover sheet or sheets giving complete Project Name, Contractor's and Subcontractors' Name, Address, Phone Number, Name of Project Superintendent, Project Manager and related general information
3. Division 0: List Architect and Engineers complete with Name, Address, Telephone Number
4. Division 1A: General Warranties, Agreements and Bonds
 - a. Contractor's Certification as described in Items 1 thru 6 under Final Inspection in Section 01 7000 Contract Close Out, Para. 1.04A
 - b. Contractor's Warranty of Work
5. Division 1B: Certificates and Acceptance
 - a. Certificate of Substantial Completion
6. Division 1C: Subcontractors and Materials Suppliers
 - a. Provide a complete listing of subcontractors and materials suppliers including company name, address, phone number, contact person and local representative.
 - b. Include complete product description with each subcontractor or material supplier.
7. Division 1D: Maintenance Materials
 - a. List materials and parts furnished for the Owner's use under this contract.
8. Division 2 thru 32: Technical Data
 - a. Provide warranties, agreements, maintenance service and operation manuals, and related data as required by each Section of Specifications. Furnish preprinted copies of each manufacturer's maintenance service and use instructions as required by the Specifications.
 - b. Reference any oversize documents that cannot be neatly folded and bound in this binder and furnish separately with proper identification.
 - c. When manufacturer's cut sheets are used for product identification, plainly mark the specific items included in this Project.

1.07 INSTRUCTION OF OWNER'S PERSONNEL

- A. Prior to final inspection or acceptance, fully instruct Owner's designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems.
- B. Do not start-up or operate equipment without written consent of the Owner or his authorized agent.
- C. Use operation and maintenance manuals as basis for instruction. Review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

PART 2 - PRODUCTS

Not used

PART 3 - EXECUTION

Not used

END OF SECTION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes (where noted on the Drawings) the complete removal and disposal of the existing roofing and flashing system, roof insulation, lightweight concrete, and flashing materials down to the top of the existing roof deck. Remove ALL perimeter & curb nailers and blocking, at all pipe and vent flashings, other penetrations and roof perimeter edges and replace with new.

1.02 PROJECT SITE CONDITIONS

- A. Existing Conditions
 - 1. The facility will be in use and occupied at all times during construction. The Contractor shall schedule his work to interfere with Owners access and operations as little as possible.
 - 2. If it becomes necessary to interrupt operation of any equipment or service to said facility, the Contractor shall notify the Owner at least 72 hours in advance of interruptions and shall do said work at such times as directed.
 - 3. The Owner will coordinate with the Contractor to provide adequate access and workspace on the exterior of the building.
- B. Protection
 - 1. Erect barriers, fences and enclosures to protect personnel, equipment, structures, and utilities.
 - 2. Take all necessary precautions during demolition, operations to protect rooftop equipment, building and adjacent surfaces from being contaminated, soiled or damaged.
 - 3. Provide protection in a manner acceptable to the Owner's equipment and building entrances and interior from falling debris during roof demolition operations.
 - 4. Provide protection to all interior spaces from damage during roofing demolition and installation of new systems including but not limited to weather related events.

1.03 SCHEDULING

- A. Coordinate demolition work with trades that will perform patchwork and reroofing operations in the immediate areas where demolition work is to be done. Do not perform demolition work until such trades can immediately follow on to perform their work. Coordinate roofing removal work and any disruption of rooftop mechanical equipment service with the weather forecast and Owner's requirements.
- B. The removal of existing equipment and roofing materials required to accommodate the new work shall be scheduled to maintain the structure in a weather-tight condition at the end of each working day and to minimize disruption to user agency's operations.
- C. Schedule work in conjunction with trades that will follow on, and with Owner so that work is done at a time that will cause minimum interference to building operations.

PART 2 – PRODUCTS

2.01 WASTE RECYCLING

- A. Contractor is encouraged, but not required, to deliver materials removed from roof to a recycling plant for future material re-use.

PART 3- EXECUTION

3.01 INSPECTION

- A. Verify that work areas are accessible and ready for commencement of operations.
- B. Do not commence Work until a Staging Plan acceptable to the Owner and to the Designer has been submitted and approved.

3.02 EXECUTION

- A. Test, clean, repair, and protect roof drainage system during and at completion of roofing demolition. Ensure all roof drains on each building are correctly working prior to commencing work.
- B. Any/all mechanical/electrical work required to be preformed in and around the roof top mechanical equipment is to be performed by licensed mechanical/electrical contractors and units are to be returned to pre-work conditions.
- C. Remove existing roofing and flashing material, and roof insulation down to the existing structural roof deck (Refer to the Drawings). Remove and reinstall all rooftop equipment, vents, etc., where noted on the drawings. Remove ALL wood blocking and nailers. Clean surfaces of any remaining debris.
- D. Patch all defects in the surface of existing concrete roof decks. Moisture content of concrete roof deck shall be within levels acceptable to roof membrane manufacturer. Contractor shall take all necessary measures to reduce the moisture content of the existing concrete deck after roofing demolition is complete.
- E. Replacement of deteriorated wood roof deck to accept new roof insulation and roof system as specified.

3.03 DEMOLITION AND REPAIR

- A. Paving, site, or building components damaged by this Work shall be repaired or replaced to match existing in accordance with requirements of the Owner and Designer.

3.04 DISPOSAL

- A. Promptly remove materials and debris to prevent encumbering the site.
- B. Remove all materials and debris from building interior, including space above suspended ceilings. Leave surfaces broom clean.
- C. Dispose of all demolition and related materials in accordance to all local, State, and Federal requirements.
- D. Contractor's staging, storage, parking and dumpster locations to be confirmed with Owner prior to the commencement of work.

END OF SECTION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Trowel-grade concrete repair mortar for horizontal surfaces (see Unit Prices).

1.02 REFERENCES

- A. ASTM C 78 - Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading).
- B. ASTM C 109 - Compressive Strength of Hydraulic Cement Mortars (Using 2-in. Cube Specimens).
- C. ASTM C 266 - Time of Setting of Hydraulic-Cement Paste by Gillmore Needles.
- D. ASTM C 348 - Flexural Strength of Hydraulic-Cement Mortars.
- E. ASTM C 579 - Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing and Polymer Concretes.
- F. ASTM C 666 - Resistance of Concrete to Rapid Freezing and Thawing.
- G. ASTM C 881 - Epoxy-Resin-Base Bonding Systems for Concrete.
- H. ASTM C 882 - Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear.
- I. ASTM C 928 - Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs.
- J. ASTM C 1042 - Bond Strength of Latex Systems Used With Concrete By Slant Shear.
- K. ASTM C 1059 - Latex Agents for Bonding Fresh To Hardened Concrete.

1.03 SUBMITTALS

- A. Comply with Section 01 33 00 - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including surface preparation and placement instructions.
- C. Manufacturer's Certification: Submit manufacturer's ISO 9001/9002 certification.

1.04 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: ISO 9001/9002 registered or provide proof of documented quality assurance system. Quality assurance system shall be registered by independent registrar accredited by ANSI Registrar Accreditation Board (ANSI-RAB) or by another internationally recognized body.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

- B. Storage:
 - 1. Store materials in clean, dry area in accordance with manufacturer's instructions.
 - 2. Keep containers sealed until ready for use.
- C. Handling: Protect materials during handling and placement to prevent damage or contamination.

1.06 ENVIRONMENTAL REQUIREMENTS

- A. Do not place or cure concrete repair mortar when concrete surface or air temperatures are below 40 degrees F.

PART 2 - PRODUCTS

2.01 CONCRETE REPAIR MORTAR

- A. Concrete Repair Mortar
 - 1. Description: 1-component, rapid-setting, magnesium phosphate patching mortar.
 - 2. Compliance:
 - a. Very Rapid Hardening Category: ASTM C 928.
 - 3. Compressive Strength, ASTM C 109, 2-Inch Cubes, 72 Degrees F.
 - a. 1 Day: 6,000 psi.
 - b. 28 Days: 7,500 psi.
 - 4. Flexural Strength, ASTM C 78:
 - a. 4 Hours: 400 psi.
 - b. 3 Days: 500 psi.
 - 5. Bond Strength, ASTM C 882 Modified:
 - a. 1 Day: 1,300 psi.
 - b. 28 Days: 1,700 psi.
 - 6. Freeze/Thaw Resistance, ASTM C 666, Procedure A, 300 Cycles:
 - a. Relative Durability Modulus: 93 percent.
 - 7. Setting Time, Gillmore Needles:
 - a. Initial Set: 8 to 12 minutes.
 - b. Final Set: 12 to 20 minutes.
- B. Water: Clean and potable.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive concrete repair mortar. Notify Designer if surfaces are not acceptable. Do not begin surface preparation or placement until unacceptable conditions are corrected.

3.02 SURFACE PREPARATION

- A. Prepare concrete surfaces in accordance with manufacturer's instructions.
- B. Ensure concrete surfaces are clean and rough.
- C. Remove dirt, dust, oil, grease, debris, paint, curing compounds, sealers, and unsound concrete.

- D. Prepare surfaces mechanically to give a surface profile of a minimum of 1/8 inch and expose coarse aggregate.
- E. Remove residue on concrete surfaces.
- F. Remove loose rust and scaling on exposed reinforcement steel. Treat cleaned steel with anticorrosion coating. Apply coating in accordance with manufacturer's instructions.
- G. Saw cut edges to 1/4 inch deeper than patch thickness. Notch at edge of repair.
- H. Bring expansion joints up through repair by saw cutting or with divider strips.

3.03 MIXING

- A. Mix concrete repair mortar in accordance with manufacturer's instructions.
- B. Do not add sand or cement to mortar.
- C. Extend mortar by adding dust-free, properly graded, hard, 3/8-inch pea gravel for patches deeper than 1 inch. Do not extend mortar by adding limestone or aggregate containing limestone.
- D. Maintain mixed and placed mortar at or below 140 degrees F.

3.04 PLACEMENT

- A. Place concrete repair mortar in accordance with manufacturer's instructions.
- B. Place mortar immediately after mixing.
- C. Place mortar at 1/2 inch to 8 inches in depth.
- D. Do not featheredge.
- E. Do not place over carbonated concrete.
- F. Do not place mortar on ice-covered surface.

3.05 FINISHING

- A. Finish concrete repair mortar to match surrounding concrete.
- B. Do not add additional water to surface during finishing.

3.06 CURING

- A. Do not wet cure concrete repair mortar.

3.07 PROTECTION

- A. Protect placed concrete repair mortar from heavy traffic until minimum compressive strength of 2,000 psi is reached. Protect placed mortar from damage during construction.

END OF SECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Cementitious Wood Fiber Acoustic Plank Roof Deck System known as Tectum I Acoustic Roof Deck System.

1.02 REFERENCES

- A. ASTM International:
 - 1. ASTM C177 Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
 - 2. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - 3. ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials.
- B. Underwriters Laboratories, Inc. (UL):
 - 1. UL 580 Standard for Safety for Tests for Uplift Resistance of Roof Assemblies.

1.03 SYSTEM DESCRIPTION

- A. Design Requirements: Provide roof deck assembly designed and tested according to the following:
 - 1. Underwriters Laboratories UL 580.
 - 2. Structural Performance Requirements: Provide a roof deck system that has been manufactured, fabricated, and installed to provide deflection of Less than 1/240 at design load.
 - 3. Acoustic Performance: NRC Value 0.60 Minimum generated from UL Classified face material of 2" to 3" thickness.

1.04 SUBMITTALS:

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittals Procedures Sections.
- B. Product Data: Submit manufacturer's product data and installation instructions.
- C. Shop Drawings: Provide drawings indicating locations and spacing of structural supports and penetrations including panel layout, attachment details and termination details.
- D. Samples:
 - 1. 6 inch square sample of each wood fiber composite deck unit required indicating exposed texture expected in completed work.
 - 2. Labeled set of required fasteners and accessories for a complete installation.
- E. Quality Assurance/Control Submittals:
 - 1. Test Reports: Upon request, submit certified test reports from recognized test laboratories.
 - 2. Sustainability Reports:
 - a. Third Party Verified Environmental Product Declaration (EPD).
 - b. Third Party Verified Health Product Declaration (HPD).

- c. Living Product Imperative Certification for Cementitious Wood Fiber Plank.
 - F. Closeout Submittals
 - 1. Standard Manufacturer's Warranty Document.
- 1.05 QUALITY ASSURANCE:
- A. Installer Qualification:
 - 1. Utilize an installer having documented experience on projects of a similar size and complexity.
 - 2. Letter of certification for the manufacturer stating that the installer has appropriate experience and is certified to install system.
 - B. Regulatory Requirements and Approvals:
 - 1. International Code Council (ICC):
 - a. ICC-ES Evaluation Report ESR-1112.
- 1.06 DELIVERY, STORAGE AND HANDLING
- A. General: Comply with applicable Division 1 Sections.
 - B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 1. Provide labels indicating brand name, deck type, panel size, and panel thickness.
 - C. Storage and Protection: Store materials protected from exposure to harmful environmental condition and at temperature and humidity conditions recommended by the manufacturer.
 - 1. Prevent soiling, physical damage or wetting.
- 1.07 WARRANTY
- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
 - B. Manufacturer's Warranty: Submit manufacturer's standard 15 year thermal performance warranty.

PART 2 - PRODUCTS

2.01 ROOF DECK AND FORM SYSTEMS.

- A. Manufacturer: Tectum Inc.
 - 1. Armstrong World Industries
Contact: Jonathan Gatten
jwgatten@armstrongceilings.com
740.364.8196
- B. Proprietary Systems. Cementitious deck form board systems, including the following configurations:
 - 1. Tectum Roof Deck Plank.

2.02 MANUFACTURED UNITS:

- A. Tectum I Roof Deck Panel consisting of Tectum Cementitious Wood Fiber Board.
1. Total Panel Thickness and R-Value (Match Existing):

<u>Total Thickness</u>	<u>R-Value</u>
3"	6.43 (match existing)

2. Panel Width: 31 inches. Match existing
3. Panel Length(s): Match existing.

203 COMPONENTS:

- A. Cementitious Wood Fiber Board, 3 inch/NRC 0.80 thick Tectum consisting of FSC Certified aspen wood fibers bonded with inorganic hydraulic cement.

204 ACCESSORIES:

- A. Fasteners:
1. DEKFAST 14 gage steel. Length to penetrate structural member minimum of 1-1/2 inch.
- B. Washers:
1. 2" Washers
- C. Adhesive:
1. SFA-66

PART 3 - EXECUTION

301 EXAMINATION:

- A. Site Verification of Conditions:
1. Verify that site conditions are acceptable for installation of roof deck system.
 2. Do not proceed with installation of roof deck system until unacceptable conditions are corrected.
 3. Do not proceed with installation if precipitation or freezing temperatures are forecast during installation.

302 INSTALLATION: Comply with Manufacturer's published instructions and recommended installation procedures.

- A. Place panel on joists with square cut ends butted tightly together.
- B. Stagger end joints. Seal joints larger than 1/4 inch with adhesive and larger joints with foam strips or expanding foam.
- C. Support panels with bent plates (steel or other support material) at roof transitions. Including, but not limited to ridge, valley, perimeter, and panel direction change conditions.
- D. Panels require a minimum 1-inch bearing on structural members. Must be glued and screwed at transitions.
- E. Panel ends are required to terminate over structural members or supports with a minimum of 1 inch bearing on structural members.

- F. Cut panels neatly to abut to parapets around openings and penetrations. Use manufacturer recommended saw and techniques for field cutting.
- G. Apply adhesive to support members and on top of plank tongue in accordance with manufacturer's recommendations.
- H. Use manufacturer's recommended slide hammer or other tools to assure a tight joint at panel-to-panel joints. Hold panels in position until screws are installed.
- I. Install screws at each structural support in conformance with approved Shop Drawings and manufacturer's recommended spacing and quantity.
- J. Field Installed Overlay: If indicated on Shop Drawings, install continuous 7/16-inch OSB overlay staggering panel joints in both directions for a minimum joint coverage of 1'-0". Install overlay with adhesive and 1-inch staples as indicated on approved Shop Drawings.

303 CLEANING:

- A. Clean exposed surfaces of panel installation.
- B. Remove visible adhesive from exposed surfaces.
- C. Remove and replace work that cannot be successfully cleaned or repaired, or which indicates structural damage.

304 PROTECTION:

- A. Protect installed work from damage due to weather related moisture.
- B. Protect installed work from damage due to subsequent construction activity.
- C. Provide temporary protection as necessary to protect installed material from exposure to excessive moisture prior to installation of roofing material.

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Steel roof deck and accessories for replacement of existing rusted and/or deteriorated metal roof deck (See Unit Price, Section 01 22 13).
- B. Steel Roof Deck, framing for roof openings.

1.02 REFERENCES

- A. AISI - Specification for the Design of Cold-Formed Steel Structural Members.
- B. ASTM A36 - Structural Steel.
- C. ASTM A446 - Steel Sheet, Zinc-Coated Galvanized by the Hot-Dip Process, Structural (Physical) Quality.
- D. AWS D1.1 - Structural Welding Code.
- E. SDI - Design Manual for Composite Decks, Form Decks, Roof Decks.

1.03 PERFORMANCE REQUIREMENTS

- A. Design metal decking in accordance with SDI Design Manual for Roof Decks.
- B. Calculate to structural working stress design and maximum vertical deck deflection of 1/240.
- C. Lateral deflection of diaphragm shall not exceed 1/500 of the height of the wall.
- D. Metal deck profile shall match existing deck

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Shop Drawings: Decking and deck fastening shall be designed to provide structural diaphragm. Indicate decking plan, support locations, projections, openings and reinforcement, pertinent details and accessories. Shop drawings shall bear the seal of a Professional Structural Engineer and licensed in the State of Tennessee.
- C. Product Data: Provide deck profile characteristics and dimensions, structural properties, and finishes.
- D. Manufacturer's Installation Instructions: Indicate specific installation sequence, and special instructions.

1.05 QUALIFICATIONS

- A. Installer: Company specializing in performing the work of this Section should have a minimum five (5) years documented experience and approved by manufacturer.

- B. Design deck layout, spans, fastening, and joints under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Tennessee.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site.
- B. Store and protect products per manufacturer's recommendations.
- C. Cut plastic wrap to encourage ventilation.
- D. Store decking on dry wood sleepers; slope for positive drainage.

1.07 FIELD MEASUREMENTS

- A. Verify that field measurements are as shown on shop drawings.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Wheeling Corrugating Co.
- B. Vulcraft
- C. Epic Metals Corporation
- D. Substitutions: Under provisions of Section 01 25 13.

