

SPECIFICATIONS

for

BID No. 14-12 ***MASONRY RESTORATION WORK***

at the

MAPLE POINT MIDDLE SCHOOL

2250 Langhorne-Yardley Road
Langhorne, PA 19047

OWNER



Neshaminy School District
2001 Old Lincoln Highway
Langhorne, PA 19047

CONSULTANT

Weatherproofing Technologies, Inc.
24 Cherry Circle
Glen Mills, PA 19342
Phone: 610- 357-5100
Fax: 610-361-8519
E-mail: cconoverpe@comcast.net

WTI Project No. P11-937-01

February 11, 2013

Clifford C. Conover, P.E., RRC
Field Consultant

SET NO. _____

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WTI Project No. P11-937-01

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DOCUMENT 00020 - INVITATION TO BID

Notice is hereby given that sealed bids will be received from Qualified Bidders by the Owner, Neshaminy School District located at 2001 Old Lincoln Highway located at Langhorne, PA 19047 before 10:00 a.m. local time on the 2nd day of April, 2013 for the following project:

Bid No. 14-12 Masonry Restoration Work at the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, PA 19047.

A **Mandatory** Bidders conference will be held on March 11, 2013 at 2:30 p.m. at the location of the Work. All bidders shall be required to comply with all applicable Federal, State and Municipal statutes, laws, ordinances, rules and regulations affecting the proposed Work.

Interested Contractors shall submit a completed Document 00305 - Contractor's Pre-Qualification Statement on or before 4:00 p.m. on March 15, 2013 to: Weatherproofing Technologies, Inc. located 24 Cherry Circle, Glen Mills, PA 19342; E-mail address: conoverpe@comcast.net with copy to: tsizgorich@neshaminy.k12.pa.us. Weatherproofing Technologies, Inc. will review each submitted form and send a notice to each contractor by E-mail on or before March 20, 2013 that establishes their Qualification status for this project.

Offers from Qualified Bidders established by Weatherproofing Technologies, Inc. shall be submitted on the Bid Form and Supplements to Bid Form provided. Bidders are required to complete Document 00310 - Bid Form and Document 00400 - Supplements to Bid Form.

Qualified Bidder shall submit one copy of the executed bid on the Bid Form and Supplements to Bid Form provided, signed and sealed with the required Supplements to Bid Form and Bid Bond in a closed opaque envelope, clearly identified with Bidder's name, project name and Owner's name on the outside.

Bids shall be submitted under a condition of irrevocability for a period of sixty (60) days after the actual date of the opening of the Bids.

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

BY ORDER OF:

Neshaminy School District
2001 Old Lincoln Highway
Langhorne, PA 19047

- END OF DOCUMENT -

DOCUMENT 00100 - INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 DOCUMENT INCLUDES

A. Invitation

1. Bid Submission
2. Intent
3. Work Identified in the Contract Documents
4. Contract Time

B. Bid Documents and Contract Documents

1. Definitions
2. Contract Documents Identification
3. Availability
4. Examination
5. Queries/Addenda
6. Product/System Substitutions

C. Site Assessment

1. Site Examination
2. Pre-bid Conference

D. Qualifications

1. Qualifications
2. Pre-qualification
3. Subcontractors/Suppliers/Others

E. Bid Submission

1. Submission Procedure
2. Bid Ineligibility

F. Bid Enclosures/Requirements

1. Bid Form Requirements
2. Bid Form Signature

G. Offer Acceptance/Rejection

1. Duration of Offer
2. Acceptance of Offer

1.2 RELATED DOCUMENTS

- A. Document 00020 - Invitation to Bid.
- B. Document 00310 - Bid Form.
- C. Document 00400 - Supplements to Bid Form.

PART 2 - INVITATION

2.1 BID SUBMISSION

- A. Sealed Bids, inclusive of Document 00310 - Bid Form and Document 00400 - Supplements to Bid Form signed, executed and dated will be received by the Owner, Neshaminy School District located at 2001 Old Lincoln Highway located at Langhorne, PA 19047 before 10:00 a.m. local time on the 2nd day of April, 2013 for the following project:
 - 1. Bid No. 14-12 Masonry Restoration Work at the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, PA 19047.
- B. Offers submitted after the above time will not be accepted and returned to the Bidder unopened.
- C. Offers will be opened publicly at the time for receipt of Bids.
- D. Amendments to the submitted offer will be permitted if received in writing prior to Bid closing and if endorsed by the same party or parties who signed and sealed the offer.

2.2 INTENT

- A. The intent of this Bid request is to obtain an offer to restore existing exterior walls on the Masonry Restoration Work at the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, PA 19047, for a stipulated sum contract in accordance with the Contract Documents.

2.3 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

- A. Work of this proposed Contract comprises includes restoration of existing exterior walls on the Masonry Restoration Work at the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, PA 19047 for a stipulated sum contract in accordance with the Contract Documents.

2.4 CONTRACT TIME

- A. Perform Base and Alternate Bids Work from June 24th, 2013 and complete all work before or on August 16th, 2013.
- B. The timely completion of the work contained in these Contract Drawings and Specifications is of the essence of this Contract.
- C. Make every effort to prosecute the work diligently and to provide sufficient skilled labor to complete the Work on time.

PART 3 - BID AND CONTRACT DOCUMENTS

3.1 DEFINITIONS

- A. Bid Documents: Contract Documents supplemented with Invitation to Bid, Instructions to Bidders, Information Available to Bidders, Bid Form and Appendix A, Supplements to Bid Forms and Appendices, and Bid Securities, identified herein.
- B. Contract Documents: Defined in AIA A201-2007 - Article 1 including issued Addenda.
- C. Sealed Bid, Offer, or Bidding: Act of submitting an offer under seal.
- D. Bid Sum: Monetary sum identified by the Bidder in the Bid Form.
- E. Refer to Division 0, Document 00701 - General Conditions of the Contract, and Division 0, Document 00811 - Supplementary Conditions to the General Conditions for definitions of terms relating to the Contract Documents.

3.2 CONTRACT DOCUMENTS IDENTIFICATION

- A. The Contract Documents are identified as Project Number WTI P11-937-01 as prepared by the Consultant, Weatherproofing Technologies, Inc. (WTI) located at 24 Cherry Circle, Glen Mills, PA 19342 and identified in these Specifications.

3.3 AVAILABILITY

- A. Bid Documents may be obtained by E-mail from the Consultant.
- B. Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not grant a license for other purposes.

3.4 EXAMINATION

- A. Bid Documents may be viewed at the office of the Consultant or downloaded from Neshaminy School District website @ [www. Neshaminy.org](http://www.Neshaminy.org).
- B. Upon receipt of Bid Documents, verify that documents are complete. Notify Consultant should the documents be incomplete.
- C. Immediately notify the Consultant upon finding discrepancies or omissions in the Bid Documents.

3.5 QUERIES/ADDENDA

- A. Direct questions to the Consultant, Weatherproofing Technologies, Inc. (WTI) located at 24 Cherry Circle, Glen Mills, PA 19342, Telephone No.: 610-357-5100, FAX: 610-361-8519; E-mail: cconoverpe@comcast.net.
- B. Addenda may be issued during the Bidding period. All Addenda become part of the Contract Documents. Include resultant costs of Addenda in the Bid Sum.

- C. Verbal answers are not binding on any party.
- D. Clarifications requested by Bidders must be in writing by March 26, 2013. The reply will be in the form of an Addendum issued by March 29, 2013, a copy of which will be forwarded to known recipients of Bid Documents.

3.6 PRODUCT/SYSTEM SUBSTITUTIONS

- A. Where the Bid Documents stipulate a particular Product, substitutions may be considered by the Consultant by March 26, 2013.
- B. The submission shall provide sufficient information to determine acceptability of such products.
- C. When a request to substitute a Product is made, the Consultant may approve the substitution and will issue an Addendum to known Bidders.
- D. In submission of substitutions to products specified, Bidders shall include in their Bid, any changes required in the Work and changes to Contract Time and Contract Sum to accommodate such substitutions. A later claim by the bidder for an addition to the Contract Time or Contract Sum because of changes in Work necessitated by use of substitutions shall not be considered.

PART 4 - SITE ASSESSMENT

4.1 SITE EXAMINATION

- A. Examine the project site before submitting a Bid.
- B. The Bidder is required to contact the Owner or Consultant in order to arrange a date and time to visit the project site.

4.2 PRE-BID CONFERENCE

- A. A Mandatory Bidders conference will be held on March 11, 2013 at 2:30 p.m. at the location of the Work.
- B. All Bidders are invited.
- C. Representatives of the Owner and the Consultant will be in attendance.
- D. Information relevant to the Bid Documents will be discussed during this conference.

PART 5 - QUALIFICATIONS

5.1 EVIDENCE OF QUALIFICATIONS

- A. To demonstrate qualification for performing the Work of this Contract, Bidders will be requested to submit written evidence of previous experience to perform the Work.

1. Interested Contractors shall submit a completed Document 00305- Contractor's Pre- Qualification Statement on or before 4:00 p.m. on March 15, 2013 to: Weatherproofing Technologies, Inc. located 24 Cherry Circle, Glen Mills, PA 19342 to:
E-mail: cconoverpe@comcast.net with copy to: tsizgorich@neshaminy.k12.pa.us.
Weatherproofing Technologies, Inc. will review each submitted form and send a notice to each contractor by E-mail on or before March 20, 2013 that establishes their qualification status for this project.
- B. The Owner may make such investigations as it deems necessary to determine the ability of the Bidder to perform the Work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of such Bidder fails to satisfy the Owner that the Bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.
- C. All prospective workers on site at this project shall have been cleared in a background checks must Have current (not more than one (1) year old) Pennsylvania State Criminal Background (Act 34), Child Abuse (Act 151), and Federal Criminal History Record (Act 114, Fingerprinting) clearances.

5.2 SUBCONTRACTORS/SUPPLIERS/OTHERS

- A. The Owner reserves the right to reject a proposed Subcontractor for reasonable cause.
- B. Refer to AIA Document A201, 2007 - Article 5 of General Conditions.

PART 6 - BID SUBMISSION

6.1 SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for the delivery of their Bids in the manner and time prescribed.
- B. Submit one copy of the executed bid on the Bid Forms provided, signed and sealed with the required Supplements to Bid Form and Bid Bond, if required, in a closed opaque envelope, clearly identified with Bidder's name, project name and Owner's name on the outside.
- C. Improperly completed information, irregularities in bid bond, may be cause not to open the Bid Form envelope and declare the Bid invalid or informal.

6.2 BID INELIGIBILITY

- A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may at the discretion of the Owner, be declared unacceptable.
- B. Bid Forms, Appendices, and enclosures that are improperly prepared may at the discretion of the Owner, be declared unacceptable.
- C. Failure to provide required bid bond, performance bond, labor and material bond, and insurance may at the discretion of the Owner, invalidate the Bid.

PART 7 - BID ENCLOSURES/REQUIREMENTS

7.1 SECURITY DEPOSIT

- A. Bids shall be accompanied by a security deposit as follows:
 - 1. Bid Bond in the amount of a sum equal to 10 per cent of the Bid Sum on Document 00410 – Bid Bond Form, or a certified check of the Bidder duly executed by the Bidder as principal.
- B. Endorse the Bid Bond in the name of the Owner as obligee, signed and sealed by the Contractor as principal and the surety.
- C. The security deposit will be returned after delivery to the Owner of the required Performance, and Labor and Materials Payment Bonds by the accepted Bidder.
- D. Include the cost of Bid Security in the Bid Sum(s).
- E. After a Bid has been accepted, all securities will be returned to the respective Bidders and other requested enclosures.
- F. If no contract is awarded, all security deposits will be returned.

7.2 PERFORMANCE ASSURANCE

- A. Accepted Bidder: Provide Performance, and Labor and Materials Payment as described in Documents 00420 and 00430, respectively.
- B. The Bidder to whom a Contract has been awarded, shall furnish and deliver within seven (7) days after receipt of a written "Notice of Award", the Performance, and Labor and Material Payment Bonds.
- C. Performance and Labor and Material Bond shall be in the amount of 100 per cent of the Contract Amount.
- D. A surety on such bonds shall be a surety company satisfactory to the Owner and authorized to do business in the state in which the Work is located, and must be listed in the U.S. Department of the Treasury List of Surety Companies on Federal Bonds.
- E. Include the cost of Performance and Labor and Material Bonds in the Bid Sum and identify the cost Appendix C - Cost Breakdowns in Document 00400 - Supplements to Bid Form.

7.3 BID FORM REQUIREMENTS

- A. Complete all requested information in Document 00310 - Bid Form and Document 00400 - Supplements to Bid Form.
- B. Proposals shall be submitted on the form of proposal furnished by the Consultant properly filled out and duly executed. Proposal Forms shall not be altered or added to in any way. Lump Sum Bid or Base Bid and Alternate Bid Sum(s) shall be entered, in ink or typewritten, in both words and figures.

- C. The Bidder shall use the term "N.A." for items that are "Not Applicable" with respect to Alternate Bids and Unit Prices requested on the Proposal Form that do not apply to the bid or bids being submitted thereon. The term "No Bid" should not be used with respect to Alternate Bids or Unit Prices requested on the Proposal Forms. The Bidder who does not desire to make a change from the Base Bid under a particular Alternate Bid shall so indicate by using the words "No Change." Failure to bid or use of the term "No Bid" on any Alternate may cause rejection of the entire bid.
- D. Bidder shall submit one copy of the executed bid on the Bid Form and Supplements to Bid Form provided, signed and sealed with the required Supplements to Bid Form and Bid Bond in a closed opaque envelope, clearly identified with Bidder's name, project name and Owner's name on the outside.

7.4 BID FORM SIGNATURE

- A. The Bid Form shall be signed by the Bidder, as follows:
 - 1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
 - 2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
 - 3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the Bid is signed by officials other than the President and Secretary of the company, or the President/Secretary/Treasurer of the company, a copy of the by-law resolution of the Board of Directors authorizing them to do so, must also be submitted with the Bid Form in the Bid envelope.
 - 4. Joint Venture: Each party of the joint venture shall execute the Bid Form under their respective seals in the manner appropriate to such party as described above, similar to the requirements of a Partnership.

PART 8 - OFFER ACCEPTANCE/REJECTION

8.1 DURATION OF OFFER

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty (60) days after the Bid closing date.

8.2 ACCEPTANCE OF OFFER

- A. The Owner reserves the right to accept or reject any or all bids including Alternate Bids under any Contract for a Period of up to sixty (60) days after receipt of bids.
- B. After acceptance by the Owner, the Consultant on behalf of the Owner, will issue to the successful Bidder, a written letter of Notice of Award.

- END OF DOCUMENT -

DOCUMENT 00305 CONTRACTOR'S QUALIFICATIONS STATEMENT

PART 1 - GENERAL

1.1 SUBMISSION REQUIREMENTS

- A. Interested Contractors shall submit a completed Document 00305 – Contractor's Pre-Qualification Statement on March 11, 2013 on or before 4:00 p.m. to: Weatherproofing Technologies, Inc. located 24 Cherry Circle, Glen Mills, PA 19342 by E-mail: cconoverpe@comcast.net. Weatherproofing Technologies, Inc. will review each submitted forms and send a notice to each contractor by E-mail on or before March 20, 2013 who is qualified and not qualified for this project.

1.2 CONTRACTOR'S PRE-QUALIFICATION STATEMENT

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

Submitted To: Weatherproofing Technologies, Inc.