2.02 MATERIALS

- A. Sheet Steel: ASTM A446, Grade B Structural Quality; with G30 galvanized coating conforming to ASTM A525.
- B. Bearing Plates, Angles: ASTM A36 steel, unfinished.
- C. Welding Materials: AWS D1.1.
- D. Touch-Up Primer: Zinc chromate type.

2.03 ACCESSORIES

- A. Flute Closures: Closed Cell foam rubber one inch thick; profiled to fit tight to the decking.

2.04 FABRICATION

- A. Metal Decking: Sheet steel, configured as follows:
 - Span Design: Single
 - Minimum Metal Thickness
(Excluding Finish): 22 gauge
 - Nominal Height: Match existing deck profile

Formed Sheet Width:	36 inch
Side Joints:	Lapped
Flute Sides:	Match existing

PART 3 - EXECUTION

3.01 INSPECTION

- A. Upon completion of roofing demolition, inspect condition of existing metal roof deck. Record with photographs indicating areas of roof deck requiring replacement.

3.02 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Beginning of installation means erector accepts existing conditions.
- C. It is the intent of the Contract to provide a roofing system that has positive roof drainage that does not create a ponding water condition. Ponding water on the finished roof system will warrant remedial repair(s) to achieve correct water drainage.

3.03 STRUCTURAL ROOF DECK REPAIR OR REPLACEMENT (to be provided in accordance with requirements specified under UNIT PRICES, Section 01 22 00 of the Project Manual)

- A. Should the Contractor uncover existing structural roof deck (steel) that is structurally sound, but in need of repair (surface deterioration or mechanical fasteners that are broken, split, loose, or otherwise failed) to prevent further deterioration or possible future failure, shall make repairs as required to restore the deck to a structurally sound condition by removing surface rust, installing new mechanical fasteners, and toughening up rust inhibitive finishes (galvanizing or painted surfaces).
- B. Should the Contractor uncover existing structural deck (steel) that has deteriorated or been damaged to the point that it is structurally unsound, the Contractor shall replace it with suitable material to restore the deck to a structurally sound condition.
- C. Contractor shall notify the Designer immediately upon discovery of material in need of repair or replacement, to secure confirmation of conditions by the Designer's Representative, and shall keep records on locations and quantities to deck repair and replacement.

3.04 INSTALLATION

- A. Erect metal decking in accordance with SDI Design Manual for Composite Decks, Form Decks, and Roof Decks.
- B. Bear decking on masonry support surfaces with 4-inch minimum bearing. Align and level.
- C. Bear decking on steel supports with 1-1/2 inch minimum bearing. Align and level.
- D. Fasten deck to steel support members at ends and intermediate supports with mechanical fasteners at twelve-(12) inches o/c maximum, parallel with the deck flute and at each transverse flute.
- E. Mechanically clinch/fasten male/female side laps at 24 inches o/c maximum.

- F. Reinforce steel deck openings from 6 to 18 inches in size with 3 x 3 x 1/4-inch steel angles. Place angles perpendicular to flutes; extend minimum two flutes beyond each side of opening and mechanically attach to deck at each flute.
- G. Install 6 inch minimum wide sheet steel cover plates, of same thickness as decking, where deck changes direction. Mechanical fasteners at 12 inches o/c maximum.
- H. Install sheet steel closures and angle flashings to close openings between deck and walls, columns, and openings.
- I. Install single row of foam flute closures above walls and partitions perpendicular to deck flutes.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnishing of and paying for all labor, materials, services, appliances and equipment necessary for the execution, installation and completion of all work specified herein and shown on the drawings.
- B. Work included: All metal fabrication items listed, but not necessarily limited to the following:
 - 1. Shop fabricated steel and aluminum items.
 - 2. Hot-dipped galvanized miscellaneous steel lintel angles and plates which support brick veneer and/or other exposed veneer surfaces.
 - 3. Miscellaneous steel channels, angles, tubing, pipes, clips, plates, and/or other miscellaneous steel members shown on drawings. All exterior steel members to be galvanized.
 - 4. Shop Painting and Field Touch-up Painting.

1.02 REFERENCES

- A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2012.
- B. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2015.
- C. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2013.
- D. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2013.
- E. ANSI A14.3 - American National Standard for Ladders -- Fixed -- Safety Requirements; 2008.
- F. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- G. ASTM A48/A48M - Standard Specification for Gray Iron Castings; 2003 (Reapproved 2012).
- H. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
- I. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- J. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- K. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless

- L. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2013.
- M. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2014.
- N. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2014.
- O. ASTM A325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength (Metric); 2014.
- P. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2013.
- Q. ASTM A501/A501M - Standard Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing; 2014.
- R. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- S. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2014.
- T. ASTM B26/B26M - Standard Specification for Aluminum-Alloy Sand Castings; 2014.
- U. ASTM B85/85M - Standard Specification for Aluminum-Alloy Die Castings; 2014.
- V. ASTM B177/B177M - Standard Guide for Engineering Chromium Electroplating; 2011.
- W. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- X. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2014.
- Y. ASTM B210 - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes; 2012.
- Z. ASTM B210M - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes (Metric); 2012.
- AA. ASTM B211 - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished

- AB. ASTM B211M - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold-Finished Bar, Rod, and Wire (Metric); 2012.
- AC. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- AD. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.
- AE. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2013. AF. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2012.
- AG. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015.
- AH. AWS D1.2/D1.2M - Structural Welding Code - Aluminum; 2008.
- AI. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel; International Accreditation Service, Inc; 2011.
- AJ. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; 1999 (Ed. 2004).
- AK. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).

1.03 SUBMITTALS

- A. Submit under provisions of Section 013000.
- B. Shop Drawings:
 - 1. Indicate profiles, sizes, connection attachments, anchorage, size and type of fasteners and accessories. Include erection drawings, elevations, and details where applicable.
 - 2. Indicate welded connections with AWS A2.0 welding symbols. Indicate net weld lengths.
- C. Manufacturer's Installation: Provide setting drawings, templates and directions for the installation of such devices.
- D. Welders Certificates: Submit as per Article 1.04.

1.04 QUALIFICATIONS

- A. Welders' Certificates: Submit under provisions of Section 013000, certifying welders employed on the work, verifying AWS qualification within the previous 12 months.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Delivery, store, protect and handle products to site under provisions of Section 01 6000.
- B. Delivery of materials to be installed under other sections:

1. Anchor bolts, embeds, inserts, sleeves, stair attachments steel security bar grating frames and other anchorage devices which are embedded in cast-in-place concrete or masonry construction shall be delivered to the project site in time to be installed before the start of concrete operations or masonry work.
- C. Storage of materials:
1. Steel members which are stored at the project site shall be above ground on platforms, skids or other supports.
 2. Steel shall be protected from corrosion.
 3. Other materials shall be stored in a weathertight and dry place until ready for use in the work.
 4. Packaged materials shall be stored in their original unbroken package or container.

1.06 FIELD MEASUREMENTS

- A. Verify exact field measurements.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Structural steel shapes shall meet ASTM A 36. All surfaces of exterior members are to be galvanized.
- B. Structural steel plates shall meet ASTM A 283, Grade C. All surfaces of exterior members are to be galvanized.
- C. Steel bolts and fastenings shall meet ASTM A 307, Grade A. All surfaces of exterior members are to be galvanized.
- D. Steel bars shall meet ASTM A 575. All surfaces of exterior members are to be galvanized.
- E. Hollow structural tubing shall meet ASTM A 36, A 500 and A 501. All surfaces of exterior members are to be galvanized.
- F. Steel pipe shall meet ASTM A 120 for standard weight (Schedule 40) pipe and ASTM A 53, Type E, Grade E. All surfaces of exterior members are to be galvanized.
- G. Aluminum extrusions shall meet ASTM B 211, temper best suited for purpose.
- H. Aluminum plates and sheets shall meet ASTM B209, temper best suited for purpose.
- I. Fastenings shall be stainless steel for exterior. Match adjacent material for interior. Stainless steel shall meet AISI 300 series. Exposed screws shall be Phillips flat head, countersunk. Use bolts for field connections only. Provide washers under heads and nuts. Draw all nuts tight and nick threads of permanent connections. Use beveled washers where bearing is on sloped surfaces. Where screws must be used for permanent connections in ferrous metal, use flat head type, countersunk, with screw slots filled and finished smooth and flush.
- J. Rough Hardware: Provide bent or otherwise custom fabricated bolts, plates, anchors, hangers, dowels and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete and other structures. Manufacture or fabricate items of sizes, shapes and dimensions required. Provide malleable iron washers for heads and nuts which bear on wood structural connections; elsewhere furnish steel washers.

- K. Loose Bearing and Leveling Plates: Provide loose bearing and leveling plates for steel items bearing on concrete construction, made flat, free from warps or twists, and of required thickness and bearing area. Drill plates to receive anchor bolts and for grouting as required. Galvanize after fabrication.
- L. Miscellaneous Framing and Supports: Provide miscellaneous framing and supports which are not part of structural steel framework, as required to complete the Work. Fabricate miscellaneous units to sizes, shapes and profiles shown; or, if not shown, of required dimensions to receive adjacent other work to be retained by framing. Fabricate the miscellaneous units from structural steel shapes, plates and steel bars of welded construction with mitered joints for field connection, unless otherwise shown. Cut, drill and tap units to receive hardware. Equip units with integrally welded anchors for casting into concrete or building into masonry, and furnish inserts if units must be installed after concrete is placed. Galvanize miscellaneous frames and supports where indicated, including all exterior steel members. All steel lintel angles and plates supporting Brick Veneer shall be hot-dipped galvanized 1.2 mil thickness.
- M. Primer used to touch up galvanized surfaces shall be manufacturer's standard or similar to ZRC Chemical Products Company of Quincy, Massachusetts, ZRC Cold Galvanizing Compound.

PART 3 EXECUTION

3.01 WORKMANSHIP

- A. Metal work shall be well formed to shape and size with sharp lines, angles, and arises. Shearing and punching shall leave clean, true lines and surfaces. Thickness of metal, details of metal, details of assembly and support shall give ample strength and stiffness for the intended purpose.
- B. Conceal fastenings where practicable. Form joints exposed to weather to exclude water. For permanent connections use welds where possible. Welds exposed to view shall be ground and dressed smooth. Provide lugs, clips, anchors and miscellaneous fastenings necessary for complete assembly and installation. Miter corners and angles of exposed moldings and frames.
- C. Grout frames, plates, sills, bolts and similar items with non-shrink grout as specified in Section 04 2000. Set railings and similar items shown or required to set in sleeves or cans with molten lead or quick setting anchor cement.
- D. Make trim in longest lengths possible, locate joints symmetrically. Fit adjacent pieces with hairline joints and aligned surfaces. Space exposed screws evenly and symmetrically.

3.02 PREPARATION FOR MISCELLANEOUS ITEMS

- A. Furnish setting drawings, diagrams, templates, instructions and directions for installation of anchorages, such as concrete inserts, anchor bolts and miscellaneous items having integral anchors, which are to be embedded in concrete construction. Coordinate delivery of such items to project site.

3.03 SETTING LOOSE PLATES

- A. Clean concrete bearing surfaces to any bond-reducing material and roughen to improve bond to surfaces. Clean the bottom surface of bearing plates. Set loose leveling and bearing plates on wedges or other adjustable devices. After the bearing members have been positioned and plumbed, tighten the anchor bolts. Do not remove wedges or shims; but if protruding, cut off

flush with the edge of the bearing plate before packing with grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.04 FASTENING TO IN-PLACE CONSTRUCTION

- A. Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction including threaded fasteners for concrete inserts, toggle bolts, through-bolts, lag bolts, wood screws and other connectors as required.

3.05 CUTTING, FITTING AND PLACEMENT

- A. Perform cutting, drilling and fitting required for installation of miscellaneous metal fabrications. Set work accurately in location, alignment and elevation, and make plumb, level, true and free from rack, measured from established lines and levels. Provide temporary bracing or anchors in formwork for items which are to be built into concrete or similar construction. Fit exposed connections accurately together to form tight hairline joints. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch up shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.

3.06 FIELD WELDING

- A. Comply with AWS code for procedures of manual shielded metal-arc welding, appearance and quality of weld made, and methods in correcting welding work.

3.07 PAINTING AND PROTECTIVE COATING

- A. All ferrous metal, except stainless steel and galvanized surfaces, shall be properly cleaned and given one shop coat of Zinc Rich primer. Anchors that are built into masonry shall be coated with asphalt paint unless specified to be galvanized. Metal work to be encased in concrete shall be left unpainted unless specified or noted otherwise. Where hot-dip galvanized or zinc-coated metal is specified or shown, it shall not be shop-primed unless specifically required.
- B. Hot-dip galvanizing or zinc coatings applied on products fabricated from rolled, pressed, and forged steel shapes, plates, bars and strips shall comply with ASTM Specification A 123. Hot-dip galvanizing or zinc coatings on assembled steel products shall comply with ASTM Specification A 386. Galvanized surfaces for which a coat of paint is specified shall be chemically treated to provide a bond for the paint. Except for bolts and nuts, all galvanizing shall be done after fabrication.

3.08 TOLERANCES FOR EXPOSED WORK

- A. Machine filed and shop assembled mechanical joints shall fit within 1/32". Install free-standing items to 1/4" of correct position. Items enclosed or recessed in finished surfaces shall be centered in openings unless detailed otherwise. Sizes of each element of an assembly shall be correct within 1/8". Total size of an enclosed assembly shall be correct within 1/4" clear of opening and not more than 1/8" all around. Total size of a free-standing assembly shall be correct within 1/2". No part of the hole shall show around screws or bolts, and no extra or unused holes shall show on faces of item.

3.09 PROTECTION AND TOUCH-UP PAINTING

- A. Protect miscellaneous metal items from damage until building is turned over to Owner. Immediately after erection, clean field welds, bolted connections and abraded areas of shop paint, and paint exposed areas with same material and thickness used for shop painting.

Remove all rust before repriming. Where touch-up is required, sand or steel wool primer coat to feather edge and brush out touch-up to provide a smooth finish surface ready for job painting.

3.10 CLEANING

- A. Before final inspection, remove all protective maskings and coverings and clean exposed surfaces of foreign matter. Clean to remove dirt, stains, soil marks and other matter. Aluminum shall be cleaned with plain water containing a mild soap or detergent, or white gasoline, kerosene or distillate. No abrasive agent shall be used on aluminum. At the completion of this work, remove from the site all excess materials and debris. Leave entire work area in a neat and workmanlike condition ready for final inspection.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnishing of and paying for all labor, materials, services, equipment and appliances necessary for the execution, installation and completion of all work specified herein and as shown on drawings.
- B. Section includes, but not inclusive:
 - 1. Receiving, storing and protection of all wood items specified herein or elsewhere in this specification.
 - 2. Furnish and install all Rough Carpentry Work, but not limited to the following:
 - a. Wood grounds, furring, blocking, wood framing, nailers, wood centering, plywood sheathing, etc., shown specified and required to complete all work required herein including all wood members associated with roof and flashing attachment.
 - b. Preservative and fire-retardant of wood member where required.
 - 3. Nails, clips, glue, spikes, screws, connectors, and anchors required for installation of all work.
 - 4. Other work associated with and required to complete all work specified herein.
 - 5. Reworking, relocating and replacing of normal carpentry items either interior or exterior within the existing building as may be required to return each item to a first class finish as originally installed due to work required under this contract.

1.02 REFERENCES

- A. American Society of Testing and Materials (ASTM):
 - 1. D-L-300
- B. Grading shall comply with latest editions and supplements of the American Lumber Standards and the Lumber Associations of Agencies which are applicable, including but not limited to the West Coast Lumberman's Association, Western Wood Products Association, Douglas Fir Plywood Association and Southern Pine Inspection Bureau.
- C. All lumber material shall be graded in accord with rules of and bear on each piece or bundle the Grade Mark of the grading association having jurisdiction.
- D. Wood Treatment:
 - 1. AWPA C-20 - Structural Lumber Fire Retardant Treatment by Pressure Processes.
 - 2. AWPA C-27 - Plywood, Fire Retardant Treatment by Pressure Processes.
 - 3. AWPA C-2 - P-5 - Preservative Standards.
- E. AWI - Architectural Woodwork Institute

1.03 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Shop Drawings
- C. Samples:
 - 1. Architect may request samples of all items proposed to be furnished and will remain in his possession until project is completed.

1.04 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 72 00.
- B. Submittals

1.05 QUALITY ASSURANCE

- A. Rough Carpentry Lumber: Visible grade stamp of agency certified by National Forest Products Association (NFPA).
- B. All Fire Treated Lumber must be identified with UL Label certifying to FS-5 rating.
- C. Where applicable, all exterior and interior woodwork exposed to view in finish building (except lumber yard or specialty items of flooring, shingles, exposed roof decking, ceiling, siding, structural roof trusses and rafters, and overhead-type doors including all exposed wood, plywood, plastic laminate) shall conform to Architectural Woodwork Institute (AWI) standard as specified herein.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.
- B. Deliver, store and handle all materials in manner to prevent damage, deterioration, and protection from the weather. Store minimum 6 inches above floor or ground with adequate ventilation space.
- C. Defer delivery to the job until the installation and storage areas are complete and dry of all wet-dry construction.
- D. Maintain relative humidity in storage areas not to exceed 60 percent. Millwork shall be stored in building approximately 7 days prior to installation with building temperature maintained between 50 to 70 degrees F.
- E. Protect all surfaces of millwork subject to damage while in transit.

1.07 FIELD MEASUREMENTS

- A. Verify that field measurements are as indicated on shop drawings.

1.08 COORDINATION

- A. Coordinate work under provisions of Section 01 39 00.
- B. Coordinate the work with plumbing and electrical rough-in.

PART 2 - PRODUCTS

2.01 ROUGH CARPENTRY MATERIALS

- A. Lumber: Graded in accordance with established grading rules; maximum moisture content of 19 percent.
 - 1. Blocking in wood stud walls for support and/or anchorage of devices requiring such to be 2 inch x 6 inch minimum wood blocking secured to studs in locations required. Grade to be #2MG-KD Southern Yellow Pine.