Address: 24 Cherry Circle
Contact Info. Glen Mills, PA 19342
Phone: 610-357-5100
Fax: 610-361-8519
E-mail: cconoverpe@comcast.net

Copy to: E-mail: tsizgorich@neshaminy.k12.pa.us

Submitted By:

Name:

Address:

Contact Info. Phone:
Fax:
E-mail:

Principal Office:

- ☐ Corporation
- ☐ Partnership
- ☐ Individual
- ☐ Joint Venture
- ☐ Other

Name of Project: Masonry Restoration Work
Maple Point Middle School
2250 Langhorne-Yardley Road
Langhorne, PA 19047

Type of Work: Masonry Restoration Work

1.0 ORGANIZATION

- A.** How many years has your organization been in business as a Contractor?

- B.** How many years has your organization been in business under its present business name?
 - 1.** Under what other or former names has your organization operated?

- D.** If your organization is a corporation, answer the following:
 - 1.** Date of incorporation:
 - 2.** State of incorporation:
 - 3.** President's Name:
 - 4.** Vice-president's Name(s):
 - 5.** Secretary's name:
 - 6.** Treasurer's name:

- E.** If your organization is a partnership, answer the following:
 - 1.** Date of organization:
 - 2.** Type of partnership, if applicable:
 - 3.** Name(s) of general partner(s):
 - 4.** If your organization is individually owned, answer the following:
 - a.** Date of organization:
 - b.** Name of owner:

F. If the form of your organization is other than listed above, describe it and the principals:

2. LICENSING

A. List jurisdictions and trade categories in which your organization is legally qualified to do business and indicate registration or license numbers, if applicable.

B. List jurisdictions in which your organization's partnership or trade name is filed.

C. All prospective workers on site at this project shall have been cleared in a background checks must have current (not more than one (1) year old) Pennsylvania State Criminal Background (Act 34), Child Abuse (Act 151), and Federal Criminal History Record (Act 114, Fingerprinting) clearances.

1. Does your firm have a sufficient amount of workers assigned to this project that have been or will be cleared in the background checks as required by Acts 34,151, and 114 ?

3. EXPERIENCE

A. List the categories of work that your organization normally performs with its own forces.

B. Claims and suits. *(If the answer to any of the questions below is yes, please attach details.)*

C. Has your organization ever failed to complete any work awarded to it?

D. Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

E. Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

F. Within the last five years, has any officer or principal of your organization ever been an officer or principal of another organization when it failed to complete a construction contract?
(If the answer is yes, please attach details.)

E. On a separate sheet, list major masonry restoration projects your organization has in progress, giving the Name of project, owner, architect, contract amount, percent complete and scheduled completion date.

E. State total worth of masonry restoration work in progress and under contract:

F. On a separate sheet, list the major masonry restoration projects similar in scope to that specified for this project your organization has completed in the last five years, giving the name of project, owner, architect, engineer, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

G. State average annual amount of masonry restoration work performed during the past five years:

H. On a separate sheet, list the masonry restoration experience and present commitments of the Key Individuals of your organization.

4. REFERENCES

A. Trade References:

B. Bank Reference:

C. Surety

1. Name of bonding company:

2. Name and address of agent:

5. SIGNATURE

Dated at this day of _____ (month), 2013.

Name of Organization:

By:

Title:

Being duly sworn deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

SWORN TO AND SUBSCRIBED

BEFORE ME THIS _____ DAY OF _____, 2013.

Notary Public

My Commission Expires:

DOCUMENT 00310 - BID FORM

TO (OWNER): Neshaminy School District
2001 Old Lincoln Highway
Langhorne, PA 19047

PROJECT: Bid No. 14-12
Maple Point Elementary School
2250 Langhorne-Yardley Road
Langhorne, PA 19047

CONSULTANT'S
PROJECT NO.: P11-937-01

DATE: _____, 20____

SUBMITTED BY:

(Full Name of Bidder)

(Full Address of Bidder)

1. BID OFFERS

- A. Base Bid Offer – Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the Consultant, Weatherproofing Technologies, Inc., for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform Base Bid Work as required by the Contract Drawings and Specifications that includes the specified work for the Total Sum of:

\$ _____
(dollars)

(written sum)

(written sum)

in money of the United States of America.

B. Alternate Bid No. 1 Offer – Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the Consultant, Weatherproofing Technologies, Inc., for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform Alternate Bid No. 1 Work as required by the Contract Drawings and Specifications that includes the specified work for the Total Sum of:

\$ _____
(dollars)

(written sum)

(written sum)

in money of the United States of America.

C. Alternate Bid No. 2 Offer – Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the Consultant, Weatherproofing Technologies, Inc., for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform Alternate Bid No. 2 Work as required by the Contract Drawings and Specifications that includes the specified work for the Total Sum of:

\$ _____
(dollars)

(written sum)

(written sum)

in money of the United States of America.

1. All costs for labor, equipment, materials, and supervision, applicable federal taxes, state taxes, local and state sales taxes, all required manufacturer's warranties and guarantees, performance and labor and material bonds, insurance costs and the two (2) year Workmanship Guarantee are included in the Base Bid and Alternate Bid Sums.

C. Alternate Bid No. 3 Offer – Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the Consultant, Weatherproofing Technologies, Inc., for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform Alternate Bid No. 3 Work as required by the Contract Drawings and Specifications that includes the specified work for the Total Sum of:

\$ _____
(dollars)

(written sum)

(written sum)

in money of the United States of America.

1. All costs for labor, equipment, materials, and supervision, applicable federal taxes, state taxes, local and state sales taxes, all required manufacturer's warranties and guarantees, performance and labor and material bonds, insurance costs and the two (2) year Workmanship Guarantee are included in the Base Bid and Alternate Bid Sums.

D. Alternate Bid No. 4 Offer – Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by the Consultant, Weatherproofing Technologies, Inc., for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform Alternate Bid No. 4 Work as required by the Contract Drawings and Specifications that includes the specified work for the Total Sum of:

\$ _____
(dollars)

(written sum)

(written sum)

in money of the United States of America.

1. All costs for labor, equipment, materials, and supervision, applicable federal taxes, state taxes, local and state sales taxes, all required manufacturer's warranties and guarantees, performance and labor and material bonds, insurance costs and the two (2) year Workmanship Guarantee are included in the Base Bid and Alternate Bid Sums.

2. ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for sixty (60) days from the Bid closing date.

B. If this Bid is accepted by the Owner within the time period stated above, we will:

- 1) Execute the Agreement within seven days of receipt of Notice of Award.
- 2) Furnish Insurance Forms and required bonds within seven days of receipt of Notice of Award.
- 3) Commence work on June 24th, 2013 and complete all work before or on August 16th, 2013.
- 4) If this Bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to the Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this Bid and the Bid upon that the Contract is signed.
- 5) In the event our Bid is not accepted within the time stated above, the required security deposit shall be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended period of time.

3. CONTRACT TIME

A. If this Bid is accepted, we will:

1. Perform Base Bid Work and Alternate Bid Nos. 1, 2, 3, 4 beginning on June 24th, 2013 until August 16th, 2013.

4. ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted therein have been considered and all costs thereto are included in the Base Bid Sum.

- 1) Addendum # _____ Date: _____
- 2) Addendum # _____ Date: _____
- 3) Addendum # _____ Date: _____

5. APPENDICES

A. The following Appendices are being submitted with this Bid Form and become a part of this Bid Form:

- 1) Appendix A - Subcontractors: Include the names of all Subcontractors and the portions of the Work they will perform.
- 2) Appendix B - Unit Prices: Include a listing of unit prices specifically requested by the Contract Documents.
- 3) Appendix C - Cost Breakdown identifies the Bid Sum segmented into portions as requested.

6. BID FORM SIGNATURE(S)

The Corporate Seal of

(Bidder's full name of Proprietorship, Partnership, or Corporation)

was hereunto affixed in the presence of:

(Authorized signing officer)

(Title)

(Seal)

(Authorized signing officer)

(Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

- END OF DOCUMENT -

DOCUMENT 00400 - SUPPLEMENTS TO BID FORM

TO (OWNER): Neshaminy School District
2001 Old Lincoln Highway
Langhorne, PA 19047

PROJECT: Bid No. 14-12
Maple Point Elementary School
2250 Langhorne-Yardley Road
Langhorne, PA 19047

CONSULTANT'S
PROJECT NO.: P11-937-01

DATE: _____, 20____

SUBMITTED BY:

(Full Name of Bidder)

(Full Address of Bidder)

- A. In accordance with Document 00100 - Instructions to Bidders and Document 00310 - Bid Form, we include the Supplements to Bid Form Appendices listed below. The information provided shall be considered an integral part of the Bid Form.
- B. These Appendices are as follows:
1. Appendix A - Subcontractors: Include the names of all Subcontractors and the portions of the Work they will perform.
 2. Appendix B - Unit Prices: Include a listing of unit prices specifically requested by the Contract Documents.
 3. Appendix C - Cost Breakdown identifies the Bid Sum segmented into portions as requested.

C. SUPPLEMENTS TO BID FORM SIGNATURE(S)

The Corporate Seal of

(Bidder's full name of Proprietorship, Partnership, or Corporation)

was hereunto affixed in the presence of:

(Authorized signing officer)

(Title)

(Seal)

(Authorized signing officer)

(Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

DOCUMENT 00400 - SUPPLEMENTS TO BID FORM

APPENDIX A - SUBCONTRACTORS

The following work will be performed by Subcontractors and coordinated by the Contractor under contract with the Owner:

DESCRIPTION OF WORK	NAME & ADDRESS
<u>EXTERIOR MASONRY WORK</u>	<u>(Name)</u>
	<u>(Address)</u>
	<u>(Telephone No.) (FAX No.)</u>
<u>SHEET METAL WORK</u>	<u>(Name)</u>
	<u>(Address)</u>
	<u>(Telephone No.) (FAX No.)</u>
<u>CAULKING</u>	<u>(Name)</u>
	<u>(Address)</u>
	<u>(Telephone No.) (FAX No.)</u>
<u>PIER PLATE WELDING</u>	<u>(Name)</u>
	<u>(Address)</u>
	<u>(Telephone No.) (FAX No.)</u>

DOCUMENT 00400 - SUPPLEMENTS TO BID FORM

APPENDIX B - UNIT PRICES

The following is the list of Unit Prices referenced in the Bid submitted by:

(Bidder)

(Owner)

dated _____ that is an integral part of the Bid Form.

The following are Unit Prices in dollars (\$) of the United States of America for specific portions of the Work as listed, and are applicable to the Contract Documents. These Unit Prices are to be added to or subtracted from the Base Bid and Alternate Bid Sums. All applicable taxes, equipment, materials, labor, insurance, bond, overhead and profit costs are included in the Unit Values.

UNIT PRICE DESCRIPTIONUNIT PRICE - ADDED TO OR
SUBTRACTED FROM THE BID SUM

- | | |
|--|---------------------------------|
| U-1: Removal of defective face brick and replacement with new face brick to match existing as required by Sections 04085 & 04810 in the Specifications | \$ _____ per face brick |
| U-2: Removal of defective sealant and backer rod and replacement with new sealant and backer rod as required by Section 079200 in the Specifications | \$ _____ per linear foot |
| U-3: Tuckpointing of Joints between Masonry Units of the Face Brick Wall as required by Section 04521 in the Specifications | \$ _____ per linear foot |
| U-4: Removal of a bent section of metal plate at a window pier and replacement with a steel plate section to match existing and welding of the new steel plate section to existing steel plate to remain as required by the Specifications | \$ _____ per steel plate @ pier |
| U-5: Installation of new mortar wash and installation of clear penetrating sealer on the new mortar as per Alternate Bid No. 3 work. | \$ _____ per face brick pier |

DOCUMENT 00400 - SUPPLEMENTS TO BID FORM

APPENDIX B - UNIT PRICES

The following is the list of Unit Prices referenced in the Bid submitted by:

(Bidder)

(Owner)

dated _____ that is an integral part of the Bid Form.

The following are Unit Prices in dollars (\$) of the United States of America for specific portions of the Work as listed, and are applicable to the Contract Documents. These Unit Prices are to be added to or subtracted from the Base Bid and Alternate Bid Sums. All applicable taxes, equipment, materials, labor, insurance, bond, overhead and profit costs are included in the Unit Values.

UNIT PRICE DESCRIPTIONUNIT PRICE - ADDED TO OR
SUBTRACTED FROM THE BID SUM

U-6: Power wash exterior face brick wall and installation of clear penetrating sealer as required by the Specifications	\$ _____ per square foot
---	--------------------------

DOCUMENT 00400 - SUPPLEMENTS TO BID FORM

APPENDIX A - UNIT PRICES

The following is the list of Unit Prices referenced in the Bid submitted by:

(Bidder)

(Owner)

dated _____ that is an integral part of the Bid Form.

The following are Unit Prices for specific portions of the Work as listed, and are applicable to the Contract Documents. The Unit Price work shall be performed as required by the Contract Documents. These Unit Prices are to be added to or subtracted from the Base Bid and Alternate Bid Sums. All applicable taxes, equipment, materials, labor, insurance, bond, overhead and profit costs are included in the Unit Values.

UNIT PRICE DESCRIPTIONUNIT PRICE - ADDED TO OR
SUBTRACTED FROM THE BID SUMSTRAIGHT TIME LABOR COSTS:

Masonry Superintendent	\$ _____ per straight time hour
Masonry Foreman	\$ _____ per straight time hour
Masonry Mechanic	\$ _____ per straight time hour
Masonry Laborer	\$ _____ per straight time hour

OVERTIME LABOR COSTS:

Masonry Superintendent	\$ _____ per overtime hour
Masonry Foreman	\$ _____ per overtime hour
Masonry Mechanic	\$ _____ per overtime hour
Masonry Laborer	\$ _____ per overtime hour

All dollars (\$) are in money of the United States of America.

-END OF APPENDIX A -

DOCUMENT 00400 - SUPPLEMENTS TO BID FORM

APPENDIX B - COST BREAKDOWNS

The following is the list of Cost Breakdowns referenced in the Bid submitted by:

(Bidder)

(Owner)

dated _____ that is an integral part of the Bid Form.

All costs for applicable taxes, warranties/guarantees, bonds, equipment, materials, labor, insurance, bond, overhead and profit costs are included in the Cost Breakdown Value Sums.

The following amounts are included with the Base Bid, Alternate Bid and Unit Price Sums.

DESCRIPTION OF ITEMVALUE SUM

Base Bid Work:

Workmanship Guarantee as required by
Section 00440

\$ _____

Alternate Bid No. 1 Work:

Workmanship Guarantee as required by
Section 00440

\$ _____

Alternate Bid No. 2 Work:

Workmanship Guarantee as required by
Section 00440

\$ _____

Alternate Bid No. 3 Work:

Workmanship Guarantee as required by
Section 00440

\$ _____

Alternate Bid No. 4 Work:

Workmanship Guarantee as required by
Section 00440

\$ _____

All dollars (\$) are in money of the United States of America.

- END OF APPENDIX B -
- END OF DOCUMENT -

DOCUMENT 00405 NON-COLLUSION AFFIDAVIT



**NESHAMINY SCHOOL DISTRICT
BID 14 - 12 Masonry Restoration Work at Maple Point Middle School**

NON-COLLUSION AFFIDAVIT

State of _____ County of _____
I, _____ of the _____ (city, town) of _____, in the County of _____,
State of _____, of full age , being duly sworn according to law on my
Oath dispose and say that:

I am _____ of the firm of _____.