2. All other uses: #2MG-KD or better Southern Yellow Pine.
 3. Reference Para. 2.02 for Wood Treatment.
- B. Plywood: All plywood shall be APA trademark Fir or Yellow Pine with the following minimum requirements.
1. Roof Deck: 3/4 inch minimum thickness APA Rated Sheathing, 40/20 Span Rating and Exposure 1.
 2. Exterior General Use: APA Grade B-C plugged, Group 1, Exposure 1, fir or yellow pine plywood, thickness as noted or indicated on the drawings. To be B plugged face on exposed side.
- C. Nails, spikes, bolts, screws and similar items shall be furnished in kind and type noted on drawings or required to hold, draw, or secure members in place, or as follows if not noted:
1. Nails: Common wire, galvanized, aluminum or stainless per industry standard.
 2. Screws: Standard domestic manufacture, bright steel, except galvanized for exterior use or brass, bronze, aluminum or stainless steel when used to attach items made of those materials.
 3. Bolts: Standard mild steel, square head machine bolts with square nuts and malleable iron or steel plate washers or carriage bolts with square nuts and cut washers as indicated. Bolts, nuts and washers, wholly or partially exposed on exterior or to moisture, shall be galvanized.
 4. Joist Hangers: Size and profile to suit application, galvanized finish.

2.02 WOOD TREATMENT

- A. Fire Retardant: Chemically treated and pressure impregnated; capable of providing a maximum flame spread/fuel contribution/smoke development rating of 25 or less Dricon manufactured by Koppers Company, Inc.
1. Treated lumber is required for all wood blocking in wall as per Para. 2.01B.
- B. Wood Preservative: Pressure Treatment with Wolman CCA Wood Preservative treatment as manufactured by Koppers Co., Inc.
1. Treated lumber is required for all rough carpentry items to remain in place in contact with ground, concrete, masonry or roofing. (Lumber treated with creosote or asphaltic preservatives are not acceptable.)
- C. Wood Preservative: Not less than a three minute dip in a 5 percent solution of pentachlorophenol with water repellents added in accordance with NWWDA IS4-81.
1. Treated lumber is required for all exterior wood door frames and trim, window frames and trim, and exterior wood stile and rail doors.
- D. Moisture Content:
1. Lumber: Kiln dried to 19% maximum.
 2. Plywood: Kiln dried to 15% maximum.

PART 3 - EXECUTION

3.01 ROUGH CARPENTRY

- A. Treated Wood:
1. Provide pressure treated wood for all framing, blocking, furring, nailing strips, sills, built into or in contact with masonry, concrete or roofing.
 - a. When framing lumber on the job after treatment, all cut surfaces, bolt holes and machined areas shall be liberally brushed with the same preservative in accordance with AWPA Standard M-4.

- B. Continuous wood plates at sills, copings and in the area of the roof must be installed straight and level. Grout or otherwise shim to obtain required levels. Use lumber in lengths as long as practicable and bolt to substrate at 12" O.C. maximum.
- C. Wood employed to form curbs at roof expansion joints must be properly secured to the substrate in a straight line at the proper elevations above the roof insulation and bolted to the substrate at 12" O.C. maximum.
- D. All framing, blocking, grounds, screeds, etc., shall be cleanly cut and securely fastened by appropriate means and according to industry standards.

3.02 CLEANING

- A. Upon completion of the work of this section, remove from the premises all debris relating to the conduct of this portion of the work.

END OF SECTION

- B. Material Compatibility: Roofing materials shall be compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.

1.05 SUBMITTALS

- A. Submittals to be provided with Bid:
 - 1. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.
 - 2. Letter from the primary roofing manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified guarantee.
- B. Submittals to be provided after Contract Award:
 - 1. Submit under the provisions of Section 01 33 00.
 - 2. Product Data: Manufacturer's data sheets for each product to be provided.
 - 3. Detail Drawings: Provide roofing system plans, elevations, sections, details, and details attachment to other Work, including:
 - a. Base flashings and membrane terminations.
 - 4. Verification Samples: Provide for each product specified.
 - 5. Maintenance Data: Refer to latest published documents.
 - 6. Guarantees: Special guarantees specified in this Section.
 - 7. Manufacturer's Installation Instructions: Indicate special precautions required for seaming the membrane.
 - 8. Manufacturer's Certificate: Certify that products meet or exceed specified requirements and that materials furnished are compatible for the deck indicated, each one to the other and to related work.
 - 9. Applicator Certification: Submit as per Article 1.07.

1.06 QUALITY ASSURANCE

- A. Acceptable Products: Primary roofing products, including each type of sheet, all manufactured in the United States, shall be supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. The primary roofing products shall have maintained a consistent composition for a minimum of five years.
- B. Product Quality Assurance Program: Primary roofing materials shall be manufactured under a quality management system that is monitored regularly by a third party auditor under the ISO 9001 audit process. A certificate of analysis for reporting/confirming the tested values of the actual material being supplied for the project will be required prior to project close-out.
- C. This contractor must thoroughly read the entire specification to acquaint himself with any and all parts that may in any way affect his contract or the warranty requirements stated hereunder.
- D. All information and instructions contained in the current manufacturer's Roofing System Manual shall be considered a part of this specification as if written herein in full. Beginning of work by this contractor will acknowledge and constitute acceptance that the manufacturer's Roofing System Manual is complete and adequate to perform all work required by this roofing applicator.
- E. Prior to beginning application of roofing system, Architect must have received certification that the Roof Applicator has inspected the existing roofing system and approved, in writing, as acceptable for application of his complete roof system specified herein.

- F. At completion of work, the Roof Applicator and the Roofing Manufacturer must certify to the Architect, in writing, that the complete installation was installed in accord with their written instructions, thereby acceptable for roofing warranty stated herein. The Roofing Manufacturer representative must inspect and must approve the roof installation, in writing.
- G. Source Limitations: Obtain all components from the single source roofing system manufacturer guaranteeing the roofing system. All products used in the system shall be labeled by the single source roofing manufacturer issuing the guarantee.
- H. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
 - 2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.
- I. Acceptable Contractor: Contractor shall have a minimum of 2 years experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.
- J. Scope of Work: The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association, amended to include the acceptance of a phased roof system installation.
- K. Manufacturer Requirements: Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

1.07 PROJECT RECORD DOCUMENTS

- A. Comply with the provisions of Section 01 72 00
- B. Submittals
- C. Certifications

1.08 PROJECT WARRANTIES, OPERATION AND MAINTENANCE DATA

- A. Comply with the provisions of Section 01 72 50
- B. Maintenance Data
- C. Warranty (Article 1.13)

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Prior to delivery of any material to the job site, the Contractor must submit complete technical data, including shop drawings, and physical samples of the materials proposed for use to the Architect for written approval. The Architect will then accept or reject the submittal. The Contractor shall not start any installation work on any surface until his submittals have been approved by the Architect in writing.
- B. Deliver, store, protect and handle products to site.
- C. Deliver materials in manufacturer's original, unopened containers and rolls clearly labeled with manufacturer's name, brand name and such identifying numbers as are appropriate.
- D. Deliver materials requiring UL Fire Resistance Classification to the job site with UL labels attached and packaged as required by the labeling service.
- E. Deliver materials in sufficient quantity to allow continuity of work. Do not stack in concentrated area of roof. Phased construction will not be allowed.
- F. Remove wet materials from project site immediately. DO NOT USE.
- G. Cover all materials with waterproof tarpaulins. Do not use plastic coverings.
- H. Storage: Store materials out of direct exposure to the elements on pallets placed over clean, flat and dry surfaces. Storage of pallets over dirt, grass-covered ground or newly placed concrete may result in upward moisture transpiration and contamination of product. Store rolls of roofing on end. For roof-top storage, avoid overloading of deck and building structure. Factory packaging is not intended for job site protection. Slit factory packaging immediately upon arrival at the job site to prevent build-up of condensation and cover materials using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings shall not be used. Store flammable or temperature sensitive materials away from open flame, ignition sources or excessive heat.
- I. Store MBR Cement Activator in a heated area above 60 degrees F. since it will crystallize below this temperature.
- J. Handling: Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.
- K. Damaged Material: Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, and will require removal and replacement at the Contractor's expense.

1.10 PROJECT CONDITIONS

- A. Requirements Prior to Job Start
 - 1. Notification: Give a minimum of 5 days notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.
 - 2. Permits: Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.
 - 3. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

- B. Weather Limitations: Proceed with installation only when current and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and guarantee requirements.
- C. Environmental Requirements
1. Precipitation: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.
 2. Temperature Restrictions - cold adhesive: At low temperatures, the specified cold adhesive becomes more viscous, making even distribution more difficult. The optimal temperature of the adhesive at point of application is 70° - 100°F (21° - 38°C). To facilitate application when ambient temperatures are below 50°F (10°C), store the adhesive and roll goods in a warm place immediately prior to use. Bulk warmers, inline heaters, or other pre-heating equipment should be used to maintain the proper viscosity of the adhesive when using mechanical application equipment. Consider "flying in" the pre-cut roofing sheets in by placing them into the adhesive rather than rolling them into position. Roll or broom the sheets to ensure contact with the underlying adhesive. Suspend application in situations where the adhesive cannot be kept at temperatures allowing for even distribution.
 3. Temperature Restrictions - self-adhesive sheets: The minimum required substrate temperature at point of application is 40°F (4°C). Maintain a minimum roof membrane material temperature above 60° F (16° C). In low temperature conditions, keep materials warm prior to application. Consider using the specified tacky primer, required for vertical applications, in temperatures below 60° F (16° C) to facilitate proper bonding of self-adhered membrane for horizontal applications. The minimum ambient temperature range at the time of tacky primer application is 45°F to 105°F (7°C - 40°C). Suspend application in situations where the self-adhered base ply cannot be kept at temperatures allowing for proper adhesion.
- D. Protection Requirements
1. Membrane Protection: Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.
 2. Torch Safety: Crew members handling torches shall be trained by an Authorized Certified Roofing Torch Applicator (CERTA) Trainer, be certified according to CERTA torch safety guidelines as published by the National Roofing Contractor's Association (NRCA), and follow torch safety practices as required by the contractor's insurance carrier. Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas during roof construction activity, and for the minimum period required by CERTA guidelines after roofing material application has been suspended for the day.
 3. Limited Access: Prevent access by the public to materials, tools and equipment during the course of the project.
 4. Debris Removal: Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.
 5. Site Condition: Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

1.11 PRE-INSTALLATION CONFERENCE

- A. Conform to the provision of Section 01 39 00.
- B. Prior to commencing work of this section, the Contractor is to arrange a preinstallation conference with representatives of the Owner, Architect and Roofing Manufacturer.

- C. To review all specifications, details, and application requirements pertaining to the work and to establish mutual understanding of quality control processes and reporting standards.
- D. The purpose of this meeting shall be to answer any questions, discuss issues, and resolve potential problems associated with the project. At the conclusion of this meeting, the Contractor shall inspect all existing roof surfaces and notify the Architect in writing of any conditions or defects that will prevent the installation of his proposed roofing system.

1.12 WARRANTY

- A. Roof Membrane Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the manufacturer's twenty year labor and materials membrane guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and shall be issued at no additional cost to the Owner. This guarantee shall not exclude random areas of ponding from coverage.
 - 1. Siplast 20-year Roof Membrane/System Guarantee
- B. Installer's Guarantee: Submit roofing Installer's guarantee, signed by Installer, covering Work of this Section, including all components of roofing system, for the following guarantee period:
 - 1. Guarantee Period: Five Years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 DESCRIPTION OF SYSTEMS

- A. Roofing Membrane Assembly: A roof membrane assembly consisting of two plies of a prefabricated, reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane, applied over a prepared substrate. Reinforcement mats shall be impregnated/saturated and coated each side with SBS modified bitumen blend. The cross sectional area of the sheet material shall contain no oxidized or non-SBS modified bitumen. The roof system shall pass 500 cycles of ASTM D 5849 Resistance to Cyclic Joint Displacement (fatigue) at 14°F (-10°C). Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles. The roof system shall pass 200 cycles of ASTM D 5849 after heat conditioning performed in accordance with ASTM D 5147. The assembly shall possess waterproofing capability, such that a phased roof application, with only the modified bitumen base ply in place, can be achieved for prolonged periods of time without detriment to the watertight integrity of the entire roof system.
 - 1. Siplast Paradiene 20/30 FR roof system
 - a. Modified Bitumen Base and Stripping Ply
 - 1) Siplast Paradiene 20
 - b. Modified Bitumen Finish Ply
 - 1) Siplast Paradiene 30 FR
- B. Flashing Membrane Assembly: A flashing membrane assembly consisting of a prefabricated, reinforced, Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane with a continuous, channel-embossed metal-foil surfacing. The finish ply shall conform to ASTM D 6298 and the following physical and mechanical property requirements.
 - 1. Siplast Veral flashing system, aluminum finish
 - a. Cant Backing Sheet and Flashing Reinforcing Ply
 - 1) Siplast Paradiene 20 SA
 - b. Metal-Clad Modified Bitumen Flashing Sheet
 - 1) Siplast Veral Aluminum

- C. Catalyzed Acrylic Resin Flashing System: A specialty flashing system consisting of a PMMA-based, fully reinforced membrane installed over a prepared or primed substrate. The flashing system consists of a catalyzed acrylic resin primer, basecoat and topcoat, combined with a non-woven polyester fleece. The use of the specialty flashing system shall be specifically approved in advance by the membrane manufacturer for each application.
1. Parapro 123 Flashing System by Siplast; Irving, TX

* NOTE: Unistrut supports are not a suitable substrate for the Parapro 123 Flashing System. Any unistrut type penetration that is required to be incorporated into the roofing system should be replaced by a solid square or angle iron penetration with a fully welded plate.

- D. Substitute Roof Systems The following substitute roof systems are approved for use in lieu of the specified roof system.

1. Manufacturer
Tremco
Beachwood, OH

Base Ply - POWERply Premium Smooth
Finish Ply - POWERply Premium FR
Flashing Sheet - POWERply Premium FR
Stripping Ply and Flashing Reinforcing Sheet - POWERply Premium Smooth
Adhesive – POWERply Standard Cold Adhesive

2. Manufacturer
Garland
Cleveland, OH

Base Ply – Stressply Plus
Finish Ply - Stressply Plus FR Mineral
Flashing Sheet - Stressply FR Mineral
Stripping Ply and Flashing Reinforcing Sheet – Stressply Plus
Adhesive – POWERply Standard Cold Adhesive

2.02 ROOFING SYSTEM ASSEMBLY/PRODUCTS

- A. Gypsum Sheathing Panel: A panel composed of a gypsum based, non-structural water resistant core material integrally bonded with fiberglass mats on both sides. Provide panels having a nominal thickness of 1/2 inch. Acceptable types are as follows:
1. DensDeck Gypsum Roof Board, by Georgia Pacific Corporation; Atlanta, GA
- B. Gypsum Sheathing Panel/Thermal Barrier: A non-structural gypsum panel composed of fiber reinforced synthetic gypsum. Provide panels having a nominal thickness of 1/2 inch. Acceptable types are as follows:
1. SECUROCK by United States Gypsum; Chicago, IL

2.03 ROOFING ACCESSORIES

- A. Insulation Adhesives
1. Insulation Adhesive: A dual component, polyurethane foam adhesive used to adhere insulation panels to the substrate, as well as to other insulation panels.
 - a. Parafast Insulation Adhesive by Siplast; Irving, TX
- B. Roofing Adhesives
1. Membrane Cold Adhesive: An asphalt, solvent blend conforming to ASTM D 4479, Type II requirements.

- a. Siplast PA-311 R Adhesive by Siplast; Irving, TX
2. Mastic: An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D 4586 Type II requirements.
 - a. Siplast PA-1021 Plastic Cement by Siplast; Irving, TX
- C. Primers
 1. Primer: An asphalt, solvent blend conforming to ASTM D 41 requirements.
 - a. Siplast PA-1125 Asphalt Primer by Siplast; Irving, TX
 2. Primer for Self-Adhesive Sheets: A quick drying, low-VOC, water-based, high-tack primer specifically designed to promote adhesion of roofing and waterproofing sheets to approved substrates. Primer shall meet South Coast Air Quality District and Ozone Transport Commission requirements.
 - a. Siplast TA-119 Primer by Siplast; Irving, TX
- D. Sealant (horizontal substrates): A moisture-curing, self-levelling elastomeric sealant designed for roofing applications. The sealant shall be approved by the roof membrane manufacturer for use in conjunction with the roof membrane materials. Acceptable types are as follows:
 1. > Siplast PS-209 Elastomeric Sealant by Siplast; Irving, TX
- E. Sealant (vertical and sloped substrates): A moisture-curing, non-slump elastomeric sealant designed for roofing applications. The sealant shall be approved by the roof membrane manufacturer for use in conjunction with the roof membrane materials. Acceptable types are as follows:
 1. Siplast PS-715 NS Elastomeric Sealant by Siplast; Irving, TX
- F. Ceramic Granules: No. 11 grade specification ceramic granules of color scheme matching the granule surfacing of the finish ply.
- G. Perlite Cant Strips: A cant strip composed of expanded volcanic minerals combined with waterproofing binders. The top surface shall be pre-treated with an asphalt based coating. The face of the cant shall have a nominal 4 inch dimension.
- H. Fasteners
 1. Flashing Reinforcing Sheet Fasteners for Wood/Plywood Substrates to Receive Flashing Coverage: Fasteners shall be approved by the manufacturer of the primary roofing products. Acceptable fasteners for specific substrate types are listed below.
 - a) Wood/Plywood Substrates
 - 1) A 12 gauge, spiral or annular threaded shank, zinc coated steel roofing fastener having a minimum 1 inch head.
 - a. Simplex Cap Nail by Simplex Nails, Inc., Americus, GA
- I. Walktread: A prefabricated, puncture resistant polyester core reinforced, polymer modified bitumen sheet material topped with a ceramic-coated granule wearing surface.
 1. Paratread by Siplast; Irving, TX

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions for compliance with requirements affecting performance of roofing system.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Clean and remove from substrate sharp projections, dust, debris, moisture, and other substances detrimental to roofing installation in accordance with roofing system manufacturer's written instructions.
- B. Remove All Existing:
 - 1. Roof membrane
 - 2. Base flashings
 - 3. Edge metal
 - 4. Flanged metal flashings
 - 5. Cants
 - 6. Walkways
 - 7. Non functional penetrations/curbs
 - 8. Drain assemblies
 - 9. Metal trim, counterflashing
- C. Wet Areas. Remove any areas of the existing assembly where moisture is present and replace with compatible materials, bringing the area back to level with surrounding surfaces.
- D. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.
- F. Primer for Self-Adhesive Bituminous Membranes: Apply the specified tacky primer by roller or spray in an even film. Refer to the manufacturer's literature for the approved rate of application over various substrate types. Allow the primer to dry until it leaves a slightly sticky surface without transfer when touched.
- G. Asphaltic Primer: Prime metal and concrete and masonry surfaces with a uniform coating of the specified asphalt primer.