The bidder making the Proposal for the above-named projects and that I executed the said Proposal with full authority to do so; that said bidder has not, directly or indirectly, entered into an agreement, participated in any collusion, or otherwise taken any actions in restraint of free, competitive bidding in connection with the above-named project; and that all statements contained in said Proposal and in this affidavit are true and correct, and made with full knowledge that the State of Pennsylvania relies upon the truth of the statements contained in said Proposal and in the statements contained in this affidavit in awarding the contract for the said project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide employees of bona fide established commercial or selling agencies maintained by:

(Name of Firm) (Signature) (Date)

Subscribed and worn before me this _____ day of _____,
20____

(Seal) notary Public of

My commission expires _____, 20____

PENNSYLVANIA CHILD ABUSE HISTORY CLEARANCE

COMPLETE SECTION I ONLY. PRINT CLEARLY IN INK. ENCLOSE \$10.00 MONEY ORDER ONLY. PAYABLE TO DEPARTMENT OF PUBLIC WELFARE. DO NOT SEND CASH OR PERSONAL CHECK.

SEND TO: CHILDLINE AND ABUSE REGISTRY, DEPARTMENT OF PUBLIC WELFARE,
P.O. BOX 8170 HARRISBURG, PA 17105-8170

APPLICATIONS THAT ARE INCOMPLETE ILLEGIBLE OR RECEIVED WITHOUT FEE WILL BE RETURNED UNPROCESSED. IF YOU HAVE QUESTIONS CALL 717-783-6211

CHILDLINE USE ONLY

DATE RECEIVED BY CHILDLINE

SECTION I

APPLICANT IDENTIFICATION

IN THIS SPACE PRINT APPLICANTS FULL NAME AND ADDRESS (DO NOT USE INITIALS)

NAME

STREET

CITY STATE
ZIP CODE

SOCIAL SECURITY NUMBER

AGE

DATE OF BIRTH

DAYTIME PHONE NO.

SEX

☐ M ☐ F

COUNTY YOU LIVE IN

PREVIOUS NAMES USED SINCE 1975 (Include Maiden Name, Nicknames, Aliases)

(FIRST, MIDDLE, LAST)

(FIRST, MIDDLE, LAST)

PURPOSE OF CLEARANCE (Check ONE block ONLY)

☐ CHILD CARE

☐ FOSTER CARE

☐ ADOPTION

☐ SCHOOL

☐ VOLUNTEERS A copy of your PROCESSED "Request for Criminal Record" (Form SP4-164) must be attached. Out-of-state residents must also attach a copy of their PROCESSED FBI clearance (Form FID-258).

☐ CWEP (Community Work Experience Program Participant)

SIGNATURE OF CAO REP.

CAO PHONE NO.

PREVIOUS ADDRESSES SINCE 1975 (Attach additional pages if necessary)

1.

2.

3.

4.

HOUSEHOLD MEMBERS (List everyone who lived with you at anytime since 1975 to the present)

NAME (First, Middle, Last) Do not use initials.	RELATIONSHIP	PRESENT AGE	SEX
1.			
2.			
3.			
4.			
5.			
6.			

I certify that the above information is accurate and complete to the best of my knowledge and belief and submitted as true and correct under penalty of law (Section 4904 of the Pennsylvania Crimes Code).

Applicants are required to show the Administrator the original document. Administrators are required to keep a copy of this child abuse history record on file. Any person altering the contents of this document may be subject to civil, criminal or administrative action.

APPLICANT'S SIGNATURE

DATE

DO NOT WRITE IN THIS SECTION - CHILDLINE USE ONLY

SECTION II

RESULTS OF HISTORY CHECK

☐ APPLICANT IS NOT LISTED IN A REPORT OF CHILD ABUSE OR A REPORT FOR SCHOOL EMPLOYEE.

☐ APPLICANT IS LISTED IN A REPORT OF CHILD ABUSE OR A REPORT FOR SCHOOL EMPLOYEE (SEE BELOW).

STATUS OF REPORT	DATE OF INCIDENT	STATUS OF REPORT	DATE OF INCIDENT
1.		3.	
2.		4.	

VERIFIER

DATE

VERIFIER'S SUPERVISOR

DATE

03460C



OFFICE OF
CHILDREN, YOUTH & FAMILIES

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF PUBLIC WELFARE
CHILDLINE & ABUSE REGISTRY
Lanco Lodge, 2nd Floor
P.O. Box 8170
Harrisburg, Pennsylvania 17105-8170

TELEPHONE NUMBER
AREA CODE 717-787-4756

IMPORTANT INFORMATION FOR SCHOOLS UNDER THE DEPARTMENT OF EDUCATION

PLEASE PASS ON THESE INSTRUCTIONS TO THE APPLICABLE PERSONNEL

1. All Application (s) must be PRINTED CLEARLY and NEATLY IN INK or TYPED in SECTION I ONLY. Address must be applicant's HOME and \$10.00 FEE must be enclosed for each form. Check only ONE BLOCK for "Reason for Clearance".
2. All applicants must complete the PREVIOUS ADDRESSES AND HOUSEHOLD MEMBERS PROPERLY. List all previous addresses and EVERYONE you lived with or who lived with you since 1975 (parents, siblings, paramour, friends, etc.) List all this information to the best of your knowledge, attaching additional pages if necessary.
3. Since obtaining a child abuse clearance is a school requirement, all applicants must check the "SCHOOL EMPLOYMENT" block. Do NOT check "Voluntary".

Forms printed before 3/95 do not have a "School Employment" block. In this case, check the "Employment" block and write "SCHOOL REQ." above it. Again, do NOT check the Voluntary block, if completing this form for school purposes.

All processed application(s) will be returned to the applicant's home address in approximately three weeks.

To obtain large quantities of FBI Cards (FD-258), call 717-783-3750. To obtain large quantities of the Request for Criminal Record Check (SP4-164), call 717-783-5494.

ChildLine Verification Unit

IF ANY PART OF SECTION I IS UNCLEAR OR INCOMPLETE, THE APPLICATION WILL BE RETURNED DELAYING THE PROCESS AN ADDITIONAL THREE WEEKS.

ARREST/CONVICTION REPORT AND CERTIFICATION FORM (under Act 24 of 2011 and Act 82 of 2012)

Section 1. Personal Information

Full Legal Name: _____

Date of Birth: ____/____/____

Any former names
by which you have
been identified: _____

Section 2. Report of Arrest or Conviction



By checking this box, I report that I have been arrested for or convicted of an offense or offenses enumerated under 24 P.S. §§1-111(e) or (f.1) ("Reportable Offense(s)"). See Instructions on Page 3 of this Form for a list of Reportable Offenses. If you have none to report, proceed to Section 3 of this form.

Details of Arrests or Convictions

For each arrest for or conviction of any Reportable Offense, specify in the space below (or on additional attachments if necessary) the offense for which you have been arrested or convicted, the date and location of arrest and/or conviction, docket number, and the applicable court.

Section 3. No Arrest or Conviction



By checking this box, I state that I have not been arrested for or convicted of any Reportable Offense.

Section 4. Certification

By signing this form, I certify under penalty of law that the statements made in this form are true, correct and complete. I understand that false statements herein, including, without limitation, any failure to accurately report any arrest or conviction for a Reportable Offense, shall subject me to criminal prosecution under 18 Pa.C.S. §4904, relating to unsworn falsification to authorities.

Signature_____
Date

INSTRUCTIONS

This standardized form (PDE-6004) has been developed by the Pennsylvania Department of Education, pursuant to 24 P.S. §1-111(j), to be used by current and prospective employees of public and private schools, intermediate units and area vocational-technical schools for the written reporting by current and prospective employees of any arrest or conviction for an offense enumerated under 24 P.S. §§1-111(e) and (f.1).

As required by subsection (j)(2) of 24 P.S. §1-111, this form shall be completed and submitted by all current and prospective employees of a public or private school, intermediate unit or area vocational-technical school. In addition, as required by subsection (j)(4) of 24 P.S. §1-111, this form shall be utilized by current and prospective employees to provide written notice within seventy-two (72) hours after an arrest or conviction for an offense enumerated under 24 P.S. §§1-111(e) or (f.1).

Exemption: Any current employee who completed a PDE-6004 on or before December 27, 2011, in compliance with 24 P.S. §§1-111(j)(1) and (2) on that date, and who has not been arrested for or convicted of an offense enumerated under 24 P.S. §§1-111(e) and (f.1) shall not be required to complete an additional form.

In accordance with 24 P.S. §1-111, employees completing this form are required to submit the form to the administrator or other person responsible for employment decisions in a school entity.

If you have questions regarding to whom the form should be sent, please contact your supervisor or the school entity administration office.

PROVIDE ALL INFORMATION REQUIRED BY THIS FORM LEGIBLY IN INK.

LIST OF REPORTABLE OFFENSES

- **A reportable offense enumerated under 24 P.S. §1-111(e) consists of any of the following:**

- (1) An offense under one or more of the following provisions of Title 18 of the Pennsylvania Consolidated Statutes:

<ul style="list-style-type: none"> ▪ Chapter 25 (relating to criminal homicide) ▪ Section 2702 (relating to aggravated assault) ▪ Section 2709.1 (relating to stalking) ▪ Section 2901 (relating to kidnapping) ▪ Section 2902 (relating to unlawful restraint) ▪ Section 2910 (relating to luring a child into a motor vehicle or structure) ▪ Section 3121 (relating to rape) ▪ Section 3122.1 (relating to statutory sexual assault) ▪ Section 3123 (relating to involuntary deviate sexual intercourse) ▪ Section 3124.1 (relating to sexual assault) ▪ Section 3124.2 (relating to institutional sexual assault) ▪ Section 3125 (relating to aggravated indecent assault) ▪ Section 3126 (relating to indecent assault) ▪ Section 3127 (relating to indecent exposure) ▪ Section 3129 (relating to sexual intercourse with animal) ▪ Section 4302 (relating to incest) ▪ Section 4303 (relating to concealing death of child) 	<ul style="list-style-type: none"> ▪ Section 4304 (relating to endangering welfare of children) ▪ Section 4305 (relating to dealing in infant children) ▪ A felony offense under section 5902(b) (relating to prostitution and related offenses) ▪ Section 5903(c) or (d) (relating to obscene and other sexual materials and performances) ▪ Section 6301(a)(1) (relating to corruption of minors) ▪ Section 6312 (relating to sexual abuse of children) ▪ Section 6318 (relating to unlawful contact with minor) ▪ Section 6319 (relating to solicitation of minors to traffic drugs) ▪ Section 6320 (relating to sexual exploitation of children)
---	---
- (2) An offense designated as a felony under the act of April 14, 1972 (P.L. 233, No. 64), known as "The Controlled Substance, Drug, Device and Cosmetic Act."
- (3) An offense SIMILAR IN NATURE to those crimes listed above in clauses (1) and (2) under the laws or former laws of:
 - the United States; or
 - one of its territories or possessions; or
 - another state; or
 - the District of Columbia; or
 - the Commonwealth of Puerto Rico; or
 - a foreign nation; or
 - under a former law of this Commonwealth.

- **A reportable offense enumerated under 24 P.S. §1-111(f.1) consists of any of the following:**

- (1) An offense graded as a felony offense of the first, second or third degree, other than one of the offenses enumerated under 24 P.S. §1-111(e), if less than (10) ten years has elapsed from the date of expiration of the sentence for the offense.
- (2) An offense graded as a misdemeanor of the first degree, other than one of the offenses enumerated under 24 P.S. §1-111(e), if less than (5) five years has elapsed from the date of expiration of the sentence for the offense.
- (3) An offense under 75 Pa.C.S. § 3802(a), (b), (c) or (d) (relating to driving under influence of alcohol or controlled substance) graded as a misdemeanor of the first degree under 75 Pa.C.S. § 3803 (relating to grading), if the person has been previously convicted of such an offense and less than (3) three years has elapsed from the date of expiration of the sentence for the most recent offense.



COMMONWEALTH OF PENNSYLVANIA

PUBLIC WORKS EMPLOYMENT VERIFICATION FORM

Date _____

Business or Organization Name (Employer) _____

Address _____

City _____ State _____ Zip Code _____

Dcontractor D Subcontractor (check one)

Contracting Public Body _____

Contract/Project No _____

Project Description _____

Project Location _____

As a contractor/subcontractor for the above referenced public works contract, I hereby affirm that as of the above date, our company is in compliance with the Public Works Employment Verification Act ('the Act') through utilization of the federal E-Verify Program (EVP) operated by the United States Department of Homeland Security. To the best of my/our knowledge, all employees hired post January 1, 2013 are authorized to work in the United States.

It is also agreed to that all public works contractors/subcontractors will utilize the federal EVP to verify the employment eligibility of each new hire within five (5) business days of the employee start date throughout the duration of the public works contract. Documentation confirming the use of the federal EVP upon each new hire shall be maintained in the event of an investigation or audit.

I, _____ --' authorized representative of the company above, attest that the information contained in this verification form is true and correct and understand that the submission of false or misleading information in connection with the above verification shall be subject to sanctions provided by law.

Authorized Representative Signature

DOCUMENT 00410 - BID BOND FORM

KNOW ALL MEN BY THESE PRESENTS, that we, _____

(Full name and address of Contractor)

as Principal, hereinafter called the Principal, and _____

(Full name and address of Surety)

a corporation duly organized under the laws of the State of _____

as Surety, hereinafter called the Surety, are held and

firmly bound unto _____

(Full name and address of Owner)

as Oblige, hereinafter called the Oblige, in the sum of:

Dollars (\$ _____),

for payment of which sum well and truly to be made, the said Principal and
the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally,
firmly by these presents.

WHEREAS, the Principal has submitted a bid for _____

(Full name and address of Project)

NOW THEREFORE, if the Oblige shall accept the bid of the Principal and the Principal shall enter into a Contract with the Oblige in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Oblige the

difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee 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.

BID FORM SIGNATURE(S)

The Corporate Seal of

(Bidder's full name of Proprietorship, Partnership, or Corporation)

was hereunto affixed in the presence of:

(Authorized signing officer)

(Title)

(Seal)

(Authorized signing officer)

(Title)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

- END OF DOCUMENT -

DOCUMENT 00420 - PERFORMANCE BOND

PART 1 - PERFORMANCE BOND

- 1.1 AIA Document A312 Performance Bond - 1984 edition, forms the basis of the Performance Bond. This Performance Bond shall be completed and submitted to the Owner as required by the Contract Documents.

- END OF DOCUMENT -

DOCUMENT 00430 - LABOR AND MATERIAL PAYMENT BOND

PART 1 - LABOR AND MATERIAL PAYMENT BOND

- 1.1 AIA Document A312 Payment Bond – 1984 edition, forms the basis of the Labor and Material Bond. This Labor and Material Bond shall be completed and submitted to the Owner as required by the Contract Documents.

- END OF DOCUMENT -

DOCUMENT 00440 - WORKMANSHIP GUARANTEE

PART 1 - WORKMANSHIP GUARANTEE

- 1.1 Provide the two (2) year labor and material workmanship guarantee listed hereinafter and identified as "Warranty of Installing Contractor" for all Work inclusive of the masonry restoration, caulking work to the Owner within seven days after the Final Completion of the Work.