3.03 RE-COVER PREPARATION

- A. Prepare existing roof according to roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer, and requirements in this Section.
- B. Tear out all base flashings, counterflashings, pitch pans, pipe flashings, vents, sumps and like components necessary for application of new membrane.
- C. Disable existing roof membrane per manufacturer's written instruction.
- D. Remove existing membrane per manufacturer's written instructions.
- E. Remove and replace wet, deteriorated or damaged roof insulation and decking as identified in moisture survey.
- F. Remove abandoned equipment curbs, skylights, smoke hatches, and penetrations. Install decking to match existing as directed by Owner's Representative.
- G. Raise, (disconnect by licensed craftsmen, if necessary) all HVAC units and other equipment supported by curbs to conform with the following:
 - 1. Modify curbs as required to provide a minimum 8-inch base flashing height measured from the surface of the new membrane to the top of the flashing membrane.

2. Secure top of flashing and install new metal counterflashing prior to re-installation of unit.
 3. Perimeter nailers shall be elevated to match elevation of new roof insulation.
- H. Immediately remove all debris from roof surface. Demolished roof system may not be stored on the roof surface.

3.04 SUBSTRATE BOARD INSTALLATION

- A. Coordinate installing membrane roofing system components so cover board is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with membrane roofing system manufacturer's written instructions for installing roof cover board.
- C. Install substrate board with end joints offset; edges of the panels shall be in moderate contact without forcing applied in strict accordance with the insulation manufacturer's requirements and the following instructions. Maintain a maximum panel size of 4 feet by 4 feet for gypsum sheathing panels applied in insulation adhesive. Install only as much gypsum sheathing panels as can be made watertight within the same work day.
1. Single layer: Install gypsum sheathing panels an application of the specified insulation adhesive in 3/4- to 1-inch wide beads spaced 12 inches on center in the field of the roof, 6 inches on center at the perimeter of the roof, and 4 inches on center in the corners of the roof. Follow the requirements and guidelines of the insulation adhesive manufacturer/supplier. Stagger the panel joints between insulation layers.
- D. Trim surface of cover board where necessary at roof drains so completed surface is flush and does not restrict flow of water.
1. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.05 ROOFING MEMBRANE INSTALLATION, GENERAL

- A. Install roofing membrane in accordance with roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer and requirements in this Section.
- B. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.
- C. Where roof slope exceeds 1/2 inch per 12 inches (1:24, contact the membrane manufacturer for installation instructions regarding installation direction and backnailing
- D. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.
- E. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.
1. Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt with joints and edges sealed.
 2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
 3. Remove and discard temporary seals before beginning work on adjoining roofing.

- F. Substrate-Joint Penetrations: Prevent roofing asphalt from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
- G. Proceed with installation only after unsatisfactory conditions have been corrected.

3.06 SBS-MODIFIED BITUMINOUS MEMBRANE & FLASHING INSTALLATION

- A. Membrane Application: Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of roofing membrane components shall immediately follow application of base sheet and/or insulation as a continuous operation.
- B. Aesthetic Considerations: Construction of an aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials including granules, and exercise care in ensuring that the finished application is acceptable to the Owner.
- C. Membrane Adhesive Application: Membrane adhesive can be applied by roller, squeegee or spray unit. Apply cold adhesive in a smooth, even, continuous layer without breaks or voids. Utilize an application rate of 2 to 2 1/2 gal/sq (0.6 to 1.0 l/m²) over irregular or porous substrates. Utilize an application rate of 1 1/2 to 2 gal/sq (0.6 to 0.8 kg/m²) for interply applications. Double the adhesive application rate at the end laps of granule surfaced sheets. Refer to the manufacturer's inter-ply flashing detail at the locations that are to receive the specified catalyzed acrylic resin primer/flashing system.
- D. Bitumen Consistency: Cutting or alterations of bitumen, primer, and sealants will not be permitted.
- E. Roofing Application: Apply all layers of roofing free of wrinkles, creases or fishmouths. Exert sufficient pressure on the roll during application to ensure prevention of air pockets.
 - 1. Apply all layers of roofing perpendicular to the slope of the deck.
 - 2. Fully bond the base ply to the prepared substrate, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet.
 - 3. Fully bond the finish ply to the base ply, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Stagger end laps of the finish ply a minimum of 3 feet. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger side laps of the finish ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum of 3 feet from end laps in the underlying base ply.
 - 4. Heat weld all side and end laps of the modified bitumen plies during each day's application in areas where standing water accumulates.
 - 5. Maximum sheet lengths and special fastening of the specified roof membrane system may be required at various slope increments where the roof deck slope exceeds 1/2 inch per foot. The manufacturer shall provide acceptable sheet lengths and the required fastening schedule for all roofing sheet applications to applicable roof slopes.
- F. Granule Embedment: Broadcast mineral granules over all bitumen overruns on the finish ply surface, while the bitumen is still hot or the adhesive is soft, to ensure a monolithic surface color.

- G. Flashing Application: Cut the cant backing sheet into 12 inch widths and peel the release film from the back of the sheet. Set the sheet into place over the primed substrate extending 6 inches onto the field of the roof area and 6 inches up the vertical surface utilizing minimum 3 inch laps. Set the non-combustible cant into place dry prior to installation of the roof membrane base ply. Flash walls and curbs using the reinforcing sheet and the metal foil flashing membrane. After the base ply has been applied to the top of the cant, prime the base ply surfaces to receive the reinforcing sheet. Fully adhere the reinforcing sheet, utilizing minimum 3 inch side laps onto the primed base ply surface and up the primed wall or curb to the desired flashing height. After the final roofing ply has been applied to the top of the cant, prepare the surface area that is to receive flashing coverage by torch heating granular surfaces or by application of asphalt primer; allowing primer to dry thoroughly. Torch apply the metal foil-faced flashing into place using three foot widths (cut off the end of roll) always lapping the factory selvage edge. Stagger the laps of the metal foil flashing layer from lap seams in the reinforcing layer. Extend the flashing sheet a minimum of 4 inches beyond the toe of the cant onto the prepared surface of the finished roof and up the wall or curb to the desired flashing height. Exert pressure on the flashing sheet during application to ensure complete contact with the vertical/horizontal surfaces, preventing air pockets; this can be accomplished by using a damp sponge or shop rag. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9 inch centers. (See manufacturer's schematic for visual interpretation).
- H. Catalyzed Acrylic Resin Flashing System: Install the liquid-applied primer and flashing system in accordance with the membrane system manufacturer's printed installer's guidelines and other applicable written recommendations as provided by the manufacturer.
- I. Water Cut-Off: At end of day's work, or when precipitation is imminent, construct a water cut-off at all open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely removed prior to the resumption of roofing.

3.07 WALKWAY INSTALLATION

- A. Walkway Pads: Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size according to walkway pad manufacturer's written instructions.
- B. Walkway Cap Sheet Strips: Install roofing membrane walkway cap sheet strips over roofing membrane in cold-applied adhesive.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.08 FIELD QUALITY CONTROL

- A. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.
- B. Site Condition: Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.

3.09 FINAL TESTING

- A. All roofs shall be tested prior to acceptance by the Architect.
- B. Modified bitumen roofs shall be tested in the following manner:
After scuppers are plugged, roof shall be flooded to a minimum depth of two inches above the top of scuppers, but at no time shall it exceed a height of 2 inches below the top of any affected flashings including wall, plumbing, curb flashings, or the top of any vent or stack. Water shall

remain for a period of two hours. Each scupper shall then be allowed to drain its area, one area at a time, until the entire roof is drained.

3.10 FINAL INSPECTION

- A. Notification Of Completion: Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.
- B. Final Inspection
 - 1. Post-Installation Meeting: Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.
- C. Issuance Of The Guarantee: Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

3.11 PROTECTION AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period.
- B. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnishing of and paying for all labor, services, appliances, materials, equipment, etc. necessary for execution, installation and completion of all work specified herein and as shown on drawings.
- B. Section includes:
 - 1. Complete removal of existing roofing and flashing systems, lightweight concrete fill where indicated on drawings, insulation down to existing structural concrete and/or wood fiber roof deck with installment of new roofing system:
 - a. Modified bitumen sheet roofing systems including red rosin paper, base sheet, vapor barrier, base and tapered insulation, cover board, base membranes, base membrane flashings, mineral surface cap sheet, walkway treads, and their complete watertight installation for the modified bitumen sheet roofing.
 - b. Accessories, devices, expansion bellows, covers, anchors, shims, strips, and fasteners required to complete the above work in a first class workmanship manner.

1.02 SYSTEM DESCRIPTION

- A. Project Type: Complete tear off, reroof
- B. Deck: Concrete/Wood Fiber/Tectum Slope: Approximately 1/8 inch to 1/4 inch +/-
- C. Existing Assembly: Modified bitumen roof system applied over perlite insulation. Remove roof membrane, base flashings, lightweight concrete fill and insulation down to existing structural roof deck.
- D. Cover Board: DensDeck Prime, having a thickness of 1/2 inch, applied in Parafast Insulation Adhesive.
- E. Roof System: Paradiene 20, applied in ASTM D312, Type IV Hot Asphalt

Paradiene 30 FR, applied in PA-311 R Cold Adhesive
- F. Flashing System: Veral Aluminum, torch applied.

1.03 REFERENCES

- A. Roofing Terminology: Refer to the following publications for definitions of roofing work related terms in this Section:
 - 1. ASTM D 1079 "Terminology Relating to Roofing and Waterproofing."
 - 2. Glossary of NRCA's "The NRCA Roofing and Waterproofing Manual."
 - 3. Roof Consultants Institute "Glossary of Roofing Terms" for definition of terms related to roofing work in this Section.
- B. Sheet Metal Terminology and Techniques: SMACNA Architectural Sheet Metal Manual.

1.04 DESIGN CRITERIA

- A. General: Installed roofing membrane system shall remain watertight; and resist specified wind uplift pressures, thermally induced movement, and exposure to weather without failure.

- B. Material Compatibility: Roofing materials shall be compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.

1.05 SUBMITTALS

- A. Submittals to be provided with Bid:
1. Letter from the proposed primary roofing manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.
 2. Letter from the primary roofing manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified guarantee.
- B. Submittals to be provided after Contract Award:
1. Submit under the provisions of Section 01 33 00.
 2. Product Data: Manufacturer's data sheets for each product to be provided.
 3. Detail Drawings: Provide roofing system plans, elevations, sections, details, and details attachment to other Work, including:
 - a. Base flashings and membrane terminations.
 4. Verification Samples: Provide for each product specified.
 5. Maintenance Data: Refer to latest published documents.
 6. Guarantees: Special guarantees specified in this Section.
 7. Manufacturer's Installation Instructions: Indicate special precautions required for seaming the membrane.
 8. Manufacturer's Certificate: Certify that products meet or exceed specified requirements and that materials furnished are compatible for the deck indicated, each one to the other and to related work.
 9. Applicator Certification: Submit as per Article 1.07.

1.06 QUALITY ASSURANCE

- A. Acceptable Products: Primary roofing products, including each type of sheet, all manufactured in the United States, shall be supplied by a single manufacturer which has been successfully producing the specified types of primary products for not less than 10 years. The primary roofing products shall have maintained a consistent composition for a minimum of five years.
- B. Product Quality Assurance Program: Primary roofing materials shall be manufactured under a quality management system that is monitored regularly by a third party auditor under the ISO 9001 audit process. A certificate of analysis for reporting/confirming the tested values of the actual material being supplied for the project will be required prior to project close-out.
- C. This contractor must thoroughly read the entire specification to acquaint himself with any and all parts that may in any way affect his contract or the warranty requirements stated hereunder.
- D. All information and instructions contained in the current manufacturer's Roofing System Manual shall be considered a part of this specification as if written herein in full. Beginning of work by this contractor will acknowledge and constitute acceptance that the manufacturer's Roofing System Manual is complete and adequate to perform all work required by this roofing applicator.
- E. Prior to beginning application of roofing system, Architect must have received certification that the Roof Applicator has inspected the existing roofing system and approved, in writing, as acceptable for application of his complete roof system specified herein.

- F. At completion of work, the Roof Applicator and the Roofing Manufacturer must certify to the Architect, in writing, that the complete installation was installed in accord with their written instructions, thereby acceptable for roofing warranty stated herein. The Roofing Manufacturer representative must inspect and must approve the roof installation, in writing.
- G. Source Limitations: Obtain all components from the single source roofing system manufacturer guaranteeing the roofing system. All products used in the system shall be labeled by the single source roofing manufacturer issuing the guarantee.
- H. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
 - 2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.
- I. Acceptable Contractor: Contractor shall have a minimum of 2 years experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.
- J. Scope of Work: The work to be performed under this specification shall include but is not limited to the following: Attend necessary job meetings and furnish competent and full time supervision, experienced roof mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the roof installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary roofing products. In addition, application practice shall comply with requirements and recommendations contained in the latest edition of the Handbook of Accepted Roofing Knowledge (HARK) as published by the National Roofing Contractor's Association, amended to include the acceptance of a phased roof system installation.
- K. Manufacturer Requirements: Ensure that the primary roofing materials manufacturer provides direct trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conducts a final inspection upon successful completion of the project.

1.07 PROJECT RECORD DOCUMENTS

- A. Comply with the provisions of Section 01 72 00
- B. Submittals
- C. Certifications

1.08 PROJECT WARRANTIES, OPERATION AND MAINTENANCE DATA

- A. Comply with the provisions of Section 01 72 50
- B. Maintenance Data
- C. Warranty (Article 1.13)

1.09 DELIVERY, STORAGE, AND HANDLING

- A. Prior to delivery of any material to the job site, the Contractor must submit complete technical data, including shop drawings, and physical samples of the materials proposed for use to the Architect for written approval. The Architect will then accept or reject the submittal. The Contractor shall not start any installation work on any surface until his submittals have been approved by the Architect in writing.
- B. Deliver, store, protect and handle products to site.
- C. Deliver materials in manufacturer's original, unopened containers and rolls clearly labeled with manufacturer's name, brand name and such identifying numbers as are appropriate.
- D. Deliver materials requiring UL Fire Resistance Classification to the job site with UL labels attached and packaged as required by the labeling service.
- E. Deliver materials in sufficient quantity to allow continuity of work. Do not stack in concentrated area of roof. Phased construction will not be allowed.
- F. Remove wet materials from project site immediately. DO NOT USE.
- G. Cover all materials with waterproof tarpaulins. Do not use plastic coverings.
- H. Storage: Store materials out of direct exposure to the elements on pallets placed over clean, flat and dry surfaces. Storage of pallets over dirt, grass-covered ground or newly placed concrete may result in upward moisture transpiration and contamination of product. Store rolls of roofing on end. For roof-top storage, avoid overloading of deck and building structure. Factory packaging is not intended for job site protection. Slit factory packaging immediately upon arrival at the job site to prevent build-up of condensation and cover materials using a breathable cover such as a canvas. Polyethylene or other non-breathable plastic coverings shall not be used. Store flammable or temperature sensitive materials away from open flame, ignition sources or excessive heat.
- I. Store MBR Cement Activator in a heated area above 60 degrees F. since it will crystallize below this temperature.
- J. Handling: Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.
- K. Damaged Material: Any materials that are found to be damaged or stored in any manner other than stated above will be automatically rejected, and will require removal and replacement at the Contractor's expense.

1.10 PROJECT CONDITIONS

- A. Requirements Prior to Job Start
 - 1. Notification: Give a minimum of 5 days notice to the Owner and manufacturer prior to commencing any work and notify both parties on a daily basis of any change in work schedule.
 - 2. Permits: Obtain all permits required by local agencies and pay all fees which may be required for the performance of the work.
 - 3. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA and other industry or local governmental groups.

- B. Weather Limitations: Proceed with installation only when current and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and guarantee requirements.
- C. Environmental Requirements
1. Precipitation: Do not apply roofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied roofing, and building interiors are protected from possible moisture damage or contamination.
 2. Temperature Restrictions - cold adhesive: At low temperatures, the specified cold adhesive becomes more viscous, making even distribution more difficult. The optimal temperature of the adhesive at point of application is 70° - 100°F (21° - 38°C). To facilitate application when ambient temperatures are below 50°F (10°C), store the adhesive and roll goods in a warm place immediately prior to use. Bulk warmers, inline heaters, or other pre-heating equipment should be used to maintain the proper viscosity of the adhesive when using mechanical application equipment. Consider "flying in" the pre-cut roofing sheets in by placing them into the adhesive rather than rolling them into position. Roll or broom the sheets to ensure contact with the underlying adhesive. Suspend application in situations where the adhesive cannot be kept at temperatures allowing for even distribution.
 3. Temperature Restrictions - self-adhesive sheets: The minimum required substrate temperature at point of application is 40°F (4°C). Maintain a minimum roof membrane material temperature above 60° F (16° C). In low temperature conditions, keep materials warm prior to application. Consider using the specified tacky primer, required for vertical applications, in temperatures below 60° F (16° C) to facilitate proper bonding of self-adhered membrane for horizontal applications. The minimum ambient temperature range at the time of tacky primer application is 45°F to 105°F (7°C - 40°C). Suspend application in situations where the self-adhered base ply cannot be kept at temperatures allowing for proper adhesion.
- D. Protection Requirements
1. Membrane Protection: Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.
 2. Torch Safety: Crew members handling torches shall be trained by an Authorized Certified Roofing Torch Applicator (CERTA) Trainer, be certified according to CERTA torch safety guidelines as published by the National Roofing Contractor's Association (NRCA), and follow torch safety practices as required by the contractor's insurance carrier. Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas during roof construction activity, and for the minimum period required by CERTA guidelines after roofing material application has been suspended for the day.
 3. Limited Access: Prevent access by the public to materials, tools and equipment during the course of the project.
 4. Debris Removal: Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.
 5. Site Condition: Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

1.11 PRE-INSTALLATION CONFERENCE

- A. Conform to the provision of Section 01 39 00.
- B. Prior to commencing work of this section, the Contractor is to arrange a preinstallation conference with representatives of the Owner, Architect and Roofing Manufacturer.

- C. To review all specifications, details, and application requirements pertaining to the work and to establish mutual understanding of quality control processes and reporting standards.
- D. The purpose of this meeting shall be to answer any questions, discuss issues, and resolve potential problems associated with the project. At the conclusion of this meeting, the Contractor shall inspect all existing roof surfaces and notify the Architect in writing of any conditions or defects that will prevent the installation of his proposed roofing system.

1.12 WARRANTY

- A. Roof Membrane Guarantee: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the manufacturer's twenty year labor and materials membrane guarantee. The guarantee shall be a term type, without deductibles or limitations on coverage amount, and shall be issued at no additional cost to the Owner. This guarantee shall not exclude random areas of ponding from coverage.
 - 1. Siplast 20-year Roof Membrane/System Guarantee
- B. Installer's Guarantee: Submit roofing Installer's guarantee, signed by Installer, covering Work of this Section, including all components of roofing system, for the following guarantee period:
 - 1. Guarantee Period: Five Years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturer: A roof system by the following manufacturer is approved for application.
 - 1. Siplast, Inc.
- B. Equivalent systems manufactured by Tremco or Garland will be accepted only with prior approval prior to bid opening. No other substitutions will be accepted.

2.02 DESCRIPTION OF SYSTEMS

- A. Base Ply: An ASTM D6163, Type I, Grade S homogenous membrane with a glass-fiber reinforcing mat impregnated/saturated and coated each side with SBS modified bitumen blend and dusted with a fine silica parting agent on both sides. The cross sectional area of the sheet material shall contain no oxidized or non-SBS modified bitumen. The base ply shall possess waterproofing capability, such that a phased roof application can be achieved for prolonged periods of time without detriment to the watertight integrity of the entire roof system and possess the following physical/mechanical properties.
 - 1. Thickness (avg): 91 mils (2.3 mm) (ASTM D5147)
 - 2. Thickness (min): 87 mils (2.2 mm) (ASTM D5147)
 - 3. Weight (min per 100 ft² of coverage): 62 lb (3.0 kg/m²)
 - 4. Peak filler content in elastomeric blend - 35% by weight
 - 5. Low temperature flexibility @ -15°F (-26°C): PASS (ASTM D5147)
 - 6. Peak Load (avg) @ 73°F (23°C): 30 lbf/inch (5.3 kN/m) (ASTM D5147)
 - 7. Peak Load (avg) @ 0°F (-18°C): 70 lbf/inch (12.3 kN/m) (ASTM D5147)
 - 8. Ultimate Elongation (avg.) @ 73°F (23°C): 50% (ASTM D5147)
 - 9. Compound Stability (max): 0.1% (ASTM D5147)
 - 10. High Temperature Stability (min): 250°F (121°C) (ASTM D5147)

Paradiene 20 by Siplast, Inc.

- B. Finish Ply: An ASTM D6163, Type I, Grade G homogenous membrane with a glass-fiber reinforcing mat impregnated/saturated and coated each side with SBS modified bitumen blend and dusted with a fine silica parting agent on bottom surface and a coarse mineral-granule top surfacing. The cross sectional area of the sheet material shall contain no oxidized or non-SBS modified bitumen.
1. Thickness (avg): 130 mils (3.3 mm) (ASTM D5147)
 2. Thickness at selvage (coating thickness) (avg): 98 mils (2.5 mm) (ASTM D5147)
 3. Thickness at selvage (coating thickness) (min): 94 mils (2.4 mm) (ASTM D5147)
 4. Weight (min per 100 ft² of coverage): 90 lb (4.4 kg/m²)
 5. Peak filler content in elastomeric blend: 35% by weight
 6. Low temperature flexibility @ -15° F (-26° C): PASS (ASTM D5147)
 7. Peak Load (avg) @ 73°F (23°C): 30 lbf/inch (5.3 kN/m) (ASTM D5147)
 8. Peak Load (avg) @ 0°F (-18°C): 75 lbf/inch (13.2 kN/m) (ASTM D5147)
 9. Ultimate Elongation (avg.) @ 73°F (23°C): 55% (ASTM D5147)
 10. Compound Stability (max): 0.1% (ASTM D5147)
 11. High Temperature Stability (min): 250°F (121° C) (ASTM D5147)
 12. Granule Embedment (max loss): 2.0 grams per sample (ASTM D5147)
 13. Approvals: UL Class listed, FM Approved (products shall bear seals of approval)
 14. Reinforcement: fiberglass mat or other meeting the performance and Compound stability criteria
 15. Surfacing: ceramic granules

Paradiene 30 FR by Siplast, Inc.

2.03 BASE FLASHING SHEET MATERIALS

- A. Flashing Reinforcing Ply and Cant Backer: An ASTM D6163, Type I, Grade S homogenous membrane with a glass-fiber reinforcing mat impregnated/saturated and coated each side with SBS modified bitumen blend with a factory applied polymer modified asphalt self-adhesive on the back surface of the sheet to provide full adhesion to the total surface area of the substrate. The back side of the base ply shall be surfaced with a removable film.
1. Paradiene 20 SA by Siplast, Inc.
- B. Metal-Foil-Surfaced Flashing Sheet: ASTM D6298 homogenous membrane with a glass-fiber reinforcing mat impregnated/saturated and coated each side with the SBS modified bitumen blend, dusted with a fine silica parting agent on bottom surface and having a continuous, channel-embossed aluminum-foil top surface.
2. Veral Aluminum by Siplast, Inc.
- C. Liquid Flashing System: The specified liquid flashing system shall consist of a catalyzed PMMA-based membrane fully reinforced with a non-woven polyester fleece that is installed over a prepared substrate.
1. Parapro 123 Flashing by Siplast, Inc.

2.04 PRIMERS

- A. Asphalt Primer: Primer shall meet ASTM D41 criteria.
1. PA-1125 Asphalt Primer by Siplast, Inc.
- B. Primer for Self-Adhesive Membranes: Primer for self-adhesive membranes shall be a single component, water-based resinous primer formulated to condition masonry, wood, plywood, concrete, asphaltic, and gypsum surfaces to facilitate adhesion of self-adhesive membranes.

2. TA-119 Primer by Siplast, Inc.

2.05 AUXILIARY ROOFING MATERIALS

- A. Roofing Asphalt: ASTM D312, Type IV.
- B. Red Rosin Paper: Multi-Purpose Building Paper, single ply sheathing paper manufactured from 100 percent recycled fibers set in alum to resist bleeding.
- C. Cold-Applied Asphalt Adhesive: An asphalt, solvent blend conforming to ASTM D4479, Type II requirements.
 1. PA-311 R Adhesive by Siplast, Inc.
- D. Asphalt Roofing Cement: An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D4586 Type II requirements.
 1. PA-1021 Plastic Cement by Siplast, Inc.
- E. Sealant: A moisture-curing, self-leveling elastomeric sealant designed for roofing applications.
 1. PS-209 Elastomeric Sealant
- F. Sealant: A moisture-curing, non-slumping elastomeric sealant designed for roofing applications.
 1. PS-715 NS Elastomeric Sealant
- G. Ceramic Granules: No. 11 grade specification ceramic granules of color scheme matching the granule surfacing of the finish ply.

2.06 VAPOR RETARDER (CONCRETE DECK ONLY)

- A. Self-Adhering Sheet Vapor Retarder: ASTM D1970 polyethylene film laminated to layer of rubberized asphalt adhesive with a slip-resisting surface and release paper backing, having a minimum thickness of 31-mil- (0.78-mm-) and a maximum permeance rating of 0.03 perm.
 1. Siplast SA Vapor Retarder by Siplast, Inc.

2.07 BASE SHEET FOR NAILABLE SUBSTRATES (WOOD FIBER/TECTUM DECK ONLY)

- A. Base Sheet: A fiberglass reinforced, asphalt coated sheet with a polyolefin film backing, having a minimum weight of 20 lb/sq. The sheet shall conform to ASTM D 4601, Type II requirements.
 1. Parabase FS by Siplast, Inc.

2.08 ROOF INSULATION

- A. General: Insulation shall be approved in writing by the insulation manufacturer for intended use and for use with the specified roof assembly. Maintain a maximum panel size of 4 feet by 4 feet where polyisocyanurate / fiberboard insulation is specified to be installed in insulation adhesive or hot asphalt. Install only as much insulation as can be made watertight during the same work day.
- B. Polyisocyanurate Board Insulation (organic paper facer): A closed cell, rigid polyisocyanurate foam core material, integrally laminated between glass fiber reinforced organic facers, and meeting the criteria established by ASTM C1289, Type II, Class 1, Grade 2.
 2. Panels shall have a nominal thickness of 2.2 inches. Acceptable types are as follows:

1. Paratherm by Siplast, Inc.
- C. Tapered Polyisocyanurate Board Insulation (organic paper facer): A closed cell, rigid polyisocyanurate foam core material, integrally laminated between glass fiber reinforced organic facers, and meeting the criteria established by ASTM C1289, Type II, Class 1, Grade 2. The tapered system shall incorporate fill panels of a nominal thickness and provide for a roof slope as indicated on the drawings. Acceptable types are as follows:
 1. Tapered Paratherm system by Siplast, Inc.

2.09 INSULATION COVER PANEL

- A. Gypsum Sheathing Panel: A panel composed of a gypsum based, non-structural water resistant core material integrally bonded with fiberglass mats on both sides. Provide panels having a nominal thickness of 1/2 inch. Acceptable types are as follows:
 1. DensDeck Prime Gypsum Roof Board, by Georgia Pacific Corporation

2.10 INSULATION ACCESSORIES

- A. Insulation Cant Strips: A cant strip composed of expanded volcanic minerals combined with waterproofing binders, meeting ASTM C728 criteria. The top surface shall be pre-treated with an asphalt based coating. The face of the cant shall have a nominal 4 inch dimension.
- B. Tapered Edge Strips: A tapered panel composed of expanded volcanic minerals combined with waterproofing binders. The top surface shall be pre-treated with an asphalt based coating. The panels shall have a dimension sufficient to provide for a smooth transition and provide proper support for the membrane layer or subsequent layer of insulation when there are transitions of 1/4 inch or greater.

2.11 WALKWAYS

- A. Walktread: A granule-surfaced polymer modified bitumen sheet material reinforced with a prefabricated, puncture resistant polyester core, having a thickness of 0.217 in (5.5 mm) and a width of 30 inches (76.2 cm).
 1. Paratread by Siplast, Inc.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Substrate Qualification: The installing contractor shall examine all substrates where the specified roofing and flashing system will be applied and confirm their suitability to receive the specified roofing materials.

3.02 PREPARATION

- A. Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to commencement of roofing.
- B. Remove all of the following existing conditions:
 1. Surface gravel
 2. Roof membrane
 3. Insulation
 4. Base flashings
 5. Edge metal

6. Flanged metal flashings
 7. Cants
 8. Walkways
 9. Nonfunctional penetrations/curbs
 10. Drain assemblies
 11. Vapor retarder
 12. Metal trim, counter flashing
- C. Primer for Self-Adhesive Flashing Reinforcing Ply: Apply the specified tacky primer by roller or spray in an even film. Refer to the manufacturer's literature for the approved rate of application over various substrate types. Allow the primer to dry until it leaves a slightly sticky surface without transfer when touched. Cutting or alteration of the primer is not permitted.
- D. Asphaltic Primer: Prime metal and concrete and masonry surfaces with a uniform coating of the specified asphalt primer according to the manufacturer's published application rate. Cutting or alteration of the primer is not permitted.

3.03 INSTALLATION OF ROOFING, GENERAL GUIDELINES

- A. Asphalt Heating and Application: Do not heat asphalt to or above its flash point. Avoid heating at or above the FBT, should conditions make this impractical, heating must be no more than 25°F below the EVT and no more than 25°F above EVT. Follow the asphalt manufacturer's published maximum heating temperature and minimum application temperature guidelines. Ensure that all moppings do not exceed a maximum of 25 lb/sq. Mopping shall be total in coverage, leaving no breaks or voids.
- B. Adhesive Application: Apply membrane cold adhesive by roller, squeegee or spray unit in a smooth, even, continuous layer without breaks or voids. Utilize an application rate for each ply as published by the roof membrane manufacturer. Double the adhesive application rate at the end laps of granule surfaced sheets. Where solvent-based adhesive is applied, refer to the manufacturer's inter-ply flashing detail at the locations that are to receive the specified catalyzed acrylic resin primer/flashing system. Cutting or alteration of the adhesive is not permitted.
- C. General Appearance: Ensure that the finished roofing application has an aesthetically pleasing overall appearance and is acceptable to the Owner.

3.04 INSTALLATION OF VAPOR RETARDER (CONCRETE DECK ONLY)

- A. Apply the ply sheets in the specified hot asphalt directly to the prepared substrate, lapping sides and ends a minimum of 3 inches. Apply the sheets free of wrinkles, creases or fishmouths and exert sufficient pressure on the roll during application to ensure the prevention of air pockets. Seal each penetration and termination using fiberglass tape and the specified plastic cement to ensure that the temporary roof configuration is completely water-tight.

3.05 INSTALLATION OF BASE SHEET (WOOD FIBER/TECTUM DECK ONLY)

- A. Lay the base sheet over entire area to be roofed, lapping sides 3 inches and ends 6 inches. Using the specified fasteners, fasten each sheet every 7.5 inches through laps and stagger fasten the remainder of the sheet in 2 equally spaced rows with fasteners in each row on 10 inch centers. Increase the fastening pattern by 70% at the perimeter of the roof and 160% at the corners.

3.06 INSTALLATION OF INSULATION AND COVERBOARD

- A. Install insulation panels with end joints offset with edges in moderate contact in accordance

with the insulation manufacturer's requirements. Where insulation is installed in two or more layers, stagger joints between layers. Maintain a maximum panel size of 4 feet by 4 feet for polyisocyanurate / fiberboard insulation applied in insulation adhesive or hot asphalt. Install only as much insulation as can be made watertight within the same work day.

- B. Crickets: Construct crickets of tapered insulation panels in a layout as indicated on the roof plan.
- C. Tapered Edge at Transitions: Field-cut, shape and install tapered edge strip at transitions of 1/4 inch or greater between substrate components to provide a smooth transition and proper support for the subsequent insulation layer or membrane/flashing system components.
- D. Insulation - multiple layer: Install all layers in a solid mopping of hot asphalt. Stagger the panel joints between insulation layers.

3.07 APPLICATION OF BITUMINOUS ROOFING MEMBRANE

- A. Apply all layers of roofing with side laps running **perpendicular** to the direction of the slope. Exert sufficient pressure on the roll during application to ensure prevention of air pockets, wrinkles, creases or fishmouths. Refer to the manufacturer's guidelines for maximum sheet lengths and special fastening of the head laps where the roof deck slope exceeds 1/2 inch per foot.
- B. Fully bond the base ply to the prepared substrate, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the hot asphalt applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet.
- C. Fully bond the finish ply to the base ply, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Apply the adhesive in a full coating, extending completely up to the selvage edge of the adjacent course of roof membrane to be overlapped, taking care to keep the adhesive off of the selvage lap that will be heat welded. Place a straight 2"x 6" or larger board adjacent to the modified bitumen sheet overlap to help reduce lifting of the overlapping sheet beyond the selvage area, inhibiting the potential for entrapped air during heat welding. Lay the board such that the hand held welder nozzle does not extend into the overlap beyond the specified lap width. Hand-roll the side laps, head laps, and T-laps of the membrane behind the heat welder. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet. Stagger side laps of the finish ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum 3 feet from end laps in the underlying base ply.

3.08 APPLICATION OF FLASHING AND STRIPPING

- A. Modified Bitumen Flashing System: Apply the specified base flashing materials in accordance with the manufacturer's standard details. Notify the design team immediately of any flashing heights below 8 inches. For torch applied base flashings, apply a 12-inch self-adhesive cant backing sheet extending 6 inches onto the field of the roof area and a minimum of 6 inches up the vertical surface utilizing minimum 3 inch laps. Set the non-combustible cant into place dry prior to installation of the roof membrane base ply and subsequent flashing system. Flash walls and curbs using the reinforcing sheet and flashing membrane. Exert pressure using a neoprene roller on the flashing sheet during application to ensure complete contact with the vertical/horizontal surfaces, preventing air pockets. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9 inch centers. (See the manufacturer's schematic for visual interpretation).

- B. Liquid Flashing System: Install the specified liquid-applied flashing system in accordance with the membrane system manufacturer's printed installer's guidelines and other applicable written recommendations as provided by the manufacturer.

3.09 APPLICATION OF SEALANT

- A. Apply a smooth continuous bead of the specified sealant at the exposed finish ply edge transition to metal flashings incorporated into the roof system.

3.10 APPLICATION OF WALKTREAD

- A. Cut the specified walktread into maximum 5 foot lengths and allow to relax until flat. Adhere the sheet using the specified plastic cement. Apply the specified cement in a 3/8 inch thickness to the back of the product in 5 inch by 5 inch spots in accordance with the pattern as supplied by the walktread manufacturer. Walk-in each sheet after application to ensure proper adhesion. Use a minimum spacing of 2 inches between sheets to allow for proper drainage.

3.11 FIELD QUALITY CONTROL

- A. Notify the manufacturer of job completion in order to schedule a final inspection date. Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the manufacturer's representative. Complete, sign, and send the punch list form to the manufacturer's headquarters.
- B. Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.
- C. Complete all post installation procedures and meet the manufacturer's requirements for issuance of the specified guarantee.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnishing of and paying for all labor, materials, services, appliances and equipment necessary for the execution, installation and completion of all work specified herein and as shown on the drawings.
- B. Section includes:
 - 1. Stainless steel flashing generally defined as, but not limited to: roof flashing at wall parapet surfaces, scuppers, gravel guards and miscellaneous stainless steel trim and other flashing.
 - 2. Reglets and flashing receiving members required to complete this work.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. A167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip
 - 2. A525 - Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the hot dip process.
 - 3. B32 - Solder Metal
 - 4. D226 - Asphalt Saturated Organic Felt Used in Roofing and Waterproofing
 - 5. D2822 - Asphalt Roof Cement
- B. Federal Specifications (FS)
 - 1. FS 0-F-506
 - 2. FS TT-C-494
- C. SMACNA Manual is "The Architectural Sheet Metal Manual" as published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (Latest Edition).

1.03 SYSTEM DESCRIPTION

- A. Work of this Section is to physically protect base flashing from damage that would permit water leakage to building interior.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Shop drawings: Indicate thickness and dimensions of parts, fastenings and anchoring methods, details and locations of seams and joints including those necessary to accommodate thermal movements of steel.
- C. Product Data: Provide data on shape of components, materials and finishes, anchor types and location.

1.05 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 78 01.