- END OF DOCUMENT -

PART 1 - WORKMANSHIP GUARANTEE

NAME OF PROJECT: _____
WARRANTY OF INSTALLING CONTRACTOR
DATE: _____
PAGE 2 OF 4

TERMS, CONDITIONS, LIMITATIONS

1. The term "Masonry & Caulking System" as used herein shall include the flashings and all other work installed in conjunction with the exterior wall restoration included under this two (2) year warranty, under the terms of the agreement between Contractor

and _____, Owner.
2. The owner shall notify Contractor promptly and in no event later than seventy-two (72) hours after the discovery of any leaks, or disrepair thereof and shall confirm such notice in writing ten (10) days of the discovery of such condition(s).
3. This warranty shall not be applicable to any failure(s) of the watertight integrity of the Masonry Walls to the extent that such failures are caused by the following:
 - a) Damage to the Exterior Walls caused by natural disasters, including but not limited to, earthquake, lightning, hurricane, tornado, winds of gale force (except where the specifications for the installation exceed a wind uplift resistance greater than gale force), or structural failure of the building (except that caused by Contractor), or by fire, or:
 - b) Damage to the Exterior Walls, after completion of installation, by any acts of negligence (other than negligent acts of Contractor), accidents or misuse, including but not limited to, vandalism, civil disobedience, acts of war, or falling objects.
 - c) Failure by the Owner to use reasonable care in making visual inspections of the Exterior Walls not less than once each three (3) months, except when prevented from doing so by weather conditions or other causes of the control of the Owner in which case such inspections shall be performed as soon thereafter as practicable. Such inspections shall be made for the purpose of ascertaining if any punctures of the Exterior Walls have occurred or other unusual conditions exist which could or do affect the waterproofing system on the Exterior Walls.
 - d) Failure of the Owner to comply with the provisions contained in paragraphs 2 and 5 of this warranty.
4. This warranty shall be null and void if any of the following shall occur:
 - a) Any repairs or alterations are made on or through the exterior wall waterproofing system caused, authorized or permitted by the Owner of the building, or objects such as, but not limited to, fixtures, equipment or other structures are placed on or attached to the exterior walls without first obtaining written authorization from Contractor, subject to reasonable requirements of Contractor in making such alterations and repairs, except that the voiding of the warranty will be limited to an ascertainable and described area of Exterior Walls restores, if the following conditions are fulfilled:
 - 1) The area of damage or disrepair to the Exterior Walls resulting from unauthorized repairs, alterations or placement of structures is confined to an area less than the whole Exterior Walls restores and such area is completely ascertainable by Contractor; and

NAME OF PROJECT: _____
WARRANTY OF INSTALLING CONTRACTOR
DATE: _____
PAGE 3 OF 4

- 2) In the sole judgment of Contractor, which judgment will not be unreasonably exercised, Contractor determines that the damage or disrepair sustained will probably not affect the integrity or durability of the waterproofing of the Exterior Walls installation; and
- 3) The area damaged or in disrepair is repaired and restored to a warrantable condition, either by corrective work performed by Contractor, or by work authorized and accepted by Contractor. All such work, including the services of Contractor, shall be at the sole expense of the Owner; then,
- 4) Upon the fulfillment of all of the conditions provided in 4 a), 1), 2), and 3) above, the repaired or restored area will again be included in the warranty for the remainder of the original warranty period.
 - a) A significant change in the use of the building by the Owner or Owner's Lessee, thereby substantially affecting the use and the conditions for which the membrane installation was originally designed, or:
 - b) Failure of the Owner to commence legal action to enforce the terms of this warranty within one (1) year from the date of expiration.
5. During the period of this warranty, Contractor and its agents and employees shall have unlimited access to the exterior walls during regular business hours; and, in case of emergency, shall have unlimited access to the exterior walls outside regular business hours.
6. Contractor may suspend the operation of this warranty effective upon giving twenty (20) days written notice of such suspension to the Owner of the building if all bills for materials, installation and services of the installation by Contractor are not paid when due. Such suspension shall be in force and in effect until all such bills are paid in full, and any warranty claims which arise during such suspension shall be at the sole expense of Owner.
7. Contractor's failure at any time to enforce any of the terms or conditions stated herein shall not be construed to be a waiver of such terms or conditions.
8. No other warranty, expressed or implied, is given. The Owner's sole and exclusive right and remedy and Contractor's sole obligation for any failure of the waterproofing of the Exterior Walls shall be as provided under this warranty. Contractor shall not be liable for any incidental or consequential damage to the building on which the waterproofing of the Exterior Walls is installed, damage to the contents thereof, or to any other property or persons, specifically including materials and accessories behind the exterior walls.
9. This warranty shall not be transferable, except upon written acceptance of the terms of this warranty by the succeeding building Owner and inspection by Contractor of the waterproofing on the Exterior Walls prior to acceptance by Contractor of such transfer. Denial of the transfer of this warranty to a succeeding owner shall be based upon damage to the membrane arising from violations of paragraphs 2, 3, and 4 hereof.

CONTRACTOR _____
(Full Name)

By: _____

Title: _____

Date: _____

DOCUMENT 00701 - GENERAL CONDITIONS - AIA

PART 1 - GENERAL CONDITIONS

- 1.1 AIA Document A201 General Conditions of the Contract for Construction - 2007 Edition, is the General Conditions between the Owner and Contractor.
- 1.2 The "General Conditions of the Contract for Construction," Standard AIA Document A201, Fifteenth Edition, August 2007, Article 1 through 14 inclusive, are hereby made a part of the Contract Requirements.

PART 2 - SUPPLEMENTARY CONDITIONS

- 2.1 Refer to Document 00811 for amendments to the AIA Document A201 General Conditions of the Contract for Construction - 2007 Edition.

PART 3 - ADDITIONAL MODIFICATIONS

- 3.1 Refer to Document 00820 for additional modifications to the AIA Document A201 General Conditions of the Contract for Construction - 2007 Edition.

- END OF DOCUMENT -

AIA® Document A201™ – 2007

General Conditions of the Contract for Construction

for the following PROJECT:

(Name and location or address)

Masonry Restoration Project @ Maple Point Middle School
2250 Langhorne-Yardley Road, Langhorne, PA 19047

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

THE OWNER:

(Name, legal status and address)

Neshaminy School District
2001 Old Lincoln Highway
Langhorne, PA 19047

THE ARCHITECT:

(Name, legal status and address)

Weatherproofing Technologies, Inc.
24 Cherry Circle
Glen Mills, PA 19342

TABLE OF ARTICLES

1	GENERAL PROVISIONS
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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 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 and certify termination of the Agreement under Section 14.2.2.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

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

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

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 CAPITALIZATION

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

§ 1.4 INTERPRETATION

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

§ 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The 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 will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect’s or Architect’s consultants’ reserved rights.

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

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

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

§ 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 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner’s obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner’s ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

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

§ 2.2.3 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.

§ 2.2.4 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.

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

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

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

§ 2.4 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 written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

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

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

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

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

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

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

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

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

§ 3.4 LABOR AND MATERIALS

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

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

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

§ 3.6 TAXES

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

§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS

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

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

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

§ 3.7.4 CONCEALED OR UNKNOWN CONDITIONS

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed 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 furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

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

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

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

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

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

§ 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

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

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

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

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

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

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

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

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

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design 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 cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled

to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

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

§ 3.14 CUTTING AND PATCHING

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

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

§ 3.15 CLEANING UP

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

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

§ 3.16 ACCESS TO WORK

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

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

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

§ 3.18 INDEMNIFICATION

§ 3.18.1 To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, 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 Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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

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

§ 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, except as provided in Section 3.3.1.

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

§ 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

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

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

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the

Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

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

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

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

§ 4.2.10 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 duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 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 subcontractors of a separate contractor.

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

§ 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

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

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

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor’s Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

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

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

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

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

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

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

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

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

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

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

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

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

§ 6.2 MUTUAL RESPONSIBILITY

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

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

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

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

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

§ 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, 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, and the Contractor shall proceed promptly, 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 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 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.

§ 7.3.6 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.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and 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 7.3.7 shall be limited to the following:

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

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

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

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

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

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

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

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

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

furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

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

§ 8.3 DELAYS AND EXTENSIONS OF TIME

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

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

§ 9.2 SCHEDULE OF VALUES

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

§ 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. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, 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 material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

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

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the

Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.4 CERTIFICATES FOR PAYMENT

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

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

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

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

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

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

§ 9.6 PROGRESS PAYMENTS

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

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

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

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

§ 9.7 FAILURE OF PAYMENT

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' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, 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, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

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

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor 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 written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

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

- .1 liens, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

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

§ 10.2 SAFETY OF PERSONS AND PROPERTY

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

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

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

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

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

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

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

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

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

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

§ 10.3 HAZARDOUS MATERIALS

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

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. 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 in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

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

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

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

§ 10.3.6 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 indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 EMERGENCIES

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 CONTRACTOR'S LIABILITY INSURANCE

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

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

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

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

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

§ 11.2 OWNER'S LIABILITY INSURANCE

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

§ 11.3 PROPERTY INSURANCE

§ 11.3.1 Unless otherwise provided, the Owner shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's

risk “all-risk” or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

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

§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the Owner shall pay costs not covered because of such deductibles.

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

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 BOILER AND MACHINERY INSURANCE

The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 LOSS OF USE INSURANCE

The Owner, at the Owner’s option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner’s property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner’s property, including consequential losses due to fire or other hazards however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

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

§ 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance 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 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

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

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

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

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

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

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

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

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, 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 such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

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

§ 13.3 WRITTEN NOTICE

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

§ 13.4 RIGHTS AND REMEDIES

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

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

§ 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

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

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

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

§ 13.6 INTEREST

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may 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.

§ 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, 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 13.7.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 TERMINATION BY THE CONTRACTOR

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

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency that requires all Work to be stopped;
- .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 promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

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

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, 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' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

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

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

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

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

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

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

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

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

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

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

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

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of such termination, along with reasonable overhead and profit on the Work not executed.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 CLAIMS

§ 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS

Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker.

Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST

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

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

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

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be 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.

§ 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

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

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

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the 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 arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

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

§ 15.2.6 Either party may 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 an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, 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 15.1.6 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 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. 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 Either party, at its sole discretion, 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 Either party, at its sole discretion, 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 the Owner and Contractor under this Agreement.

DOCUMENT 00811 - SUPPLEMENTARY CONDITIONS - AIA

PART 1 - SUPPLEMENTARY CONDITIONS

- A. These Supplementary Conditions amend, void, supersede, modify, extend, or supplement the General Conditions of the Contract for Construction (AIA A201 - 2007 Edition) and other provisions of the Contract Documents as indicated below. All provisions that are not so amended, voided, superseded, modified, extended or supplemented remain in full force and effect.
- B. The terms used in these Supplementary Conditions that are defined in the General Conditions of the Contract for Construction (AIA A201 - 2007 Edition) have the meanings assigned to them in the General Conditions.

ARTICLE 1 - GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

Add the following:

1.1.1 Whenever in this Specification the following terms or pronouns in place of them are used, their intent and meaning shall be interpreted as follows:

1. Bidder: An individual, firm, partnership, or corporation acting directly or through a duly authorized representative, legally submitting a Proposal.
2. Masonry Contractor, Prime Contractor, or Contractor: An individual, firm, partnership, or corporation skilled in performing satisfactory masonry restoration work of the type required in this Specification and who is the successful Bidder of this Work. The terms Masonry Contractor, Prime Contractor, and Contractor are intended to be synonymous in this Specification.
3. Consultant: The Building Envelope Consultant known primarily as Weatherproofing Technologies, Inc., including all of their authorized representatives.
4. Architect: The Architect known primarily as Weatherproofing Technologies, Inc.
5. Engineer: The Engineer known primarily as Weatherproofing Technologies, Inc.
6. Inspector: An individual, firm, partnership, or corporation acting directly or through a duly authorized representative, to observe the Work in progress for the purpose of documenting all aspects of the progress. The Inspector may also be considered to be the Contract Administrator.
7. Owner: The Owner known primarily as the Neshaminy School District located at 2001 Old Lincoln Highway located at Langhorne, PA 19047.
8. Specifications: Contract Specifications or reproductions thereof furnished by the Consultant pertaining to the Project.
9. Drawings: Contract Drawings or reproductions thereof furnished by the manufacturer of the roofing system, and Shop Drawings approved by the Consultant pertaining to the Project.

1.1.2 THE CONTRACT

Add the following:

1.1.2.1 If the Project is awarded on the basis of a single overall Contract, all reference to separate Contract Numbers shall be deleted from the Contract Documents.

1.1.2.2 It is to be understood that any references to work under a separate Contract made herein that shall be inconsistent with the awarding of a single Contract is to be interpreted to apply to the single Contract as its sole responsibility and obligation hereunder.

ARTICLE 3 - CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

3.2.1 Add the following:

If any errors or omissions appear in the Drawings, Specifications or other Contract Documents, that should reasonably have been discovered and concerning that interpretation had not been obtained from the Consultant, the Contractor shall within seven (7) days after receiving such Drawings, Specifications or Documents, notify the Consultant in writing of any errors or omissions that appear in the Drawings, Specifications, or other Contract Documents. In the event the Contractor fails to give such notice, he will be held responsible for the results of any such error or omissions and the cost of rectifying same.

3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 Delete the following:

"unless Contract Documents give other specific instructions concerning these matters."

The last sentence should read:

"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."

3.4 LABOR AND MATERIALS

3.4.1 Add the following:

A reasonable amount of water and electricity shall be made available to the Contractor from the Owner's existing outlets.

ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

4.1 ARCHITECT

4.1.1 Delete in its entirety and replace with: The Consultant is an Engineer and not an Architect and is referred throughout the Contract Documents as if singular in number and masculine in gender. The term Engineer means the Engineer or his authorized representative.

4.1.2 Delete reference to Contractor in first sentence. The first sentence should read:

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 and Architect. Consent shall not be unreasonably withheld.

4.1.3 Delete paragraph in its entirety and replace with:

In case of termination of employment of the Architect, the Owner shall appoint an architect and whose status under the Contract Documents shall be that of the former architect.

ARTICLE 8 - TIME

8.2 PROGRESS AND COMPLETION

Add the following paragraphs:

8.2.4 Work shall commence within ten (10) calendar days after receipt of "Letter of Intent", but the Contractor shall execute no work until a written Determination of Preparedness is issued by the Owner or Consultant. Within five days after the execution of the Contract, the Contractor shall submit to the Consultant, for approval, Progress Charts, upon which shall be indicated the dates for completion of areas of the work in order to insure the completion of the Contract within the agreed time. See DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS, SECTION 00100, 2.4 CONTRACT TIME.

8.2.5 If the Contractor fails to complete fully and entirely within the time allowed by the provisions of this Contract, the Project and each and every part and appurtenance thereof within the time stated in the Contract, or within such further time as may have been granted in accordance with the provisions of this Contract, then the Contractor shall and hereby agrees to pay the Owner for each and every calendar day that he is in default on time to complete the work the amount of One Thousand (\$1,000) Dollars per day, which said amount per day is agreed upon by the parties hereto to be liquidated damages, not a penalty. The Owner shall recover said damages out of any moneys due or that may become due the Contractor, and if said moneys be insufficient then the Contractor shall pay the amount due.