1.06 QUALIFICATIONS

- A. Applicator: Company specializing in fabrication and installation of sheet metal flashing work with 3 years minimum experience.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products per manufacturer's recommendations.
- B. Stack preformed material to prevent twisting, bending, or abrasion, and to provide ventilation.
- C. Prevent contact with materials during storage which may cause discoloration, staining, or damage.
- D. Avoid overloading roof with stored materials.
- E. Do not permit material storage or traffic on completed roof surfaces.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Stainless steel sheet and strip: ASTM A167, Type 304 .0313 (22 gauge) thickness with AISI 2D finish, dead soft, fully annealed.
- B. Galvanized Steel: ASTM A525, G90 22 gauge core steel.
- C. Aluminum Sheets: ASTM B209, 3003-H14

2.02 ACCESSORIES

- A. Solder: ASTM B32, 50/50 for all applicable work unless otherwise specified.
- B. Flux: FS O-F-506
- C. Sealant: Type specified in Section 07 92 00.
- D. Roofing Felt: ASTM D226. Asphalt saturated, 15 lb. weight class, non-perforated type.
- E. Nails and Fasteners: Type and form of metal fastener.
- F. Compatible with base material and support structure.
- G. Bituminous Coatings: FS TT-C-494 or SSPC Paint 12 solvent type.
- H. Roofing Cement: ASTM D2822, asphaltic.

2.03 FABRICATION

- A. General:
 - 1. Form sections true to shape, accurate in size, square, and free from distortion or defects.
 - 2. Fabricate cleats and starter strips of same material as sheet, minimum of 3 inches wide, interlockable with sheet.
 - 3. Form pieces in longest practical lengths.
 - 4. Hem exposed edges on underside 1/2 inch miter and seam corners.
 - 5. Form material with flat lock.

6. Solder and seal metal joints. After soldering, remove flux. Wipe and wash solder joints clean.
 7. Fabricate corners from one piece with minimum 18 inch long legs; solder for rigidity.
 8. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.
 9. Fabricate flashings to allow toe to extend 2 inches over roofing. Return and brake edges.
- B. Soldering:
1. Solder joints, seams and connections of sheet metal work, except as otherwise specified herein.
 2. Before soldering, remove from metal surfaces grease, dirt and other foreign materials.
 3. Assemble parts to be joined and solder using phosphoric or rosin flux. Heat metal thoroughly to completely sweat solder through full contact area.
 4. Upon completion of soldering operations for each area or item, remove flux residue from stainless steel by scrubbing and then rinsing with clear water.
- C. Welding:
1. Welding may be used in lieu of soldering for sheet metal shop fabrication and for field fabrication.
 2. In exposed locations dress weld beads smooth and finished to match and blend with adjacent parent metal.
- D. Fasteners:
1. Unless otherwise specified, use 18-8 stainless steel for nails, screws, bolts, rivets and other fasteners for sheet metal.
 2. Use 12-gauge, flat-head annular-thread nails of a length sufficient to penetrate backing at least 3/4 inch and space on 6-inch centers. Conceal fasteners unless otherwise specified.
- E. Cleats:
1. Use cleats to secure edges of sheet metal members over 12 inches wide, and at locations specified or shown on drawings.
 2. Form cleats of stainless steel of same thickness as member being fastened with minimum dimension of 2 inches wide by 3 inches long and space at 12-inch centers, unless otherwise specified.
 3. Secure cleats to wood deck or to nailing strips with two (2) nails spaced 3/4 inch from the end. Turn cleats at one end to cover nail heads and lock other end of cleats into seam or folded edge of member being fastened. Prior to soldering seams, pre-tin cleats.
- F. Edge Strips:
1. Provide continuous edge strips at on wall surfaces for attaching exposed terminating edge of gravel stops, fascia-gravel stops and metal roofing.
 2. Form edge strip of stainless steel in 8- or 10-foot lengths and 1-1/4 inches wide using same thickness as stainless steel sheet metal specified.
 3. Secure edge strips in place using stainless steel nails spaced straight and true at 6-inch centers maximum.
- G. Reglets:
1. Provide watertight reglets in masonry and concrete work to receive cap flashing. Form reglets of stainless steel using same thickness as stainless steel sheet metal specified.
 2. In masonry work, use open or closed slot reglets with slot at least 1-inch deep and 3/16 inch wide. Provide hook dams or turn-ups for anchoring securely into mortar joints. Insert cap flashing into slot full depth using button punch or lead wedges to lock in place.

3. In concrete work, use open or closed slot reglets with slot sloped upward at 45 degrees at least 1 inch deep and 3/16 inch wide. For fastening reglets to concrete forms use double-head stainless steel nails spaced 12 inches apart maximum.
4. Insert cap flashing full depth into reglet slot and wedge in place using lead strips spaced on 12-inch center maximum or lead caulking rope. When lead strips are used for continuous caulked reglets, use approved weather-resistant fibrous compounds.
5. For cap flashing with snap-lock feature use factory prefabricated closed slot reglets with anchorage to hold flashing in place within slot.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, can strips and reglets in place, and nailing strips located.
- B. Verify membrane termination and base flashings are in place, sealed, and secure.
- C. Examine the substrate and the conditions under which work is to be performed and do not proceed with installation until unsatisfactory conditions have been corrected. Surfaces to receive sheet metal are to be clean, even, smooth, dry and free from defects and projections which might adversely affect the application. Verify slope prior to installation.
- D. Beginning of installation means acceptance of existing conditions.

3.02 PREPARATION

- A. Field measure site conditions prior to fabricating work.
- B. Install starter and edge strips and cleats before starting installation.
- C. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.
- D. Insert flashings into reglets to form tight fit. Secure in place with lead wedges at maximum 12 inches o.c. Seal flashings into reglets with sealant.
- E. Secure flashings in place using concealed fasteners.
- F. Lap and seal all joints.
- G. Apply plastic cement compound between metal flashings and felt flashings.
- H. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- I. Seal metal joints watertight.

3.03 INSTALLATION

- A. Stainless Steel Base Flashings
 1. Provide stainless steel base flashings where roofs abut vertical surfaces without a cant strip. Form base flashings from 0.313 inch thick stainless steel.
 2. Where metal base flashing is used in connection with modified bitumen sheet roofing, extend flashing not less than 4 inches out on roof and up on vertical surfaces. Terminate base flashings 4 inches under metal cap flashing or lock into back edge of metal wall coping. Fold outside edge of horizontal leg 1/2 inch and fasten with cleats at

12 inches on center. Provide loose-locked joints not more than 8 feet from external and internal corners and in straight runs at not over 24-foot intervals. Fill joints with sealant. Lock or lap and solder other joints in flashings.

- B. Stainless Steel Cap Flashings
 - 1. Provide metal cap flashings at top edges of metal base flashings. Fabricate cap flashings from 0.0313 inch thick stainless steel.
 - 2. Form flashings in 8- or 10-foot lengths, except where shorter pieces are required. Lap end joints a minimum of 3 inches. Do not solder joints. Stagger cap flashing joints in relation to base flashing joints. Make flashings continuous at angles. Cap flashings overlap base flashings a minimum of 4 inches, except where concealed. Fold bottom edge of cap flashings back ½ inch on underside.
 - 3. Extend cap flashings into masonry not less than 1-1/2 inches. Where cap flashing terminates in raked joints or reglets, fasten flashings with lead wedges every 12 inches. Fill reglets on horizontal surfaces with sealant. Fill reglets on vertical surfaces with sealant.
 - 4. Where pre-fabricated cap flashing and reglet system is used, form the upper edge of cap flashings with a snaplock flange, to engage the reglet receiver and to provide spring action at bottom edge against base flashings.
- C. Metal Covering and Flashing of Equipment Supports on Roofs
 - 1. Cover raised bases and equipment supports on roofs with 0.0313 inch thick stainless steel. Fabricate metal to shapes required, and provide flanges extending out minimum of 4 inches over modified bitumen sheet roofing, or joined with metal roofing to provide watertight construction. Where coverings are punctured for bolt connections, use 4 pound sheet lead washers, 2 inches larger than bolt holes.
- D. Miscellaneous Flashings
 - 1. Flashings at roof penetrations, 0.0313 inch thick stainless steel. Reference: SMACNA Plates 65, 66, 67, 68, and 71.
 - 2. Water diverters, 0.0313 inch thick stainless steel. Reference: Plate 5.
- E. Scupper Linings
 - 1. Line scuppers with 0.0313 inch thick stainless steel extending through walls. Join scupper linings with roof flashings by full soldered seams. provide 3/4 inch high gravel stop across scupper opening. Form scuppers in accordance with details shown on Plate No. 26 in SMACNA Manual.

3.04 REPAIRING

- A. Repair or replace damaged work.

3.05 CLEANING

- A. As work progresses, remove flux residue from stainless steel by scrubbing and then rinsing with clear water.
- B. Remove light soil and clean metals.
- C. Final Cleanup: Remove all debris, metal clips, nails and other materials which could prevent adequate draining or produce corrosion through electrolysis.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnishing of and paying for all labor, materials, services, appliances and equipment necessary for execution and completion of all work specified herein and shown on the drawings.
- B. Section includes:
 - 1. Prefinished galvanized metal parapet wall coping, roof edge fascia, gutters, downspouts and miscellaneous trim associated with systems specified herein.

1.02 REFERENCE STANDARDS

- A. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, rods, Wire, Profiles, and Tubes; 2014.
- C. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2012.
- D. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coating on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2015.
- E. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2013.
- F. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2013.
- G. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012).
- H. NRCA ML104 - The NRCA Roofing and Waterproofing Manual; Fifth Edition, with interim updates.
- I. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.
- J. SPRI ES-1 - Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems; 2011.

1.03 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Shop Drawings: Indicate configuration and dimension of components, adjacent construction, required clearances and tolerances and other affected work.
- C. Product Data: Provide data on materials, finishes and color.

1.04 CONSTRUCTION STANDARDS

- A. Architectural Sheet Metal Manual, latest edition.

1.05 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 78 01.
- B. Submittals

1.06 PROJECT WARRANTIES, OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Section 01 78 01.
- B. Warranties (Article 1.08)

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products per manufacturer's recommendations.
- B. Stack material to prevent twisting, bending, or abrasion and to provide ventilation.
- C. Prevent contact with materials during storage which may cause discoloration, staining or damage.

1.08 WARRANTY

- A. Materials, shop fabricated and prefinished shall remain free against failure of material and workmanship to include excessive leakage, excessive deflections and deterioration of metal.
- B. Furnish the Owner with written extended standard limited 10 year warranty on the exposed paint finish, warranting against peeling or blistering. Warranty to be non-prorated and is to include material and replacement cost. Non-exposed side to be furnished with an acrylic wash coat factory applied. No field painting allowed.
- C. Warranties to begin at the date of project Certificate of Substantial Completion.

PART 2 - PRODUCTS

2.01 MATERIALS AND FABRICATION

- A. Roof Edge Fascia and Trim:
 - 1. Parapet Wall Coping, Roof Edge Fascia, Gutters, Downspouts and Miscellaneous Trim shall be constructed as indicated on drawings of shop fabricated 24 gauge galvanized (G-90) steel formed as indicated on the drawings with prefinished and pre-painted exposed surfaces. Coping expansion joints shall be 20'-0" o.c. maximum and within 5'-0" of all 45 degree turns. Corners shall be fully welded or mitered prior to finishing.
 - 2. Fabricate per SMACNA Manual referenced above using Plate 77 Figure B in wall width required. All legs shall lap brick a minimum of 2". Do not damage prefinished surface. Expansion joints are to include a bottom gutter and top plate with all double sealed with caulking to provide for horizontal movement. Fabricate per plate J5 for lap of 2" minimum each member.
 - 3. Provide gutter straps at 5'-0" o.c. max. per manufacturer's recommendations with concealed anchorage. Downspouts to be welded to conductor head and/or gutter as indicated on drawings.

4. All trim to be 24 gauge galvanized steel, prefinished to match material and finish.
5. Caulk all openings in masonry for watertight application.

B. Fabricate components free of visual distortion or defects.

2.02 REGLETS AND COUNTERFLASHING

- A. Basis of Design: Fry Reglet (fryreglet.com) Model SM surface mounted reglet and counterflashing.
- B. Subject to compliance with Specifications, products from these manufacturers may be submitted:
1. W.P. Hickman Company (wph.com)
 2. Metal-Era (metalera.com)
 3. MM Systems (mmsystemcorp.com)
- C. Counterflashing: Manufactured units in lengths not exceeding 12 feet, designed to snap into reglets and compress against base flashings with joints lapped. Fabricated from prepainted zinc-coated steel, 0.028 inch thick.
- D. Reglets: Manufactured units formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashings indicated. Provide factory-mitered and welded corners and junctions fabricated from prepainted zinc-coated steel, 0.028 inch thick.
1. Type: Surface-mounted with slotted holes for fastening to masonry substrate, with neoprene weatherproofing washers, and with channel for sealant at top edge.

2.03 ACCESSORIES

- A. Select required accessories below.
1. General: Provide manufacturer's standard accessories designed and manufactured to match and fit items indicated.
- B. Concealed Fasteners: Same metal as item fastened or other noncorrosive metal as recommended by manufacturer.
- C. Galvanizing Repair Paint: High-zinc dust content paint for reglazing welds in steel, complying with SSPC-Paint 20.
- D. Asphalt Mastic: SSPC-Paint 12, solvent-type asphalt mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15 mil dry film thickness per coat.
- E. Sealant: As specified in Section 07 92 00.
- F. Adhesives: Type recommended by manufacturer for substrate and project conditions, and formulated to withstand minimum 60-lbf/sq. ft. wind-uplift force.

2.04 FINISH

- A. Roof edge fascia and all associated trim and accessories shall be primed and prefinished with full strength Kynar 500 finish in color as selected by the Architect. Provide manufacturer's 10 year standard warranty as per 1.08.B above. Finish exposed and non-exposed surfaces as indicated herein.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that deck, masonry opening, roof membrane, base flashing and other items affecting work of this Section are in place and positioned correctly.
- B. Beginning of installation means acceptance of existing conditions.

3.02 INSTALLATION

- A. Install components in accordance with SMACNA Manual.
- B. Coordinate roofing membrane and base flashings with installation of components of this Section.
- C. Coordinate installation of sealants and roofing cement with work of this Section to ensure water tightness.

3.03 CLEANING

- A. Remove protective material from prefinished aluminum surfaces.
- B. Wash down exposed surfaces using a solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
- C. Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.

3.04 PROTECTION OF FINISH WORK

- A. Protect finished installation under provisions of Section 01 50 00.

END OF SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnishing of and paying for all labor, materials, services, appliances and equipment necessary for the execution and completion of all work as specified herein and as shown on drawings.
- B. Section includes:
 - 1. Prefabricated, pre-assembled, insulated and non-insulated roof curbs including expansion joint curbs and roof equipment housing curbs.
 - 2. Roof Gas Piping Roller Supports.

1.02 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Product Data: Provide data on unit construction, sizes, configuration, jointing methods and locations when applicable, and attachment method.
- C. Manufacturer's Installation Instructions: Indicate special installation criteria, interface with adjacent components.

1.03 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 78 01.
- B. Submittals

1.04 PROJECT WARRANTIES, OPERATION AND MAINTENANCE DATA

- A. Comply with provisions of Section 01 78 01.
- B. Warranty (Article A1.06)

1.05 DELIVERY, STORAGE AND HANDLING:

- A. Deliver, store, protect and handle products to site per manufacturer's recommendations.

1.06 WARRANTIES:

- A. Roof equipment curbs shall be guaranteed against defects in material or workmanship for a period of five (5) years.
- B. Warranties to begin at the date of project Certificate of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Roof Products, Inc. (RPI) Chattanooga, TN and Phoenix, AZ or equivalent.
 - 1. Tel 1-800-262-6669, Fax: (423) 892-2107, Email: rpicurbs@comcast.net

2. Web Site <http://www.rpicurbs.com> .

2.02 PREFABRICATED ROOF CURBS AND EQUIPMENT SUPPORTS

- A. Prefabricated roof curb shall be Model RPC-3 in size as shown on the drawings.
- B. Frames:
 - 1. Material: ASTM A 653 G90 hot-dipped galvanized steel.
 - a. Minimum 18 gauge, and as engineered by manufacturer.
 - b. Minimum 18 gauge for curbs supporting HVAC units
 - 2. Corners: Mitered and welded (welds are micro sealed and prime painted after fabrication). Bolted connections not accepted.
 - 3. Base Plates: Integral to frame and welded.
 - 4. Internally reinforced with galvanized 1 inch by 1 inch by 12 gauge angles for curbs exceeding 3 foot length. Reinforce internal bulkhead at equipment curbs to support lateral loads.
 - 5. Wood Nailers: Factory installed, pressure treated. Size and width as suitable for support of items installed on curbs.
- C. Insulation: Factory installed 1-1/2 inch thick three-pound density fiberglass insulation.
- D. Curb Height: Minimum 8 inch above finished roof.
- E. Construct curbs to match roof slope with plumb and level top surface for mounting mechanical equipment.
- F. Gasketing: 1/4 inch thick, 1" wide at roof top units.
- G. Counter Flashing: 18 gauge galvanized steel.
- H. Fabricate adapters, pipe curbs, curb covers, square to round, column and tube counterflashings as necessary for complete watertight systems at roof penetrations.

2.03 PREFABRICATED ROOF CURBS, PIPE/CONDUIT BOX PENETRATIONS

- A. Prefabricated roof curb assemblies shall be Model RPPC-3 Custom roof Curb/Pipe Box in size shown on the drawings.
- B. Minimum of 18 gauge steel construction fully mitered, welded corners. Internally reinforced with 1 inch by 1 inch by 1/8 inch angle iron, factory insulated with 1-1/2 inch thick, 3 pound density fiber glass insulation and factory installed 2 by 2 treated wood nailers. Minimum height of 16 inches above finished roof for sloping roof application with level top mounting. Provide cap flashing and base extensions for sloping roof surfaces.

2.04 ISOLATION ROOF CURBS

- A. Curb mounted rooftop equipment shall be mounted on 1", 2", or 3" static deflection spring isolation curbs. The lower member shall be a full perimeter base curb with a wood nailer and OSHPD Pre-Approved spring isolators that support the upper floating perimeter frame. The upper frame shall be fully welded and must support the equipment and must be captive so as to resist wind and seismic forces. Steel springs shall be laterally stable and zinc or powder coated. The upper curbs waterproofing shall consist of a continuous galvanized flashing with a bulb seal. All spring locations shall have access ports with removable waterproof covers for

adjusting isolators. Lower curbs shall have provision for optional insulation. Curb shall be type RPIC as manufactured by Roof Products, Inc. or approved equal.

- B. Type RPIC: A rooftop isolation curb system that can be seismically rated and is flashed into roofing membrane. Standard unit curb will not be used.
 - 1. Air and watertight upper floating curb shall have a neoprene sponge seal at the top and be rigid enough to provide continuous perimeter support for rooftop unit.
 - 2. Type JQ spring isolators welded to a fixed base curb to withstand seismic loading shall support the upper curb.
 - 3. Restrained spring isolators shall be free standing, laterally stable springs with lateral seismic restraint low and close to the base plate to protect anchors. The formed steel housing with cushioned lateral and vertical limit stops shall restrict motion due to earthquakes and wind loads, or when weight is removed. The housing shall be Hot-Dipped galvanized. Hot-Dipped zinc coating shall be not less than 2 ounces per square foot complying with ASTM A123, springs to be zinc or powder coated. A clearance of ¼" maximum shall be maintained so that limit stops shall be out of contact during normal operation. Outside spring diameter not less than 80 percent of the compressed height of the spring at rated load. Minimum additional travel 50 percent of the rated deflection at rated load. Isolator/Restraint shall be type JQ as manufactured by California Dynamics Corporation or approved equal.
 - 4. A flexible bulb seal shall provide an airtight weatherproof seal between the upper and lower curbs.
 - 5. Weatherproof access doors shall be provided at each isolator to allow isolator adjustment.
 - 6. Isolation curb shall permit the optional installation of exterior rigid insulation to be installed for thermal insulation and acoustic attenuation, or optional 1" interior insulation.
- C. The floating member of the roof curb shall have provision for optional perimeter angle and cross members to support two layers of gypsum board. The gypsum board provided by the contractor shall surround the duct and be caulked to attenuate the transmission of sound. Curbs shall accommodate roof pitch shown on drawings. Isolation curb shall use minimum 16 gauge Galvanized Steel and shall be designed to withstand the greater of seismic forces or wind loading per local building code. Registered professional engineer in the employ of the manufacturer must certify design. Isolation curbs shall be Roof Products, Inc. Type RPIC. Top plate shall have adequate means for fastening to the equipment. The base plate shall incorporate steel stiffeners at all spring locations to transfer supported loads with adequate means for positively attaching to the structure. The fixed base curb height will be designed to match the roof method and roof pitch. Entire assembly can be rated to exceed the applied seismic load. Seismic isolator shall be Type JQ as supplied by Roof Products, Inc. (1-800-262-6669).

2.05 ISOLATION RAILS

- A. Curb mounted rooftop units shall be isolated with Roof Products, Inc. Type RPIR isolation assembly consisting of a pair of extruded aluminum rails formed to fit curb and equipment with a flexible air and weather seal continuously joining the two rails and incorporating Type SW spring isolators sized for 1", 2" or 3" static deflection.
- B. Flexible weather seals shall be 1/16th inch thick minimum reinforced Neoprene protected from direct sunlight and accidental puncture by an extruded aluminum shield and shall be capable of being replaced completely without disturbing the unit mounting.
- C. Springs shall be stable with KX/KY (horizontal to vertical spring rate) of 1.0 or greater and be properly sized to support the load.

- D. Isolation assembly shall have Neoprene cushioned wind restraints, which are not engaged in normal operation with sufficient capacity to resist wind load in any direction without distortion or damage to the isolated equipment.

2.06 ADAPTERS

- A. Standard features: Heavy gauge galvanized steel, fully welded, one piece construction, sloped for positive water runoff, welds are micro sealed and primed painted after fabrication, fully insulated, with internal reinforcing to support equipment loads, modified for existing roof curbs.

2.07 ACCESSORIES

- A. Sealant as specified in Section 07 92 00.

2.08 FABRICATION

- A. Fabricate free of visual distortions and defects. Weld corners and joints.
- B. Provide for removal of condensation.
- C. Provide weathertight assembly.

2.09 GAS PIPE ROLLER SUPPORTS

- A. Manufacturers:
 - 1. Acceptable Manufacturer: MIRO Industries, Inc., which is located at: 844 S. 430 W. Suite 100; Heber City, UT 84032; Toll Free Tel: 800-768-6978; Tel: 801-975-9993; Fax: 800-440-7958; Email: sales@miroind.com; Web: www.miroind.com
 - 2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 – Product Requirements.
- B. General:
 - 1. Unique design absorbs thermal expansion and contraction of pipes to prevent damage to roofing membranes using non-corrosive bases that rest on roofing membranes including:
 - a. Gently rounded edges to prevent damage to roofing membrane.
 - b. Drainage ports to prevent ponding.
 - c. Carbon black additive in polycarbonate for UV stabilization, stainless steel and hot-dipped galvanized bases are available as specified below.
 - 2. Loading and Design Constraints:
 - a. Design values are based on rooftop applications only. For other applications, contact manufacture for allowable loading.
 - b. Maximum loading from any type of MIRO base to finished roof surface not to exceed 3.0 psi (0.021 Mpa) unless specifically indicated in project specifications.
 - c. Horizontal deflection not to exceed the span length divided by 360 (l/360) or 1/8 inch (3.175 mm).
 - 3. Include manufacturers pipe guides, spacers, clamps, support pads, 2-sided tape and other recommended accessories.
- C. Model: 5-RAH-12: Roller bearing pipe support for roof-mounted gas pipes, electrical conduit, solar, or other mechanical piping with the following properties:
 - 1. Base Material: Polycarbonate.
 - 2. Deck Base: 9 by 15-1/4 inch (228 by 387 mm).
 - 3. Pipe Clearance: Adjustable from the factory set maximum height of 12 inch (305 mm) down to a minimum of 3-3/4 inch (895 mm).

4. Maximum Load Weight: 335 pounds (152 kg) per pipestand.
5. Pipe Rest: Self-lubricating polycarbonate resin roller.
6. Support All-Thread, Axle, and Metal Parts: Stainless Steel.
7. Support is optimally designed to carry up to a 5 inch pipe.
8. Maximum pipe outside diameter (with insulation) is 8-1/2 inches (216 mm).
9. Spacing: Horizontal support spacing per pipe specification, or horizontal pipe support intervals per the appropriate code or standard. Manufacturer's suggested spacing shall not exceed 10 foot (3 m) centers, as loading permits.
10. If supporting insulated pipe, a shield or saddle shall be used.
11. Provide strut clamps to attach component to the support.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Assure that roof openings conform with dimensions and tolerances shown on drawings and required by the manufacturer.
- B. Do not proceed with installation until unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions. Coordinate with installation of roofing system and related flashings. Provide weathertight installation.
- B. Apply bituminous paint on metal surfaces of units in contact with cementitious materials and dissimilar metals.

3.03 CLEANING

- A. Remove debris from work site.

END OF SECTION

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnishing of and paying for all labor, services, appliances, materials, and equipment necessary for execution, installation, and completion of all work specified herein and as shown on drawings.
- B. Section includes:
 - 1. Preparing substrate surfaces.
 - 2. Sealant required around perimeter of frames and devices at openings in exterior walls, such as door frames, louvers, stationary glass, metal, and frames where applicable.
 - 3. Joints between abutting parts of dissimilar exterior materials such as concrete block/concrete, steel angles concrete, including any other joints normally sealed of dissimilar materials.
 - 4. Exterior isolation, relief or expansion joints, in same material or between dissimilar materials, including relief or construction joints in concrete, concrete block, brick, and/or stone.
 - 5. Metal flashing, and wall caps into reglets.
 - 6. Joint packing, primer and other items necessary or incidental to completion of this work.
 - 7. Removal and complete replacement of existing sealants disturbed by construction of new work.
 - 8. Other points and/or joints normally sealed unless specified elsewhere.

1.02 REFERENCES

- A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2006 (Reapproved 2011).
- B. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2015.
- C. ASTM C834 - Standard Specification for Latex Sealants; 2014.
- D. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2012.
- E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- F. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2000 (Reapproved 2011).
- G. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- H. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2008 (Reapproved 2012).
- I. ASTM C1311 - Standard Specification for Solvent Release Sealants; 2014.
- J. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2002 (Reapproved 2013).
- K. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2013.

- L. ASTM D2240 - Standard Test Method for Rubber Property--Durometer Hardness; 2005 (Reapproved 2010).

1.03 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Product Data: Indicate sealant chemical characteristics, performance criteria, limitations, and color availability.
- C. Samples: Submit three (3) samples illustrating sealant for colors selected.
- D. Manufacturer's Installation Instructions: Indicate special procedures, surface preparation, perimeter conditions requiring special attention.
- E. Applicator/Manufacturer Certification: Submit as per Article 1.06.
- F. Applicator Certification: Submit as per Article 1.07.
- G. Manufacturer's certification that products meet or exceed specified requirements.

1.04 PROJECT RECORD DOCUMENTS

- A. Submit under provisions of Section 01 78 01.
- B. Submittals
- C. Manufacturer's Field Report (Para. 3.01A)

1.05 PROJECT WARRANTIES, OPERATION AND MAINTENANCE DATA

- A. Submit under provisions of Section 01 78 01.
- B. Warranty (Article 1.12)

1.06 QUALITY ASSURANCE

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and materials installation instructions.
- B. Applicator/Manufacturer Certification: Submit written certification from the Applicator and his Material Manufacturer (that he proposes to utilize) that they have jointly reviewed and agree with the entire Contract Documents relative to the sealant materials and the application of same as specified herein or shown on the drawings.
- C. Certification must be furnished with Submittals (Article 1.03).

1.07 QUALIFICATIONS

- A. Applicator: Company specializing in performing the work of this section with a minimum of five years documented experience and certified approved applicator by the manufacturer.

- B. Architect may request the applicator to provide a list of complete projects similar to the work of the Section.
- C. Certification must be furnished with Submittals (Article 1.03).

1.08 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site per Manufacturer's recommendations.
- B. Store material to protect against weather damage, direct sunlight, at temperature range of 40 degrees F to 90 degrees F.

1.09 ENVIRONMENTAL CONDITIONS

- A. Sealant shall not be applied below 40 degrees F; surfaces to receive sealant must be clean, dry and frost free.
- B. Surfaces to receive sealant must be structurally sound, free of dirt, loose particles, oil, grease, asphalt, tar, paint, wax, rust, release agents and curing compounds.
- C. Do not apply during inclement weather.

1.10 MOCKUP

- A. Construct mockup with specified sealant types and with the components noted.
- B. Locate where directed.
- C. Mockup may remain as part of work.

1.11 COORDINATION

- A. Coordinate the work of the Section with all Sections referencing this Section.

1.12 WARRANTY

- A. Provide Warranty that this work will remain water and weathertight for five (5) years from date of Certificate of Substantial Completion.
- B. If failure occurs within this period for reason other than that of structural failure, this contractor must immediately repair and/or replace as required to return to acceptance integrity.

PART 2 - PRODUCTS

2.01 SEALANTS (Exterior Sealants)

- A. Manufacturer: Mameco International, Inc.
- B. Exterior: One-part moisture curing, gun grade, polyurethane sealant conforming to ASTM C290, Type S, Grade NS, Class 25, Vulkem 116 in manufacturer's standard colors.
- C. Other acceptable manufacturers offering equivalent products:
 - 1. ChemRex, Inc., Sonneborn Building Products

- 2. Exterior: Sonolastic NP2, two-part polyurethane

- D. Substitution: Under provisions of Section 01 25 13.

2.02 COLOR SELECTION

- A. Exterior Sealant: Shall match color of adjacent material. Sealant will be selected from manufacturer's standard color.
- B. The Designer will make final selection of and approve all sealant colors.

2.03 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Equal to Sonofoam soft backer-rod constructed of extruded polyethylene foam or Sonofoam Closed Cell (CC) backer-rod constructed of extruded closed cell polyethylene foam compatible with all products specified herein. Use in proper size for condition.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 - EXECUTION

3.01 MANUFACTURER'S FIELD SERVICE AND REPORTS

- A. Manufacturer's Responsibility
 1. The Manufacturer's "Technical" Representative is to provide an "on site" job inspection of the project prior to the start of this work, to ensure that any physical conditions which would result in defective work are properly corrected before his materials are applied. The Manufacturer and Subcontractor will ensure that properly instructed personnel are available to do the work and the proper procedures are being followed. Such inspection shall be reported, in writing, to the Architect before proceeding with the work.
 2. This Contractor shall notify the Manufacturer and Architect at least 72 hours prior to the time inspection is required.
 3. Failure or refusal of the manufacturer to provide the inspection and supervision as required by the Article or certification as required by this Specification shall constitute grounds for non-acceptability of materials manufactured by him even though such manufacturers have been specified and approved.
 4. Beginning of installation means installer accepts existing substrate.

3.02 PREPARATION

- A. Joint preparation, including cleaning and priming, shall be performed in accordance with the manufacturer's written instructions. When solvents are used, the applicator shall exercise special care to wipe the dissolved contaminant and solvent from the surface. Sealant will not be allowed to remain on exposed surfaces.
- B. Remove loose joint material and foreign matter which might impair adhesion of sealant.

- C. Clean and prime joints in accordance with manufacturer's instructions.
- D. Verify that joint backing and release tapes are compatible with sealant.
- E. Perform preparation in accordance with manufacturer's instructions.
- F. Protect elements surrounding the work of the Section from damage or disfiguration.

3.03 INSTALLATION

- A. Install sealant in accordance with manufacturer's instructions.
- B. Measure joint dimensions and size materials to achieve required 2:1 width/depth ratios.
- C. Install joint backing to achieve a neck dimension no greater than 1/3 of the joint width.
- D. Install bond breaker where joint backing is not used.
- E. Joint of excessive depth must be brought to proper depth by driving in continuous joint backing of proper size. Joint backing shall be accurately positioned with the joint to establish and control the uniform designated thickness of the sealant. Exercise care in the installation of the joint backing to see that the backing is not set too far below the surface, thereby increasing the depth of the sealant. Depth of sealing compounds will be maintained in accord with the manufacturer's instructions relative to ratio of width to depth. All joint backing shall be used 30 percent under compression and care shall be taken that the backing is not stretched so that it will, at a later time, recover and damage the sealant applied over it.
- F. Install sealant with sufficient pressure to completely fill the void space and to assure complete wetting of contact area to obtain uniform adhesion. During the application, keep tip of nozzle at the bottom of joint, forcing sealant to fill from bottom to top. Move tip along joint at a rate as to completely fill the joint.
- G. Tool all sealants smooth and concave with adjacent surfaces unless detailed to be finished below the surface.

3.04 CLEANING AND REPAIRING

- A. Clean work under provisions of Section 01 77 70.
- B. Clean adjacent soiled surfaces.
- C. Repair or replace defaced or disfigured finishes caused by work of this Section.

3.05 PROTECTION OF FINISHED WORK

- A. Protect sealants until cured.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The furnishing of and paying for all labor, materials, services, appliances and equipment necessary for the execution, installation, and completion of all work as specified herein and as shown on drawings.
- B. Section includes:
 - 1. Surface preparation and painting of all items noted herein or as shown on drawings to be painted and all items normally painted including generally, but not limited to the following:
 - a. New exterior metal work to match existing. Do not paint aluminum or stainless steel, unless specifically so noted to paint.
 - b. New and existing exterior mill, galvanized, and bonderized metal.
 - c. Other work shown, specified or normally painted.
 - d. Repainting or refinishing of existing surfaces as noted on drawings and specified herein including all surfaces new or existing, damaged or soiled by work under this contract.
 - e. Protection of adjacent and surrounding materials and finishes over or adjacent to which this contractor shall apply his materials. This shall include covering, cleaning, etc., as may be required to assure no damage, disfiguration or staining of adjacent or existing finishes or materials.

1.02 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Finish Schedule:
 - 1. All schedules shall be typewritten
 - 2. Provide Finish Schedule listing each finish by Finish Type in reference to Article 3.09 herein giving the following information:
 - a. Manufacturer and type of product used
 - b. Number of coats of material
 - c. Luster
 - d. Type of application
- C. Product Data: Provide data on all finishing products and special coatings.
- D. Samples: Submit paint manufacturer's "paint fan" illustrating range of colors available for each surface finishing product schedule for color selection.

1.03 QUALIFICATIONS (APPLICATOR)

- A. Applicator: Company specializing in performing the work of this section with minimum 5 years documented experience.
- B. Superintendence: This Applicator shall keep a qualified foreman (may be a working foreman), satisfactory to the Owner and Architect, on this work at all times while painting is in progress with this work as his sole duty.

- C. Employees: Employ skilled mechanics to ensure the very best workmanship. Quality workmanship is required. Material to be applied by craftsmen experienced in the use of the specific product involved.

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, protect and handle products to site.
- B. All materials used on the project shall be stored in a single place as designated. Such storage space shall be kept clean and all damage thereto or to its surroundings shall be made good by the subcontractor.
- C. Store materials at minimum ambient temperature of 50 degrees F and a maximum of 90 degrees F, in well ventilated area, and as required by manufacturer's instructions.
- D. All soiled or used rags, waste and trash must be removed from the building every night and every precaution taken to avoid the danger of fire.
- E. Restrict storage to paint and related equipment. Comply with health and fire regulations.
- F. Paint Material:
 - 1. Deliver paints and enamels ready-mixed to job site. All material must be delivered in their original containers with labels intact.
 - 2. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 60 degrees F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 80 percent, unless required otherwise by manufacturer's instructions.
- C. Contractor is to provide forced ventilation when painting within occupied spaces as necessary to prevent hazardous accumulations of dust, fumes, vapors or gases.

PART 2 - PRODUCTS

2.01 MANUFACTURER - PAINT AND VARNISH

- A. Sherwin-Williams
- B. Farrell-Calhoun
- C. Pratt and Lambert
- D. ICI / Glidden
- E. Substitution: Under provision of Section 01 62 32

2.02 MANUFACTURER - ACCESSORIES MATERIAL

- A. Thinners, Metal Surface Cleaners, Galvanized Treatment, Filling compounds, Turpentine and Primers - As recommended by paint manufacturer.

2.03 MATERIALS

- A. Standards and Manufacturers (Painting)
 - 1. All paint materials must be equal or exceed Federal Specifications or other standards herein under "Materials" in applicable categories.
 - 2. Claims by the Contractor as to the unsuitability or unavailability of any materials specified or his inability to produce first-class results with same, will not be entertained unless such claims are made in writing prior to bidding.
 - 3. All paint materials shall be applied in accord with manufacturer's directions or as specified herein. As there is a slight variation in the recommended procedures of different manufacturers, such minor variations shall be taken into account in considering or making any proposal of material change.

2.04 FINISHES

- A. Refer to Schedule, Article 3.09.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop applied primer for compatibility with subsequent cover materials.
- D. Examination includes bond, moisture, and alkali testing as required or recommended by manufacturer. Moisture meter readings of back surfaces shall be less than 4 percent.
- E. Beginning of installation means acceptance of surfaces.

3.02 PREPARATION - NEW SURFACES

- A. Correct minor defects and clean surfaces which affect work of this section.
- B. Impervious Surfaces: Remove mildew by scrubbing with solution of tri-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- C. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- D. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.