8.2.6 If the Contractor fails to complete the Project fully and entirely within the time allowed by the provisions of this Contract, or within such further time as may have been granted in accordance with the provisions of this Contract, then the Contractor shall and hereby agrees to pay the Owner for the additional Consultant's charge for consulting time at the then prevailing rate plus expenses as a result of required inspections in excess of those agreed upon by the Owner and the Consultant and arising out of the Contractor's failure to finish the Project on time. This charge shall be subtracted from the total Contract Sum due the Contractor as provided in the Specifications.

8.2.7 The Contractor is expected to pursue the work on the project diligently, and to have a full crew working at all times. In the event the Consultant shall make an inspection during the course of the work and discover that a full size crew is not diligently at work, strikes excepted, the Contractor shall and hereby agrees to pay the Owner for the additional Consultant's charge for consulting time at the prevailing rate plus expenses as a result of required inspections in excess of those agreed upon by the Owner and the Consultant and arising out of the Contractor's failure to pursue the work on the project diligently. The charge shall be subtracted from the total Contract Sum due the Contractor as provided in the Specifications. The Consultant shall be the sole judge as to whether the Contractor is not diligently pursuing the work.

ARTICLE 9 - PAYMENTS AND COMPLETION**9.3 APPLICATIONS FOR PAYMENT**

Add the following paragraph:

9.3.4 The Contractor shall note that Application for Payment will be made monthly based upon labor and materials completed and materials suitably stored on the site. The Contractor shall make Application for Payment monthly based upon labor completed and materials installed and materials suitably stored on the site. All Applications for Payment shall be submitted on AIA Document G702 with AIA Document G702A Continuation Sheet Attached. These Application for Payment forms shall be sent directly to the Consultant for review and certification. Payments will be made to a total of 90 percent of the value of the above based upon the contract amounts. Final Payment of the 10 percent retainage less proper deductions shall be made 30 days after the final acceptance of the work by the Consultant and the manufacturer of the roofing system.

9.6 PROGRESS PAYMENTS

9.6.3 Delete this paragraph in its entirety.

9.6.5 Delete reference to Subparagraph 9.6.3 since it is now deleted.

9.10 FINAL COMPLETION AND FINAL PAYMENT

The Owner will require data establishing payment and satisfaction of obligations such as releases and waiver of liens at the time of payment for the work.

Add the following paragraph:

9.10.5 The Consultant normally provides one Preliminary Final Inspection and one Final Inspection for the Owner. It is at the initiation of the Contractor that both inspections are made. At the Preliminary Final Inspection a Punch List is developed and given to the Contractor who then uses the Punch List as a guide to correcting errors and oversight. If the items on the Punch List have not been corrected by the time of the Final Inspection, thus necessitating an additional Final Inspection, a charge of eight hours consulting time at the prevailing rate plus expenses in favor of the Consultant will be made against the Contractor. This amount will be deducted from the total payments due the Contractor by the Owner and will be paid directly to the Consultant. Each additional Final Inspection will result in a similar charge to be paid in a similar manner.

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY**10.1 SAFETY PRECAUTIONS AND PROGRAMS**

10.1.2 Delete the following from the last sentence:

"or in accordance with final determination by the Architect on which arbitration has not been demanded, or by arbitration under Article 4."

The last sentence should now read:

In the event the Contractor encounters on the site material reasonably believed to be asbestos or polychlorinated biphenyl (PCB) that has not been rendered harmless, the Contractor shall immediately stop Work in the area affected and report the condition to the Owner and Architect in writing. The Work in the affected area shall not thereafter be resumed except by written agreement of the Owner and Contractor if in fact the material is asbestos or polychlorinated biphenyl (PCB) and has not been rendered harmless. The Work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB), or when it has been rendered harmless, by written agreement of the Owner and Contractor.

10.2 SAFETY OF PERSONS AND PROPERTY

Add the following:

10.2.8 Comply with all safety requirements, provide all protection and equipment as required by the Construction Safety Code of the State Department of Labor and Industry Pursuant to the State Law of the State in which the work is located.

ARTICLE 11 - INSURANCE AND BONDS

11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.4 Add the following paragraph:

Insurance specified to be provided by the Contractor shall be as follows:

11.1.4.1 General Liability Insurance with an individual limit of \$1,000,000 and a total limit of \$2,000,000 for any one accident. The policy shall hold the Owner and the Consultant harmless and defend them in all actions arising out of the negligence of the Contractor.

11.1.4.2 Contractor's contingent public liability insurance and subcontractors' public liability insurance, In the same amounts as above.

11.1.4.3 Property damage in the amount of \$1,000,000 each accident, and a total limit of \$2,000,000 aggregate.

11.1.4.4 Vehicle Liability Insurance with a limit of \$1,000,000 for each person and a total limit of \$2,000,000 for each occurrence, and a limit of \$1,000,000 property damage for each accident. This insurance must include non-owned, hired, or rented vehicles, as well as owned.

11.1.4.5 Workmen's Compensation Insurance must comply with the laws of the state in which the work is to be performed.

11.1.4.6 Coverage shall be required from the date of the start of the work until one year after the date of the Final Acceptance of the work.

11.1.4.7 The Contractors shall either: (1) require each of their subcontractors to procure and to maintain during the life of the subcontracts, Subcontractor's Public Liability and Property Damage of the type and in the same amounts as specified in the preceding paragraphs, or; (2) insure the activities of his Subcontractors under his respective policies.

11.1.4.8 Insurance certificates covering the required insurance shall be worded to include the names of the Contractor, the Owner and the Consultant as their interests may appear.

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

12.2 CORRECTION OF WORK

Modify to suit the following:

The start of the Guaranty Period shall be the "Date of the Final Acceptance", that shall be deemed to be issued by the Consultant on the date the Owner formally accepts the work by proper written notice to the Contractor and Consultant, instead of the "Date of Substantial Completion", and shall run for two years instead of one year, except that parts of the work may be covered by a longer warranty issued by the manufacturer and therefore will survive the stated Guaranty time, and the start of this Warranty and Guaranty Period shall be the same "Date of the Final Acceptance".

ARTICLE 13 - MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

Add the following paragraphs:

13.1.2 All work under the Contract(s) shall comply in all respects with the requirements of the local Building Inspector and the Laws of the local governing authority where the work is located.

13.1.3 All bidders shall be required to comply with all applicable Federal, State and Municipal statutes, laws, ordinances, rules and regulations affecting the work. The insertion of any specific law or laws in these Contract Documents shall not be deemed as any limitation or enumeration of all the applicable laws concerning the work. Each and every provision of law and clause required by any Federal, State or Municipal law to be inserted in this Advertisement for Bids or other Contract Documents shall be read and enforced as though the said laws were included in their entirety herein.

13.1.4 If the Contractor makes, or causes to be made, due to approval of substituted materials or equipment, or otherwise makes any substantial change in the form, type, system, and details of construction from those shown on the Drawings, he shall pay for all costs arising from such changes. The Contractor shall pay all consulting Architectural or Engineering fees, or Consultant's fee required to check the adequacy of such changes. Any changes or departures from the construction and details shown shall be made only after written approval from the Consultant.

13.1.5 STATUTORY REQUIREMENT/GOVERNMENT REQUIREMENTS

Included in the requirements of this Contract but not limited to them, the Contractor is required to comply with the following specific Governmental Stipulations.

- A. **DISCRIMINATION PROHIBITED** - According to Section 755, Public School Code of Pennsylvania, 1949, as amended, the contractor agrees:

1. That in the hiring of employees for the performance of work under this contract, or any subcontract hereunder, no contractor, subcontractor, nor any person acting on behalf of such contractor or subcontractor, shall, by reason of gender, race, creed or color, discriminate against any citizen of the Commonwealth of Pennsylvania who is qualified and available to perform the work to which the employment relates;
 - a. That no contractor, subcontractor, nor any person on their behalf, shall in any manner discriminate against or intimidate any employee hired for the performance of work under the contract on account of gender, race, creed or color;
 - b. That there may be deducted from the amount payable to the contractor under this contract, a penalty of five dollars (\$5.00) for each person for each calendar day during which such person was discriminated against or intimidated, in violation of the provisions of the contract; and,
 - (1) That this contract may be cancelled or terminated by the school district and all money due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this portion of the contract.
- B. **HUMAN RELATIONS ACT** - The provisions of the Pennsylvania Human Relations Act, Act 222, of October 27, 1955 (P.L.744) (43 P.S. Section 951 et. seq.) of the Commonwealth of Pennsylvania, prohibit discrimination because of race, color, religious creed, ancestry, age, sex, national origin, handicap or disability by employer's employment agencies, labor organizations, contractors and others. The Contractor shall agree to comply with the provisions of this Act as amended that are made part of this specification. Your attention is directed to the language of the Commonwealth's nondiscrimination clause in 16 PA Code 49.101.
- C. **STEEL PRODUCTS PROCUREMENT ACT** - In accordance with the "Steel Products Procurement Act", Act 3, of 1978, all steel products used in construction of this project shall be of steel produced in the United States. (In accordance with Act 161 of 1982 cast iron products used in the construction of this project shall be produced in the United States.)
- D. **EMPLOYEE BACKGROUND CHECKS** - All contractors shall have a background check done on all employees and all subcontractors' employees working at the project site. Background checks shall be in accordance with Act 34 of 1985, Section 111 of the Pennsylvania School Code of 1949, as amended. Report or background check shall not be more than one (1) year old.

All contractors shall submit the original background check to the Project Engineer or the Owner prior to an employee entering the job site.

No person shall be employed on the project if their criminal history record information indicates the employee has been convicted, within five (5) years immediately preceding the date of the report, of any offense listed in Section 111 of the Pennsylvania School Code of 1949, as amended.
- E. **PENNSYLVANIA CHILD ABUSE HISTORY CLEARANCE** - See following pages.
- F. **ANTI-POLLUTION LEGISLATION** - On October 26, 1972, House Bill Number 1969 was enacted into law. This Act (No. 247) became effective on November 25, 1972. It requires that bidders on construction contracts for the Commonwealth of Pennsylvania be advised of those provisions of

Federal and State statutes, rules and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources that affect the project on which bids are being received.

The bidder shall thoroughly acquaint himself with the terms of the listed statutes, rules and regulations. No separate or additional payment will be made for such compliance. In the event that the listed statutes, rules and regulations are amended or if new statutes, rules or regulations become effective, after date of receipt of bids, upon receipt of documentation which causes the Contractor to perform additional work, the Owner may issue a change order of deviation request setting forth the additional work that must undertaken. This change order or deviation request shall not invalidate the Contract.

It is the responsibility of the Contractor to determine what local ordinances if any will affect his work. He shall check for any county, city, borough or township rules or regulations applicable to the area in which the project is being constructed and, in addition, for any rules or regulations of other organizations having jurisdiction such as chambers-of-commerce, planning commissions, industries or utility companies who have jurisdiction over lands which the Contract occupies. Any costs of compliance with local controls shall be included in the price bid, even though documents of such local controlling agencies are not listed herein.

- A. **SALES AND USE TAX** - The Contractor agrees to assign and transfer to the Owner all its rights to sales and use tax which may be refunded as a result of a claim for refund for materials purchased in connection with this Contract. The Contractor agrees to require any subcontractors to provide access to the Owner of accounting records relating to this Contract and to obtain their agreement not to seek refund for any sales or use tax, which is the subject of this assignment.
- B. **ACCESS TO RECORDS** - The Owner shall be afforded access to all of the Contractor's accounting records relating to this Contract and the Contractor shall preserve all such records for a period of three (3) years or longer as may be required by law after the final payment.
- C. **EXCISE TAXES** - It is understood that the Owner is exempt from the payment of excise taxes. Should the Contractor desire to be exempt from such tax, the Contractor agrees to present to the Owner properly prepared Exemption Certificates for execution. Such certificates will be presented only for items furnished under this Contract, will list items and quantities delivered, and will state the names and addresses of manufacturers and suppliers of items listed and subject to excise tax.
- D. **EROSION CONTROL** - General Contractor shall comply with all rules and regulations of Chapter 102, Title 25, of Pennsylvania Soils Erosion and Sedimentation control. Prior to any grading, the Contractor shall prepare an erosion control site plan and obtain Department of Environmental Resources approval.

The plan shall be maintained at the site and shall indicate how the Contractor plans to control erosion caused by storm water and prevent silt and sedimentation being distributed off site.

Control shall be provided by channels, dikes, sedimentation basins, protection of stockpiled or uncontrolled soil, or any other means necessary; all in accordance with the requirements of the Pennsylvania Department of Environmental Resources.

- E. **PUBLIC WORKS EMPLOYMENT VERIFICATION FORM REQUIREMENT OF THE PENNSYLVANIA PUBLIC WORKS EMPLOYMENT VERIFICATION ACT AS ADOPTED IN 2012** – All contractors must submit a “Public works Employment Verification Form” to the school district at the time when performance and payment bonds are submitted. Submission of this form is a precondition of the contract being awarded and executed. The requirement applies to all employees hired by the contractor or subcontractor, regardless of whether the employee will be working onsite or offsite. This requirement does not apply to an entity that is solely a material supplier for the project.
- F. **ACT 82 OF 2012 – ARREST OR CONVICTION FORM UNDER ACT 24 AND 82 OF 2012** – **Act 82 of 2012**, signed into law on June 30, 2012, amends Section 111 of the School Code which provides for background checks for employees of public schools, private schools, intermediate units and area vocational-technical schools who have direct contact with children. Section 111 also applies to independent contractors and their employees who have direct contact with children and to student teachers and student teacher candidates assigned to public and private schools. The amendments clarify that the employment prohibitions contained in Section 111(e) and Section 111(f.1) of the School Code, based on conviction of certain offenses, apply to both current and prospective employees. The changes to Section 111 went into effect on June 30, 2012.

I . NON-COLLUSION AFFIDAVIT

Included in the specification packet is a “Non-Collusion Affidavit”. The Bidder must execute this document, have it notarized and submit it, attached to the FORM OF PROPOSAL. Failure to comply with this provision will disqualify the Bidder.

- END OF DOCUMENT -

DOCUMENT 00820 - ADDITIONAL MODIFICATIONS TO GENERAL CONDITIONS

1.1 ADDITIONAL MODIFICATIONS

- A. These Additional Modifications to General Conditions amend, supersede, supplement, modify or extend the "General Conditions of the Contract for Construction", Standard AIA Document A201, 2007 edition, and the Modifications to General Conditions only to the extent set forth. Provisions not specifically amended, voided, or superseded remain in effect.

1.2 WORK OUTSIDE REGULAR HOURS

- A. Regular hours at the job site are from 7:00 A.M. to 3:30 P.M. If the Contractor desires to carry on work outside the regular hours, or on Saturdays, Sundays, or holidays, prior to, or at the pre-construction conference, he shall submit an application to the Owner and shall allow ample time to enable satisfactory arrangements to be made by the Owner for inspecting the work in progress. If working at night, the Contractor shall light the different parts of the work in an approved and safe manner.

1.3 STORM PROTECTION

- A. The Contractor shall check weather forecasts daily and shall take every precaution to minimize danger to persons, to the work, the building equipment within the building and to adjacent property from wind and weather.

1.4 FIRE PREVENTION

- A. An adequate fire watch and fire extinguishing equipment approved by the Consultant shall be used.
- B. Welding, burning, and open flame work, shall be permitted, but only subject to the following conditions:
 - 1) The methods shall be approved by the Owner and the Consultant.
 - 2) The Contractor shall inform the Owner of the exact time that welding or open flame work will be performed.
 - 3) The application of roofing materials by the use of butane or propane torches, either hand held or as a part of a wheeled device used for that purpose shall be permitted, but only subject to the following conditions:
 - 4) Thoroughly knowledgeable workman shall be employed.
 - 5) An inspection of all torched areas shall be made at the end of the day's work to determine if there are any "hot spots" that might indicate the presence of a smoldering fire within or beneath the membrane.

1.5 PROOF OF MATERIAL QUANTITY AND TYPE

- A. At the end of the job, the Contractor shall furnish to the Owner copies of all invoices of materials used that have become a part of the completed work.

1.6 DRAWINGS AND SPECIFICATIONS

- A. The Contractor shall maintain one set of these Specifications and associated Contract Drawings on the roof work at all times for reference when his forces are working on the roof.

1.7 JOB SUPERVISION

- A. The Contractor shall have present on the job at all times supervisory personnel who are completely familiar with the Drawings and Specifications and are able to direct the work. Such personnel shall be satisfactory to the Owner. The Contractor shall provide the names and telephone numbers of key supervisory personnel who shall be on call 24 hours a day during the life of the Project.

1.8 STATUS OF THE INSPECTOR

- A. If the Consultant has been retained by the Owner as the Contract Administrator and/or Inspector for the work, the Consultant shall have general supervision and direction of the work only to the extent provided in the Contract Documents.
- B. As the Designer and Inspector, the Consultant is the interpreter of the conditions of the Contract and judge of its performance.
- C. The Consultant shall side neither with the Owner nor with the Contractor, but shall use his powers under the contract to enforce the Contract's faithful performance by both according to the terms of the Contract.

1.9 ACCIDENT PREVENTION

- A. Precaution against accidents shall be exercised at all times for the protection of all persons and property.
- B. Machinery and equipment shall be guarded, and all hazards shall be guarded against or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contravention of applicable laws.
- C. This Project, its prime Contractor and his subcontractors shall, at all times, be governed by Chapter XIII of Title 29, Code of Federal Regulations, Part 1518 - Safety and Health Regulations for Construction (36 FR 75), as amended to date.
- D. The prime contractor and all subcontractors shall immediately report all accidents, injuries, or health hazards to the Owner, or his designated representative, in writing. This shall not obviate any mandatory reporting under the provisions of the Occupational safety and Health Administration Act of 1970 as may be amended.
- E. The OSHA Act of 1970 and amendments shall become a part of the contract documents and the contract between the Owner and prime Contractor, and the Prime Contractor and all subcontractors, as though fully written herein.

1. Roof Edge Warning Rope

- a) There shall be in place at all times in the area where work is being performed, mounted on moveable, weighted stanchions, an approved perimeter warning rope four feet off the surface of the deck and located four feet from the edge. This rope shall have high visibility colored flags attached to it every six feet. The only breaks in the guard ropes shall be where roofing material or personnel have access to the roof from the ground.

2. Roof Openings and Holes

- a) There shall be in place at all times in the area where work is being performed, covers on roof openings capable of supporting, without failure, a load equivalent to the maximum total possible anticipated accidental load of employees, equipment, and materials. Protective covers must be installed so as to prevent accidental displacement.

F. The inclusion of the OSHA Act in this specification in no way commits the Owner or his representative to guarantee compliance by the Contractor or Subcontractors. Compliance is the sole responsibility of the Contractor and Subcontractors.

G. The Contractor will also observe and comply with the Owner's specific safety requirements for construction contracts, if any, as if written fully herein.

1.10 STOPPING THE WORK FOR REASONS OF SAFETY

A. The Contractor specifically agrees that the Consultant or the Inspector may stop the Work, indefinitely if necessary, without being held responsible for actual or consequential damages if the Contractor fails to stop or cease an operation or practice in the performance of the Work that, in the opinion of the Consultant or the Inspector, if continued would be unsafe or reasonably likely to cause harm to persons or property, providing that within 24 hours the Consultant or Inspector reduces his action to a finding in writing and makes himself available to meet with the Contractor and the Owner to resolve the issue.

B. The Consultant's or Inspector's finding of an unsafe condition shall be conclusive upon the Contractor and not subject to reimbursement by the Owner or the Consultant or the Inspector for actual or consequential losses, neither countermand, negotiation, arbitration, or litigation at any level.

1.11 ADVERTISING

A. No advertising will be permitted on any part of the work, including buildings, scaffolding, fences, materials, etc.

1.12 ALCOHOLIC BEVERAGES AND CONTROLLED SUBSTANCES

A. Alcoholic beverages and controlled substances, and those people who are under their influence are hereby barred from the roof.

B. The Contractor shall be responsible to assure complete compliance with the requirements of this paragraph.

1.13 SMOKING

A. There shall be no smoking on the roof or in the staging areas where flammable solvents or adhesives are stored or in use, or at the direction of the Consultant.

1.14 DAILY CONSTRUCTION REPORT

- A. The Contractor shall at the end of each working day, unless expressly excused from this requirement by the Owner, carefully prepare a Daily Construction Report, required in DIVISION 1 - GENERAL REQUIREMENTS, DOCUMENT 01700 - CONTRACT CLOSEOUT that shall include the weather and temperature, a general description of the work accomplished and its location on the roof, the number of men and regular and overtime hours by craft, and any accidents or unusual occurrences, and shall submit such reports to the Owner on a weekly basis.

- END OF DOCUMENT -

DOCUMENT 00830 - WAGE DETERMINATION SCHEDULE

1.1 WAGE RATE SCHEDULE

- A. Enclosed hereinafter is the Certified Prevailing Wages for Construction to be utilized for this public project. Classifications of Workers are determined by the State Department of Labor.
- B. Contractor shall submit weekly certified payroll sheets for each worker on the project to the State Department of Labor.

- END OF DOCUMENT -

PREVAILING WAGES PROJECT RATES

Project Name: Maple Point Middle School

Awarding Agency: Neshaminy School District

Contract Award Date: 4/2/2013

Serial Number: 13-00929

Project Classification: Building

Determination Date: 2/19/2013

Assigned Field Office: Philadelphia

Field Office Phone Number: 215-560-1858

Toll Free Phone Number:

Bucks County

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Asbestos & Insulation Workers	5/1/2010		\$39.64	\$28.00	\$67.64
Asbestos & Insulation Workers	5/1/2011		\$40.39	\$28.00	\$68.39
Asbestos & Insulation Workers	5/1/2012		\$41.39	\$28.00	\$69.39
Boilermaker (Commercial, Institutional, and Minor Repair Work)	1/1/2010		\$23.59	\$15.15	\$38.74
Boilermaker (Commercial, Institutional, and Minor Repair Work)	3/1/2011		\$24.22	\$16.02	\$40.24
Boilermaker (Commercial, Institutional, and Minor Repair Work)	5/1/2012		\$24.84	\$16.90	\$41.74
Boilermakers	1/1/2011		\$37.35	\$28.12	\$65.47
Boilermakers	1/1/2012		\$37.62	\$29.85	\$67.47
Boilermakers	9/30/2012		\$39.97	\$29.85	\$69.82
Boilermakers	1/1/2013		\$38.69	\$31.13	\$69.82
Bricklayer	5/1/2009		\$33.97	\$21.74	\$55.71
Bricklayer	5/1/2010		\$33.97	\$22.49	\$56.46
Bricklayer	5/1/2011		\$33.97	\$23.29	\$57.26
Bricklayer	5/1/2012		\$34.97	\$23.59	\$58.56
Bricklayer	5/1/2013		\$36.37	\$23.59	\$59.96
Bricklayer	5/1/2014		\$38.02	\$23.59	\$61.61
Bricklayer	5/1/2015		\$39.67	\$23.59	\$63.26

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenter - Chief of Party (Surveying & Layout)	5/1/2010		\$40.19	\$23.34	\$63.53
Carpenter - Chief of Party (Surveying & Layout)	5/1/2011		\$40.77	\$23.84	\$64.61
Carpenter - Chief of Party (Surveying & Layout)	5/1/2012		\$41.34	\$24.34	\$65.68
Carpenter - Chief of Party (Surveying & Layout)	5/1/2013		\$42.55	\$24.34	\$66.89
Carpenter - Chief of Party (Surveying & Layout)	5/1/2014		\$43.99	\$24.34	\$68.33
Carpenter - Instrument Person (Surveying & Layout)	5/1/2010		\$34.95	\$23.34	\$58.29
Carpenter - Instrument Person (Surveying & Layout)	5/1/2011		\$35.45	\$23.84	\$59.29
Carpenter - Instrument Person (Surveying & Layout)	5/1/2012		\$35.95	\$24.34	\$60.29
Carpenter - Instrument Person (Surveying & Layout)	5/1/2013		\$37.00	\$24.34	\$61.34
Carpenter - Instrument Person (Surveying & Layout)	5/1/2014		\$38.25	\$24.34	\$62.59
Carpenter - Rodman (Surveying & Layout)	5/1/2012		\$16.54	\$21.88	\$38.42
Carpenter - Rodman (Surveying & Layout)	5/1/2013		\$17.02	\$21.88	\$38.90
Carpenter - Rodman (Surveying & Layout)	5/1/2014		\$17.60	\$21.88	\$39.48
Carpenters	5/1/2010		\$34.95	\$23.34	\$58.29
Carpenters	5/1/2011		\$35.45	\$23.84	\$59.29
Carpenters	5/1/2012		\$35.95	\$24.34	\$60.29
Carpenters	5/1/2013		\$37.00	\$24.34	\$61.34
Carpenters	5/1/2014		\$38.25	\$24.34	\$62.59
Cement Masons	11/1/2009		\$32.20	\$24.96	\$57.16
Cement Masons	5/1/2010		\$32.20	\$25.71	\$57.91
Cement Masons	5/1/2011		\$32.45	\$26.46	\$58.91
Cement Masons	5/1/2012		\$32.55	\$27.71	\$60.26
Cement Masons	5/1/2013		\$32.55	\$29.06	\$61.61
Cement Masons	5/1/2014		\$32.55	\$30.66	\$63.21
DockBuilder/Pile Drivers (Building, Heavy & Highway)	7/1/2010		\$37.60	\$27.57	\$65.17
DockBuilder/Pile Drivers (Building, Heavy & Highway)	7/1/2011		\$38.15	\$28.27	\$66.42
DockBuilder/Pile Drivers (Building, Heavy & Highway)	7/1/2012		\$38.80	\$29.07	\$67.87
DockBuilder/Pile Drivers Divers (Building Heavy & Highway)	7/1/2010		\$45.12	\$27.57	\$72.69

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Drapery Installers	5/1/2009		\$31.09	\$21.34	\$52.43
Drywall Finisher	5/1/2009		\$32.79	\$21.37	\$54.16
Drywall Finisher	5/1/2010		\$33.00	\$22.41	\$55.41
Drywall Finisher	5/1/2011		\$33.11	\$23.45	\$56.56
Drywall Finisher	5/1/2012		\$34.09	\$23.87	\$57.96
Electric Lineman	5/31/2010		\$44.62	\$19.50	\$64.12
Electric Lineman	5/31/2011		\$45.63	\$19.77	\$65.40
Electric Lineman	11/28/2011		\$46.67	\$20.04	\$66.71
Electric Lineman	5/28/2012		\$47.72	\$20.33	\$68.05
Electric Lineman	11/26/2012		\$48.79	\$20.61	\$69.40
Electricians & Telecommunications Installation Technician	5/3/2010		\$46.85	\$26.13	\$72.98
Electricians & Telecommunications Installation Technician	5/2/2011		\$46.85	\$29.89	\$76.74
Electricians & Telecommunications Installation Technician	4/30/2012		\$48.68	\$31.06	\$79.74
Elevator Constructor	1/1/2011		\$48.15	\$21.99	\$70.14
Elevator Constructor	1/1/2012		\$49.30	\$23.84	\$73.14
Elevator Constructor	1/1/2013		\$49.84	\$25.49	\$75.33
Floor Layer	5/1/2010		\$37.41	\$24.06	\$61.47
Floor Layer	5/1/2012		\$38.76	\$24.86	\$63.62
Floor Layer	5/1/2013		\$39.91	\$24.86	\$64.77
Floor Layer	5/1/2014		\$41.26	\$24.86	\$66.12
Glazier	5/1/2009		\$36.64	\$23.81	\$60.45
Glazier	5/1/2010		\$36.67	\$24.53	\$61.20
Glazier	5/1/2011		\$37.35	\$25.25	\$62.60
Glazier	5/1/2012		\$38.35	\$25.75	\$64.10
Iron Workers (Bridge, Structural, Ornamental, Precast)	7/1/2011		\$44.70	\$27.19	\$71.89
Iron Workers (Bridge, Structural, Ornamental, Precast)	7/1/2012		\$44.70	\$28.14	\$72.84
Iron Workers (Riggers)	7/1/2011		\$35.52	\$23.98	\$59.50
Iron Workers (Riggers)	7/1/2012		\$36.22	\$24.63	\$60.85
Iron Workers - Reinforcing Steel Mesh - Rebar	7/1/2012		\$38.83	\$26.00	\$64.83
Laborers (Class 01 - See notes)	5/1/2010		\$23.85	\$22.30	\$46.15

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 01 - See notes)	5/1/2011		\$24.75	\$22.30	\$47.05
Laborers (Class 01 - See notes)	5/1/2012		\$25.15	\$23.00	\$48.15
Laborers (Class 02 - See notes)	5/1/2010		\$25.97	\$21.73	\$47.70
Laborers (Class 02 - See notes)	5/1/2011		\$26.87	\$21.73	\$48.60
Laborers (Class 02 - See notes)	5/1/2012		\$26.45	\$22.85	\$49.30
Laborers (Class 03 - See notes)	5/1/2010		\$24.37	\$22.28	\$46.65
Laborers (Class 03 - See notes)	5/1/2011		\$25.17	\$22.28	\$47.45
Laborers (Class 03 - See notes)	5/1/2012		\$25.45	\$23.23	\$48.68
Laborers (Class 04 - See notes)	5/1/2011		\$25.27	\$21.65	\$46.92
Laborers (Class 04 - See notes)	5/1/2012		\$25.45	\$23.23	\$48.68
Laborers (Class 05 - See notes)	5/1/2011		\$25.42	\$21.45	\$46.87
Laborers (Class 05 - See notes)	5/1/2012		\$25.35	\$22.80	\$48.15
Landscape Laborer	4/1/2009		\$19.31	\$19.98	\$39.29
Landscape Laborer	5/1/2012		\$18.71	\$21.03	\$39.74
Marble Finisher	5/1/2009		\$28.63	\$19.22	\$47.85
Marble Finisher	5/1/2010		\$28.63	\$19.97	\$48.60
Marble Finisher	5/1/2011		\$28.68	\$20.72	\$49.40
Marble Finisher	5/1/2012		\$29.27	\$21.02	\$50.29
Marble Finisher	5/1/2013		\$30.34	\$21.02	\$51.36
Marble Finisher	5/1/2014		\$31.92	\$21.02	\$52.94
Marble Finisher	5/1/2015		\$33.50	\$21.02	\$54.52
Marble Mason	5/1/2010		\$34.36	\$21.77	\$56.13
Marble Mason	5/1/2011		\$34.35	\$22.58	\$56.93
Marble Mason	5/1/2012		\$35.25	\$22.90	\$58.15
Marble Mason	5/1/2013		\$36.65	\$22.90	\$59.55
Marble Mason	5/1/2014		\$38.30	\$22.90	\$61.20
Marble Mason	5/1/2015		\$39.95	\$22.90	\$62.85
Millwright	7/1/2009		\$35.13	\$25.49	\$60.62
Millwright	7/1/2010		\$35.13	\$26.33	\$61.46
Millwright	7/1/2011		\$35.78	\$26.99	\$62.77
Millwright	7/1/2012		\$36.11	\$27.88	\$63.99