E. Shop Primed Steel Surfaces:

1. Several items to receive a painter's finish under this specification will be furnished with a prime coat of paint. It is this contractor's responsibility to determine this by a study of all sections of this specification. As an aid, however, these items are generally as follows:
 - a. All structural and miscellaneous steel
 - b. Stair handrails, railings, etc.
 - c. Steel doors, frames and borrowed light frames
 - d. Steel access doors
 - e. Heating grilles and diffusers in wall surfaces to be painted
2. All primed surfaces shall be cleaned, sanded, touched up, and washed with turpentine prior to painting.
3. If primer has become badly abraded, damaged, or rust formed, sand smooth and apply one coat of primer specified herein before proceeding with paint application specified.
4. Galvanizing or bonderizing is not considered a primer.

3.03 PREPARATION - EXISTING SURFACES

A. Metal, Galvanized Iron:

1. All surfaces must be free of grease and oil and shall be cleaned in accordance with SSPC-SP1-63 "Solvent Cleaning."
2. Peeling and scaling paint and chalk must be removed by scraping, sanding and wirebrushing. Rusted surfaces must be cleaned by scraping, sanding and wirebrushing, then primed with rust inhibitive paints.
3. Weathered, unpainted galvanized iron surfaces must be wirebrushed or power washed to remove deposits of "white rust," then primed with galvanized metal latex primer. Rusted areas must be sanded clean, and spot primed with rust inhibitive paints, then coated overall with galvanized metal latex primer.

B. Metal, Structural or Plate Steel:

1. All surfaces must be free of grease and oil, and cleaned in accordance with SSPC-SP1-63 "Solvent Cleaning" followed by removal of all loose, scaling paint by hand scraping, or by use of power tools. Rusted surfaces to be cleaned in accordance with SSPC-SP2-63 "Hand Tool Cleaning" or SSPC-SP3-63 "Power Tool Cleaning."
2. Glossy surfaces should be dulled by sanding. Where heavy rust, corrosion and deteriorated coatings exist, the surface should be abrasive blast cleaned in accordance with SSPC-SP6-63 "Commercial Blast Cleaning." The surface should be blown off with compressed air to remove traces of blast products, and must be primed within 24 hours with rust inhibitive paints.

3.04 PROTECTION

- A. This contractor is advised that he shall be totally responsible for protection of surfaces and finishes adjacent to or beneath his work to the extent that he shall totally clean or pay to have cleaned all surfaces, new or existing, damaged by his materials.
- B. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.

3.05 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.

- B. All applications to be with brush or roller unless noted otherwise. Use proper roller or brush for application. Brush apply only all varnish. Reference paint finish specifications for more detail.
- C. All material shall be evenly applied so as to be free from sags, runs, crawls, or other defects. All coats shall be of proper consistency and well brushed to show the minimum of brush marks, except lacquer and enamel which shall be uniformly flowed, or sprayed. All brushes shall be clean and in good condition.
- D. The word "exposed" as used herein means exposed to normal view after completion of total construction. Does not include mechanical equipment ducts, etc. in equipment or mechanical rooms.
- E. No work shall be done under conditions that are unsuitable for the production of good results.
- F. All coats shall be thoroughly dry before the succeeding coat is applied. Allow at least 24 hrs. between coats, unless special paint is used that requires more or less time for drying.
- G. Painting coats as specified are intended to cover surface perfectly. If surfaces are not covered, further coats shall be applied without cost to the Owner.
- H. The undercoats of paint and enamel shall be tinted to approximate shade of the final coat.
- I. All finishes shall be uniform as to sheen, color and texture.
- J. All materials shall be evenly spread and smooth flowed on without runs or sags.
- K. All surfaces to be painted shall be cleaned free of loose dirt by brushing or wiping and wiping with a cloth after each sanding before painting.
- L. Sand and wool all surfaces prior to painting and lightly sand and wool between all coats to produce smooth surface.
- M. Do not paint damp, moist or uncured surfaces, use moisture meter to determine suitability.
- N. This contractor shall furnish and place drop cloths for protection of finished work from damage during progress of the work. The contractor shall be responsible for damage caused by him. Reference Article 3.03 Protection above herein.
- O. Where fluid unavoidably contacts glass, hardware, or other finished surfaces, it shall be immediately removed while moist.
- P. Where fluid solder flux has been used on metal work, clean thoroughly with benzene before further application.
- Q. Unprimed steel shall be primed immediately upon delivery to the site.

3.06 CLEANING

- A. As work proceeds, promptly remove paint where spilled, splashed or spattered.
- B. During progress of work, maintain premises free of unnecessary accumulation of tools, equipment, surplus materials and debris.

- C. Collect cotton waste, cloths and material which may constitute a fire hazard; place in closed metal containers and remove daily from site.
- D. Inspect all surfaces for skips, blemishes or imperfections. Repaint or repair as required to first class appearance.
- E. Clean all adjacent surfaces, hardware, and accessory items damaged by this work. Replace if damage cannot be repaired.
- F. Remove all debris from the work site.

3.07 PROTECTION OF FINISH WORK

- A. Protect finished work under provisions of Section 015000.

3.08 DETERMINATION OF FINISHES

- A. To determine the required types of painter's finish for various areas and surfaces, this contractor shall review the following:
 - 1. Paint finish or specified numbers on the Room Finish Schedule.
 - 2. Paint finish or specified numbers on the Door schedule.
 - 3. The general title designation of material covered under each paint finish description herein.
 - 4. Example: Paint Finish No. I-1 (interior gypsum board)
 1 coat, etc.
 1 coat etc.
 Indicates that all interior gypsum board receives this finish unless
 schedules are noted otherwise. If the room finish schedule carries the
 notation "NONE", this area or surface receives no painter's finish.

3.09 PAINT FINISH TYPES

- A. Exterior:
 - 1. Paint Finish E-1 - All Exposed Exterior Metal Work on roof including miscellaneous metal items such as lintels, trim, roof metal galvanized flashing, etc. (Do not paint pre-finished metal roof, parapet caps, gutters, scuppers, heads and/or prefinished rooftop equipment.):
 - 1st Coat – S-W: Pro Industrial Pro-Cryl Universal Primer B66-310 (touch up only)
 - 2nd Coat – S-W: Pro Industrial Industrial Urethane Alkyd Enamel B54-150 Series
 - 3rd Coat – S-W: Pro Industrial Industrial Urethane Alkyd Enamel B54-150 Series
 - ***OR***
 - Factory or shop primed items (Reference Article 3.02):
 - 1st Coat – S-W: Pro Industrial Pro-Cryl Universal Primer B66-310 (touch up only)
 - 2nd Coat – S-W: Pro Industrial Industrial Urethane Alkyd Enamel B54-150 Series
 - 3rd Coat – S-W: Pro Industrial Industrial Urethane Alkyd Enamel B54-150 Series
 - ***OR***
 - Galvanized metal items:
 - 1st Coat – S-W: Pro Industrial Pro-Cryl Universal Primer B66-310
 - 2nd Coat – S-W: Pro Industrial Industrial Urethane Alkyd Enamel B54-150 Series
 - 3rd Coat – S-W: Pro Industrial Industrial Urethane Alkyd Enamel B54-150 Series
 - Do not paint prefinished items.
 - 2. Paint Finish E-2 - Exterior Steel Railings, Gutter Boots, etc.
Factory or shop primed items (Reference Article 3.02.):

1st Coat – S-W: Pro Industrial Pro-Cryl Universal Primer B66-310 (touch up only)
2nd Coat – S-W: Pro Industrial Industrial Urethane Alkyd Enamel B54-150 Series
3rd Coat – S-W: Pro Industrial Industrial Urethane Alkyd Enamel B54-150 Series

3. Paint Finish E-4 - Roof-Top Piping:
2 coats S-W: Silver-Brite Heavy Duty Rust Resistant Aluminum Paint, B59S2

END OF SECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Exterior Paint Systems: Surface preparation including remedial stain clear of existing exposed concrete and/or stone surfaces and field painting of exposed exterior items and surfaces.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM) D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
- B. Steel Structures Painting Council (SSPC) SP6 - Commercial Blast Cleaning Procedures.
- C. Steel Structures Painting Council (SSPC) SP10 - Near White Blast Cleaning Procedure.

1.03 DEFINITIONS

- A. General: Standard coating terms defined in ASTM D 16.
 - 1. Flat: lusterless or matte. Gloss Range: Max 15 measured at 85 degree meter.
 - 2. Eggshell: Low-sheen. Gloss Range: 20 to 35 measured at 60 degree meter.
 - 3. Semi-Gloss: Medium-sheen. Gloss Range: 35 to 70 measured at 60 degree meter.
 - 4. Full Gloss: High-sheen. Gloss Range: Above 70 measured at a 60 degree meter.
- B. Environments: The following terms distinguish between different corrosive exposures:
 - 1. Severe Environments: Highly corrosive industrial atmospheres. Sustained exposure to high humidity and condensation and with frequent cleaning using strong chemicals. Environments with heavy concentrations of strong chemical fumes and frequent splashing and spilling of harsh chemical products are severe environments.
 - 2. Moderate Environments: Corrosive industrial atmospheres with intermittent exposure to high humidity and condensation, occasional mold and mildew development, and regular cleaning with strong chemicals. Environments with exposure to heavy

concentrations of chemical fumes and occasional splashing and spilling of chemical products are moderate environments.

3. Mild Environment: industrial atmospheres with normal exposure to moderate humidity and condensation, occasional mold and mildew development, and infrequent cleaning with strong chemicals. Environments with low levels of mild chemical fumes and occasional splashing and spilling of chemical products are mild environments. Normal outdoor weathering is also considered a mild environment.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 - Administrative Requirements.
- B. Product Data: For each paint system indicated, including:
 1. Material List: An inclusive list of required coating materials. Indicate each material and cross reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 2. Preparation instructions and recommendations.
 3. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
- C. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- B. Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

- C. Paint exposed surfaces. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Architect will select from standard colors and finishes available.
- D. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
- E. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label:
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.

1.07 PROJECT CONDITIONS

- A. Cleaning Requirements:
 - 1. Prevent cleaning solutions, if used, from coming into contact with people. Motor vehicles, landscaping or paving, buildings and other surfaces not to be cleaned.
 - 2. Do not clean exterior concrete and/or stone during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
 - 3. Dispose of run-off from cleaning operations by legal means and in manner which prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
- B. Environmental Requirements:

1. Clean concrete and/or stone surfaces only when air temperatures are 40°F (4°C) and above and will remain so until the surfaces have dried out, but for not less than 7 days after completion of cleaning.
2. Remove and replace, as directed, Work which is observed to be damaged in any way by freezing or frost.
3. Provide temporary heat and enclosure for Work which has been completed less than 24 hours when ambient temperature is less than 40°F (4°C) and falling.
4. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
5. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C).
6. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F (7 and 35 deg C).
7. Do not apply paint in snow, rain, fog, or mist: or when relative humidity exceeds 85 percent: or at temperatures less than 5 deg F (3 deg C) above the dew point: or to damp or wet surfaces.
 - a. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.08 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
- B. Quantity: Furnish Owner with an additional three percent, but not less than 5 gals, as appropriate, of each material and color applied.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: PPG Architectural Finishes, Incorporated - PPG Paints, which is located at: 400 Bertha Lamme Drive; Cranberry Township, PA 16066; Toll Free Tel: 888-

PPG-IDEA; Fax: 888-434-3127; Email: [request info \(ppgspec@ppg.com\)](mailto:requestinfo(ppgspec@ppg.com));
Web: <https://www.ppgpaints.com>

1. Basis of Design: PPG Paints as manufactured and supplied by PPG Architectural Finishes, Incorporated.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 25 13 - Product Substitution Procedures.

2.02 PAINT MATERIALS - GENERAL

- A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. VOC Classification: Provide high-performance coating materials, including primers, undercoats, and finish-coat materials, that meet the applicable local, state or federal VOC requirements.
- C. Color: Refer to Finish Schedule and Paint Legend for paint colors.

2.03 EXTERIOR PAINT SYSTEMS

- A. Concrete: Provide the following finish systems over exterior concrete, stucco, and brick masonry substrates.
 1. Surface Preparation: Remove all chalking, loose or peeling paint, environmental pollution or other contaminants that would impede the ability for a coating to adhere to the surface. Hairline cracks shall be treated in accordance to instructions on coatings data pages. Refer to the label directions and data pages of the recommended products for details. Use appropriate means to prepare the surfaces being coated.
 2. Elastomeric Coating System: Two finish coats over a primer.
 - a. Primer: PPG Paints. 4-603XI PERMA-CRETE Interior/Exterior Alkali Resistant Primer. Applied Dry Film Thickness: 1.4 mils min.
 - b. Exterior Elastomeric Coating: PPG Paints. 4-110XI Series Perma-Crete Pitt-Flex Elastomeric Coating. Applied Dry Film Thickness: 5.4 mils min. each coat.

2.04 CLEANING MATERIALS AND EQUIPMENT

A. Water for Cleaning:

1. Clean, potable, free of oils, acids, alkalis, salts and organic matter.
2. Warm water: Between 140-180°F (60-82°C)

B. Brushes: Fiber bristle, except where otherwise recommended by manufacturer of chemical cleaners.

C. Spray Equipment:

1. General:
 - a. Provide spray equipment that provides controlled application of water at rates indicated for pressure measured at spray tip, and for volume. Adjust pressure and volume as required to ensure that cleaning methods do not damage masonry.
 - b. Equipment units with pressure gages.
2. Spray application of chemical cleaners is not permitted.
3. For water spray application, provide fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
4. For steam application, use a steam generator capable of delivering live steam at nozzle.
5. For heated water spray application, provide equipment capable of maintaining temperature at flow rates indicated between 140°F to 180°F (60°C to 82°C).

D. Cleaners:

1. General:
 - a. Listed products establish standard of quality and are manufactured by ProSoCo, Inc., Kansas City, KS.
 - b. Equivalent products by other manufacturers may be acceptable provided they comply with requirements of Contract Documents and Contractor accepts full responsibility for substitutions.
 - c. Selected cleaners shall not damage or otherwise deteriorate façade materials.
 - d. See "Cleaning" for selection procedures for use of cleaners.
2. Concrete and/or Stone Cleaners:

- a. Enviro Klean 2010 All Surface Cleaner.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- C. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 1. Notify Architect about anticipated problems when using the materials specified over substrates primed by others.
 2. If a potential incompatibility of primers applied by others exists, obtain the following from the primer Applicator before proceeding:
 - a. Confirmation of primer's suitability for expected service conditions.
 - b. Confirmation of primer's ability to be top coated with materials specified.

3.02 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
1. Provide barrier coats over incompatible primers or remove and reprime.
 2. Cementitious Substrates: Prepare concrete, brick, concrete masonry block, and cement plaster surfaces to be coated. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods to prepare surfaces.
 - a. Use abrasive blast-cleaning methods if recommended by coating manufacturer.
 - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not coat surfaces if moisture content exceeds that permitted in manufacturer's written instructions.
- D. Material Preparation: Carefully mix and prepare coating materials according to manufacturer's written instructions.
1. Maintain containers used in mixing and applying coatings in a clean condition, free of foreign materials and residue.
 2. Stir materials before applying to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into the material. Remove film and, if necessary, strain coating material before using.
 3. Use only the type of thinners approved by manufacturer and only within recommended limits.
 4. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.03 CLEANING

- A. General:
1. Provide methods and procedures recommended by cleaning manufacturer and installer.
 2. Proceed with cleaning Work from bottom to top of each scaffold width and from one end of concrete and/or stone surfaces to other, unless otherwise recommended.
 3. Perform each cleaning method in manner resulting in uniform appearance and effect without streaking or damage to surfaces.

4. Clean areas indicated to be cleaned of dirt, algae, mildew, carbon deposits, asphalt, efflorescence and rust stains and streaks.
 5. Selection of cleaning materials and methods:
 - a. General: Use the gentlest materials and methods possible to clean concrete and/or stone. If these should not prove adequate for cleaning, other methods listed in the following sequence may be used after consultation and acceptance of Architect.
 - b. Sequence:
 - 1) Use scrubbing and water application methods first.
 - 2) Prolonged washing.
 - 3) Spray applications.
 - 4) Steam wash.
 - 5) Chemical cleaners.
 - c. Selection of cleaning materials and methods will be based on results of cleaning sample installation test patched.
- B. Preparation:
1. Provide protection for concrete and/or stone materials, materials adjacent to Work and protection for surrounding surfaces from debris or run-off.
 2. Protect doors, windows and other openings from water penetration.
 3. Chemical cleaning agents listed for limestone and cast stone are not suitable for other masonry, and vice versa. If chemical cleaning agents are used, provide protection for adjacent unlike materials, in addition to other required protections.
- C. Paint Removal:
1. Remove existing paint by applying paint stripper in accordance with manufacturer's directions.
 2. Allow stripper to stand on surface until paint is softened and easily removed.
 3. Remove softened paint by most appropriate method that does not harm or deface concrete and/or stone surfaces.
 4. Apply multiple applications of stripper if required to completely remove paint.
 5. Neutralize and remove paint stripper residue by rinsing with clean water.
- D. Water Application Methods:

1. Use scrubbing and water application methods first.
2. Prolonged washing: Soak concrete and/or stone surface by continuous application of water from a hose.
3. Spray applications: Spray apply either cold or warm water. Wash at pressure not exceeding 90 psi (550 kPa) at tip, holding spray nozzle not less than 6 inches (150 mm) from surface. Apply from side to side in overlapping bands to product uniform coverage and even effect.
4. Steam wash: Apply steam at pressures not exceeding 80 psi (550 kPa). Hold nozzle not less than 6 inches (150 mm) from surface. Apply in side to side motion in overlapping bands to product uniform coverage and even effect.

E. Chemical Cleaner Application:

1. Apply using materials and methods accepted on sample installation test patches.
2. Strictly comply with manufacturer's instructions.
3. Do not allow chemicals to remain on concrete and/or stone surfaces for longer than recommended periods.
4. Do not apply to same surfaces more than twice.
5. Rinse from bottom to top of each scaffold width; continue until rinse water runs clear.

3.04 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
- B. Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. The number of coats and film thickness required is the same regardless of application method.
 2. Completed Work: Match approved Samples for color, texture, and coverage. Remove, refinish, or recoat work that does not comply with specified requirements.

3.05 FIELD QUALITY CONTROL

- A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:

1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
2. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the two coatings are incompatible.

3.06 PROTECTION

- A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
- C. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces.

END OF SECTION