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2009		\$40.04	\$21.07	\$61.11
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2010		\$40.04	\$22.07	\$62.11
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2011		\$40.04	\$23.42	\$63.46
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2012		\$40.43	\$24.48	\$64.91
Operators Class 01 - See Notes (Building, Heavy, Highway)	5/1/2013		\$40.81	\$25.55	\$66.36
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2009		\$43.04	\$21.96	\$65.00
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2010		\$43.04	\$22.96	\$66.00
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2011		\$43.04	\$24.31	\$67.35
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2012		\$43.42	\$25.38	\$68.80
Operators Class 01a - See Notes (Building, Heavy, Highway)	5/1/2013		\$43.80	\$26.45	\$70.25
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2009		\$39.79	\$21.00	\$60.79
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2010		\$39.79	\$22.00	\$61.79
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2011		\$39.79	\$23.35	\$63.14
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2012		\$40.18	\$24.41	\$64.59
Operators Class 02 - See Notes (Building, Heavy, Highway)	5/1/2013		\$40.56	\$25.48	\$66.04
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2009		\$42.80	\$21.88	\$64.68
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2010		\$42.80	\$22.88	\$65.68
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2011		\$42.80	\$24.23	\$67.03
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2012		\$43.17	\$25.31	\$68.48
Operators Class 02a - See Notes (Building, Heavy, Highway)	5/1/2013		\$43.57	\$26.36	\$69.93
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2009		\$35.71	\$19.79	\$55.50
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2010		\$35.71	\$20.79	\$56.50
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2011		\$35.71	\$22.14	\$57.85
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2012		\$36.10	\$23.20	\$59.30
Operators Class 03 - See Notes (Building, Heavy, Highway)	5/1/2013		\$36.48	\$24.27	\$60.75
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2009		\$35.40	\$19.71	\$55.11

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2010		\$35.40	\$20.71	\$56.11
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2011		\$35.40	\$22.06	\$57.46
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2012		\$35.79	\$23.12	\$58.91
Operators Class 04 - See Notes (Building, Heavy, Highway)	5/1/2013		\$36.17	\$24.19	\$60.36
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2009		\$33.68	\$19.20	\$52.88
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2010		\$33.68	\$20.20	\$53.88
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2011		\$33.68	\$21.55	\$55.23
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2012		\$34.07	\$22.61	\$56.68
Operators Class 05 - See Notes (Building, Heavy, Highway)	5/1/2013		\$34.45	\$23.68	\$58.13
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2009		\$32.69	\$18.91	\$51.60
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2010		\$32.69	\$19.91	\$52.60
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2011		\$32.69	\$21.26	\$53.95
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2012		\$33.08	\$22.32	\$55.40
Operators Class 06 - See Notes (Building, Heavy, Highway)	5/1/2013		\$33.46	\$23.39	\$56.85
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2009		\$48.05	\$24.43	\$72.48
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2010		\$48.05	\$25.55	\$73.60
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2011		\$48.05	\$27.10	\$75.15
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2012		\$48.51	\$28.38	\$76.89
Operators Class 07 (A) - See Notes (Building, Heavy, Highway)	5/1/2013		\$48.97	\$29.66	\$78.63
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2009		\$47.75	\$24.35	\$72.10
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2010		\$47.75	\$25.47	\$73.22
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2011		\$47.75	\$27.02	\$74.77
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2012		\$48.21	\$28.30	\$76.51
Operators Class 07 (B) - See Notes (Building, Heavy, Highway)	5/1/2013		\$48.67	\$29.58	\$78.25
Painters Class 1 (see notes)	5/1/2009		\$32.31	\$19.24	\$51.55
Painters Class 1 (see notes)	10/1/2009		\$32.31	\$20.12	\$52.43
Painters Class 1 (see notes)	5/1/2010		\$32.31	\$20.84	\$53.15

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Painters Class 1 (see notes)	5/1/2011		\$32.94	\$21.49	\$54.43
Painters Class 1 (see notes)	5/1/2012		\$33.92	\$21.91	\$55.83
Painters Class 2 (see notes)	5/1/2009		\$40.85	\$19.59	\$60.44
Painters Class 2 (see notes)	10/1/2009		\$40.85	\$20.34	\$61.19
Painters Class 2 (see notes)	5/1/2010		\$40.85	\$20.94	\$61.79
Painters Class 2 (see notes)	5/1/2011		\$42.20	\$21.59	\$63.79
Painters Class 2 (see notes)	11/1/2011		\$44.17	\$21.62	\$65.79
Painters Class 2 (see notes)	5/1/2012		\$45.25	\$22.04	\$67.29
Painters Class 2 (see notes)	11/1/2012		\$46.75	\$22.04	\$68.79
Painters Class 3 (see notes)	5/1/2009		\$32.69	\$19.24	\$51.93
Painters Class 3 (see notes)	10/1/2009		\$32.69	\$20.12	\$52.81
Painters Class 3 (see notes)	5/1/2010		\$32.69	\$20.84	\$53.53
Painters Class 3 (see notes)	5/1/2011		\$33.32	\$21.49	\$54.81
Painters Class 3 (see notes)	5/1/2012		\$34.30	\$21.91	\$56.21
Plasterers	5/1/2010		\$32.90	\$24.85	\$57.75
Plumbers	5/1/2010		\$41.53	\$26.01	\$67.54
Plumbers	5/1/2011		\$41.53	\$28.01	\$69.54
Plumbers	5/1/2012		\$42.93	\$28.88	\$71.81
Pointers, Caulkers, Cleaners	5/1/2009		\$35.05	\$20.85	\$55.90
Pointers, Caulkers, Cleaners	5/1/2010		\$35.05	\$21.60	\$56.65
Pointers, Caulkers, Cleaners	5/1/2011		\$35.10	\$22.45	\$57.55
Pointers, Caulkers, Cleaners	5/1/2012		\$36.10	\$22.75	\$58.85
Pointers, Caulkers, Cleaners	5/1/2013		\$37.50	\$22.75	\$60.25
Pointers, Caulkers, Cleaners	5/1/2014		\$39.15	\$22.75	\$61.90
Pointers, Caulkers, Cleaners	5/1/2015		\$40.80	\$22.75	\$63.55
Roofers (Composition)	5/1/2009		\$30.00	\$23.10	\$53.10
Roofers (Composition)	5/1/2010		\$30.75	\$24.95	\$55.70
Roofers (Composition)	5/1/2011		\$30.75	\$25.95	\$56.70
Roofers (Composition)	5/1/2012		\$31.05	\$26.95	\$58.00
Roofers (Shingle, Slate, Tile)	5/1/2009		\$23.25	\$13.62	\$36.87
Roofers (Shingle, Slate, Tile)	5/1/2011		\$23.75	\$15.62	\$39.37

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Roofers (Shingle, Slate, Tile)	5/1/2012		\$24.00	\$16.37	\$40.37
Sheet Metal Workers	5/1/2010		\$38.36	\$32.67	\$71.03
Sheet Metal Workers (Building, Heavy, Highway)	5/1/2011		\$38.36	\$32.67	\$71.03
Sheet Metal Workers (Building, Heavy, Highway)	5/1/2012		\$39.66	\$33.27	\$72.93
Sign Makers and Hangars	5/21/2010		\$24.33	\$16.37	\$40.70
Sign Makers and Hangars	5/20/2011		\$23.70	\$17.69	\$41.39
Sprinklerfitters	5/1/2010		\$46.12	\$19.85	\$65.97
Sprinklerfitters	1/1/2011		\$46.62	\$19.85	\$66.47
Sprinklerfitters	5/1/2011		\$46.47	\$20.35	\$66.82
Sprinklerfitters	1/1/2012		\$46.65	\$20.82	\$67.47
Steamfitters	5/1/2012		\$44.17	\$26.86	\$71.03
Stone Masons	5/1/2010		\$34.36	\$21.77	\$56.13
Stone Masons	5/1/2011		\$34.35	\$22.58	\$56.93
Stone Masons	5/1/2012		\$35.25	\$22.90	\$58.15
Stone Masons	5/1/2013		\$36.65	\$22.90	\$59.55
Stone Masons	5/1/2014		\$38.30	\$22.90	\$61.20
Stone Masons	5/1/2015		\$39.95	\$22.90	\$62.85
Terrazzo Finisher	5/1/2009		\$32.41	\$18.31	\$50.72
Terrazzo Finisher	5/1/2010		\$32.41	\$19.06	\$51.47
Terrazzo Finisher	5/1/2011		\$32.41	\$19.96	\$52.37
Terrazzo Finisher	5/1/2012		\$33.06	\$20.26	\$53.32
Terrazzo Finisher	5/1/2013		\$34.19	\$20.26	\$54.45
Terrazzo Finisher	5/1/2014		\$35.86	\$20.26	\$56.12
Terrazzo Finisher	5/1/2015		\$37.53	\$20.26	\$57.79
Terrazzo Grinder	5/1/2011		\$32.66	\$19.96	\$52.62
Terrazzo Grinder	5/1/2012		\$33.31	\$20.26	\$53.57
Terrazzo Grinder	5/1/2013		\$34.44	\$20.26	\$54.70
Terrazzo Grinder	5/1/2014		\$36.12	\$20.26	\$56.38
Terrazzo Grinder	5/1/2015		\$37.80	\$20.26	\$58.06
Terrazzo Layers	5/1/2008		\$35.41	\$19.47	\$54.88

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Terrazzo Mechanics	5/1/2009		\$35.41	\$20.92	\$56.33
Terrazzo Mechanics	5/1/2010		\$35.41	\$21.67	\$57.08
Terrazzo Mechanics	5/1/2011		\$36.30	\$21.78	\$58.08
Terrazzo Mechanics	5/1/2012		\$37.05	\$22.08	\$59.13
Terrazzo Mechanics	5/1/2013		\$38.30	\$22.08	\$60.38
Terrazzo Mechanics	5/1/2014		\$40.15	\$22.08	\$62.23
Terrazzo Mechanics	5/1/2015		\$42.00	\$22.08	\$64.08
Tile Finisher	5/1/2009		\$29.11	\$19.84	\$48.95
Tile Finisher	5/1/2010		\$29.11	\$20.59	\$49.70
Tile Finisher	5/1/2011		\$29.16	\$21.34	\$50.50
Tile Finisher	5/1/2012		\$29.77	\$21.64	\$51.41
Tile Finisher	5/1/2013		\$30.86	\$21.64	\$52.50
Tile Finisher	5/1/2014		\$32.47	\$21.64	\$54.11
Tile Finisher	5/1/2015		\$34.08	\$21.64	\$55.72
Tile Layers	5/1/2009		\$36.15	\$20.28	\$56.43
Tile Layers	5/1/2010		\$36.15	\$21.03	\$57.18
Tile Layers	5/1/2011		\$36.20	\$21.78	\$57.98
Tile Layers	5/1/2012		\$36.95	\$22.08	\$59.03
Tile Layers	5/1/2013		\$38.20	\$22.08	\$60.28
Tile Layers	5/1/2014		\$40.05	\$22.08	\$62.13
Tile Layers	5/1/2015		\$41.90	\$22.08	\$63.98
Truckdriver class 1(see notes)	5/1/2007		\$23.50	\$11.92	\$35.42
Truckdriver class 1(see notes)	5/1/2010		\$26.00	\$13.48	\$39.48
Truckdriver class 1(see notes)	5/1/2011		\$26.65	\$13.90	\$40.55
Truckdriver class 1(see notes)	5/1/2012		\$26.65	\$14.16	\$40.81
Truckdriver class 1(see notes)	5/1/2012		\$27.54	\$14.16	\$41.70
Truckdriver class 2 (see notes)	5/1/2007		\$23.60	\$11.92	\$35.52
Truckdriver class 2 (see notes)	5/1/2010		\$26.00	\$13.48	\$39.48
Truckdriver class 2 (see notes)	5/1/2012		\$27.64	\$14.16	\$41.80
Truckdriver class 3 (see notes)	5/1/2007		\$23.85	\$11.92	\$35.77
Truckdriver class 3 (see notes)	5/1/2010		\$26.25	\$13.48	\$39.73

PREVAILING WAGES PROJECT RATES

Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Truckdriver class 3 (see notes)	5/1/2012		\$27.89	\$14.16	\$42.05

PREVAILING WAGES PROJECT RATES

Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenter - Chief of Party (Surveying & Layout)	5/1/2010		\$43.76	\$23.40	\$67.16
Carpenter - Chief of Party (Surveying & Layout)	5/1/2011		\$44.56	\$23.90	\$68.46
Carpenter - Chief of Party (Surveying & Layout)	5/1/2012		\$45.61	\$24.44	\$70.05
Carpenter - Chief of Party (Surveying & Layout)	5/1/2013		\$47.28	\$24.44	\$71.72
Carpenter - Instrument Person (Surveying & Layout)	5/1/2010		\$38.05	\$23.40	\$61.45
Carpenter - Instrument Person (Surveying & Layout)	5/1/2011		\$38.75	\$23.90	\$62.65
Carpenter - Instrument Person (Surveying & Layout)	5/1/2012		\$39.66	\$24.44	\$64.10
Carpenter - Instrument Person (Surveying & Layout)	5/1/2013		\$41.11	\$24.44	\$65.55
Carpenter - Rodman (Surveying & Layout)	5/1/2010		\$30.44	\$23.40	\$53.84
Carpenter - Rodman (Surveying & Layout)	5/1/2011		\$31.00	\$21.89	\$52.89
Carpenter - Rodman (Surveying & Layout)	5/1/2012		\$31.73	\$23.43	\$55.16
Carpenter - Rodman (Surveying & Layout)	5/1/2013		\$32.89	\$23.43	\$56.32
Carpenters	5/1/2010		\$38.05	\$23.40	\$61.45
Carpenters	5/1/2011		\$38.75	\$23.90	\$62.65
Carpenters	5/1/2012		\$39.66	\$24.44	\$64.10
Carpenters	5/1/2013		\$41.11	\$24.44	\$65.55
Cement Masons	5/1/2010		\$31.10	\$25.46	\$56.56
Cement Masons	5/1/2011		\$31.35	\$26.21	\$57.56
Cement Masons	5/1/2012		\$31.35	\$27.46	\$58.81
Cement Masons	5/1/2013		\$33.85	\$26.21	\$60.06
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2010		\$44.70	\$26.69	\$71.39
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2011		\$44.70	\$27.19	\$71.89
Iron Workers (Bridge, Structural Steel, Ornamental, Precast, Reinforcing)	7/1/2012		\$44.70	\$28.14	\$72.84
Laborers (Class 01 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 01 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 01 - See notes)	5/1/2012		\$26.00	\$22.95	\$48.95
Laborers (Class 02 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 02 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 02 - See notes)	5/1/2012		\$26.20	\$22.95	\$49.15

PREVAILING WAGES PROJECT RATES

Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 03 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 03 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 03 - See notes)	5/1/2012		\$26.20	\$22.95	\$49.15
Laborers (Class 04 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 04 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 04 - See notes)	5/1/2012		\$20.80	\$22.95	\$43.75
Laborers (Class 05 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 05 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 05 - See notes)	5/1/2012		\$26.85	\$22.95	\$49.80
Laborers (Class 06 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 06 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 06 - See notes)	5/1/2012		\$26.90	\$22.95	\$49.85
Laborers (Class 07 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 07 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 07 - See notes)	5/1/2012		\$26.75	\$22.95	\$49.70
Laborers (Class 08 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 08 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 08 - See notes)	5/1/2012		\$26.50	\$22.95	\$49.45
Laborers (Class 09 - See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 09 - See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 09 - See notes)	5/1/2012		\$26.35	\$22.95	\$49.30
Laborers (Class 10- See notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 10- See notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 10- See notes)	5/1/2012		\$26.50	\$22.95	\$49.45
Laborers (Class 11 -See Notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 11 -See Notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 11 -See Notes)	5/1/2012		\$26.40	\$22.95	\$49.35
Laborers (Class 12 -See Notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 12 -See Notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 12 -See Notes)	5/1/2012		\$28.10	\$22.95	\$51.05
Laborers (Class 13 -See Notes)	5/1/2010		\$25.15	\$22.00	\$47.15

PREVAILING WAGES PROJECT RATES

Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 13 -See Notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 13 -See Notes)	5/1/2012		\$30.13	\$22.95	\$53.08
Laborers (Class 14 -See Notes)	5/1/2010		\$25.15	\$22.00	\$47.15
Laborers (Class 14 -See Notes)	5/1/2011		\$25.95	\$22.00	\$47.95
Laborers (Class 14 -See Notes)	5/1/2012		\$26.15	\$22.95	\$49.10
Landscape Laborer	4/1/2010		\$18.44	\$19.90	\$38.34
Landscape Laborer	5/1/2012		\$18.84	\$20.30	\$39.14
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2009		\$40.24	\$24.84	\$65.08
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2010		\$41.94	\$26.09	\$68.03
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2012		\$44.17	\$26.86	\$71.03
Truckdriver class 1(see notes)	5/1/2010		\$25.90	\$13.48	\$39.38
Truckdriver class 1(see notes)	5/1/2011		\$26.65	\$13.90	\$40.55
Truckdriver class 1(see notes)	5/1/2012		\$27.39	\$14.16	\$41.55
Truckdriver class 2 (see notes)	5/1/2010		\$26.00	\$13.48	\$39.48
Truckdriver class 2 (see notes)	5/1/2011		\$26.65	\$13.90	\$40.55
Truckdriver class 2 (see notes)	5/1/2012		\$27.49	\$14.16	\$41.65
Truckdriver class 3 (see notes)	5/1/2010		\$26.25	\$13.48	\$39.73
Truckdriver class 3 (see notes)	5/1/2011		\$26.90	\$13.90	\$40.80
Truckdriver class 3 (see notes)	5/1/2012		\$27.74	\$14.16	\$41.90

Notes:

If you can not find a classification under Heavy/Highway please refer to the Building classifications.

For further information on construction types review the ["Notes as Referenced in Predeterminations"](#) on the Labor and Industry Website. Go to www.dli.state.pa.us, scroll down to the picture labeled "Labor Law Compliance" and click the picture. Then scroll down on the left menu and click on the "Prevailing Wage" link.

DOCUMENT 00850 - DRAWINGS INDEX

PART 1 – DEFINITIONS

1.1 LIST OF DRAWINGS

- A. The Drawings hereinafter listed that are required for the complete execution of the project shall be considered a part of the Contract.

LIST OF DRAWINGS

DRAWING NUMBER	PAGE DESCRIPTION
T - 1	Title Sheet
A - 1	Elevations, Details
A - 2	Masonry Details
A - 3	Masonry Details

- B. The Consultant may furnish from time to time as the work progresses, such supplemental drawings as may be required for further illustration of the details of the work. These supplemental drawings will not be construed to be the shop drawings.
- C. Shop drawings, when required, shall be prepared by the Contractor.

- END OF DOCUMENT -

SECTION 01014 - SUMMARY OF WORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This section summarizes the scope of scope of masonry restoration and caulking work to be performed on the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, Pennsylvania.
- B. Information in this section is provided as a general overview of the project scope, and as such, does not grant authority for deviation from the specifications for product, execution, or quality assurance contained in Sections 01014 through 099114, inclusive. The contractor shall remain solely responsible for comprehensive review of all project documents including the contract drawings in preparation of his bid. The contractor shall include, in his Base Bid and Alternate Bid Sums all costs associated with manufacturer required detail modifications to satisfy the manufacturer's warranty requirements.

1.2 GENERAL PROJECT REQUIREMENTS

- A. The following paragraphs are generally applicable requirements for performance of work on this project.
 - 1. Construction details for the work of these specifications are as noted on the contract drawings. The project details shall govern product installation unless the product manufacturer requires a more stringent detail for purposes of proper product performance or system warranty, in which case, the manufacturer's detail will govern. In instances where specific conditions exist that vary from the project specification construction details or the manufacturer's standard details, the contractor shall submit a manufacturer approved shop drawing for consideration by the Owner. Installation shall not begin until approval by the Owner has been given.
 - 2. Unless otherwise shown or noted on the contract drawings, existing, functional and salvageable, sheet metal counterflashings or coping metals shall be carefully handled to allow reuse after the specified work is complete. Damage done to otherwise salvageable metal flashings shall be repaired via replacement with new metal in the damaged area or section.
 - 3. As stated elsewhere in the contract documents, all safety, health, and environmental regulations of either local or national legislative bodies, as well as those of the product manufacturers, shall be complied with by the successful bidder for the project work. The cost of compliance with such regulations shall be included in the bidders base bid without expectation for compliance waiver or change order.
 - 4. Contractor shall pay obtain and pay for permits required for the specified work from Middletown Township, PA.
 - 5. The contractor shall exercise all due precaution to prevent disruption to the occupancy of the facility interior or grounds. Every effort must be employed to prevent causing additional damage to the existing roof system while working in an adjacent area, point overloading of the roof deck, damage to roof areas not in this contract. In the event that new leaks or other such disruptive or damaging conditions are brought on as a result of the contractor's negligence, poor judgment, or failure to comply with the project specification requirements, the contractor shall repair such damage to the satisfaction of the Owner at no additional charge to the Owner.

6. During periods of precipitation, the contractor shall be responsible for performing, at least daily, interior building inspections for leaks in the area of his work. Contractor's representative shall report to the Owner's facility engineer to inquire about known building roof leaks. Should there be any such leaks, the contractor shall repair them immediately to prevent interior building damage. All leak related damage to the building under areas the contractor has worked on, or is working on, shall be repaired to the satisfaction of the Owner at no cost to the Owner.
7. The contractor shall maintain a complete set of project specifications and contract drawings at the work areas during the course of work on this facility. Failure of proper installation by the contractor, due to unavailability of project specifications or drawings at the work area, constitutes negligence.

1.3 GENERAL DESCRIPTION OF WORK

- A. **Base Bid Work**: Specified work includes restoration of the masonry on the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, Pennsylvania as required by the bid documents, specifications and drawings, as described herein:
1. **Repair Area 1 (Wall to Floor Repair @ 2nd Floor)** - Attach wall to steel framing below the 2nd story concrete floor as required by Detail 1/A-1 where shown on the Plan View of the Key Plan.
 2. **Repair Area 2 (Front Elevation @ Entrance)** - Remove and discard a section of face brick façade and wall ties down to inner Cinder Masonry Unit (CMU) wythe. Restore exposed wall as follows:
 - a. Provide and install underlayment sheets over exposed CMU wythe as required by Specification Section 07555.
 - b. Provide and install new wall ties and secure to CMU wythe as required by Specification Section 04085 and Detail 2/A-2.
 - c. Restore exterior wall around each window unit in work area as follows:
 - (1) Remove and discard face brick unless it can be salvaged in good condition, mortar, wall ties, backer rod and sealant at piers.
 - (2) Provide and install underlayment sheets over exposed CMU wythe behind each pier as required by Specification Section 07555 and Detail 1/A-2.
 - (3) Provide and install new wall ties and secure to CMU wythe behind each pier as required by Specification Section 04085 and Detail 2/A-2.
 - (4) Remove and discard bent section of metal plate at a window pier and replace with a steel plate section to match existing. Weld new steel plate section to existing steel plate to remain - **Unit Cost Work**.
 - (5) Prepare and paint exposed surfaces of new and existing plate steel at the base of each pier as required by Specification Section 099114.
 - (6) Provide and install new face brick wall piers as required by Specification Section 04810 and Detail 1/A-2.
 - (7) Tuckpoint mortar joints between face brick at sill as required by Specification Section 04521.
 - (8) Provide and install mortar sloped to wash on the top of each face brick pier as required by Specification Section 030110.
 - (9) Provide and install clear penetrating sealer over the mortar on the top of each pier after it has cured and on the face brick sill as required by Specification Section 07190.
 - (10) Caulk each joint between: (a) a face brick pier and face brick façade; and (b) a face brick pier and window unit; (c) window unit frame and perimeter substrate using backer rod and sealant as required by Specification Section 079200.

- d. Prepare and paint exposed surfaces of steel lintels as required by Specification Section 099114 and the drawings.
 - e. Provide and install self adhering flashing sheets over exposed CMU wythe and on the top side of painted steel lintels, and weep holes as required by Specification Section 07555 and Detail 1/A-2.
 - f. Provide and install new face brick wall over exposed CMU wythe as required by Specification Section 04810 and the drawings.
 - (1) Provide and install weep holes at flashing details.
 - (2) Provide and install solid courses of face brick at the top course of repaired section of wall below soldier courses of face brick to remain.
 - (3) Provide and install mortar in the joint between the soldier courses of face brick to remain and the top edge of the repaired section of wall as required by the Specification Section 04810.
 - g. Provide and install control joint in exposed face brick façade as required by Detail 5/A-2. Caulk control joint using backer rod and sealant as required by Specification Section 079200.
 - h. Provide and install metal flashing, backer rod and sealant over expansion joint at header detail as required by Detail 6/A-3 and Specification Sections 076200 and 079200.
 - i. Clean new face brick façade as required by Specification Section 04900.
3. Repair Area 3 (Front Elevation @ Auditorium) - Remove and discard a section of face brick façade and wall ties down to inner Cinder Masonry Unit (CMU) wythe. Restore exposed wall as follows:
- a. Provide and install underlayment sheets over exposed CMU wythe as required by Specification Section 07555.
 - b. Provide and install new wall ties and secure to CMU wythe as required by Specification Section 04085 and Detail 2/A-2.
 - c. Provide and install new face brick wall over exposed CMU wythe as required by Specification Section 04810 and Detail 2/A-2.
 - (1) Provide and install solid courses of face brick at the top of repaired section of wall below soldier courses of face brick to remain.
 - (2) Provide and install mortar in the joint between the soldier courses of face brick to remain and the top edge of the repaired section of wall as required by the Specification Section 04810.
 - d. Provide and install control joint in exposed face brick façade as required by Detail 5/A-2. Caulk control joint using backer rod and sealant as required by Specification Section 079200.
 - e. Clean new face brick façade as required by Specification Section 04900.
4. Repair Area 4 (Rear Elevation @ Cafeteria) - Remove and discard a section of face brick façade and wall ties down to inner Cinder Masonry Unit (CMU) wythe. Restore exposed wall as follows:
- a. Provide and install underlayment sheets over exposed CMU wythe as required by Specification Section 07555.
 - b. Provide and install new wall ties and secure to CMU wythe as required by Specification Section 04085 and Detail 2/A-2.
 - c. Restore exterior wall around each window unit in work area as follows:
 - (1) Remove and discard face brick unless it can be salvaged in good condition, mortar, wall ties, backer rod and sealant at piers.
 - (2) Provide and install underlayment sheets over exposed CMU wythe behind each pier as required by Specification Section 07555.
 - (3) Provide and install new wall ties and secure to CMU wythe behind each pier as required by Specification Section 04085 and Detail 2/A-2.
 - (4) Remove and discard bent section of metal plate at a window pier and replace with a steel plate section to match existing. Weld new steel plate section to existing steel plate to remain - Unit Cost Work.

- (5) Prepare and paint exposed surfaces of new and existing plate steel at the base of each pier as required by Specification Section 099114.
 - (6) Provide and install new face brick wall piers as required by Specification Section 04810 and Detail 1/A-2.
 - (7) Tuckpoint mortar joints between face brick at sill as required by Specification Section 04521.
 - (8) Provide and install mortar sloped to wash on the top of each face brick pier as required by Specification Section 030110.
 - (9) Provide and install clear penetrating sealer over the mortar on the top of each pier after it has cured and on the face brick sill as required by Specification Section 07190.
 - (10) Caulk each joint between: (a) a face brick pier and face brick façade; and (b) a face brick pier and window unit; (c) window unit frame and perimeter substrate using backer rod and sealant as required by Specification Section 079200.
 - d. Prepare and paint exposed surfaces of steel lintels as required by Specification Section 099114 and the drawings.
 - e. Provide and install self adhering flashing sheets over exposed CMU wythe and on the topside of painted steel lintels, and weep holes as required by Specification Section 07555 and Detail 3/A-2.
 - f. Provide and install new face brick wall over exposed CMU wythe as required by Specification Section 04810 and the drawings.
 - (1) Provide and install weep holes at flashing details.
 - (2) Provide and install solid courses of face brick at the top course of repaired section of wall below soldier courses of face brick to remain.
 - (3) Provide and install mortar in the joint between the soldier courses of face brick to remain and the top edge of the repaired section of wall as required by the Specification Section 04810.
 - g. Provide and install control joint in exposed face brick façade as required by Detail 5/A-2. Caulk control joint using backer rod and sealant as required by Specification Section 079200.
 - h. Provide and install metal flashing, backer rod and sealant over expansion joint at header detail as required by Detail 6/A-3 and Specification Sections 076200 and 079200.
 - i. Clean new face brick façade as required by Specification Section 04900.
5. Repair Area 5 (Rear Elevation @ Cafeteria) - Restore exterior wall around each window unit in work area as follows:
- a. Remove and discard face brick unless it can be salvaged in good condition, mortar, wall ties, backer rod and sealant at piers.
 - b. Provide and install underlayment sheets over exposed CMU wythe behind each pier as required by Specification Section 07555 and Detail 1/A-2.
 - c. Provide and install new wall ties and secure to CMU wythe behind each pier as required by Specification Section 04085 and Detail 2/A-2.
 - d. Prepare and paint exposed surfaces of steel lintels as required by Specification Section 099114 and the drawings.
 - e. Provide and install self adhering flashing sheets over exposed CMU wythe and on the topside of painted steel lintels, and weep holes as required by Specification Section 07555 and Detail 1/A-2.
 - f. Remove and discard bent section of metal plate at a window pier and replace with a steel plate section to match existing. Weld new steel plate section to existing steel plate to remain - Unit Cost Work.
 - g. Prepare and paint exposed surfaces of new and existing plate steel at the base of each pier as required by Specification Section 099114.
 - h. Provide and install new face brick wall piers as required by Specification Section 04810 and Detail 1/A-2.
 - i. Tuckpoint mortar joints between face brick at sill as required by Specification Section 04521.

- j. Provide and install mortar sloped to wash on the top of each face brick pier as required by Specification Section 030110.
- k. Provide and install clear penetrating sealer over the mortar on the top of each pier after it has cured and on the face brick sill as required by Specification Section 07190.
- l. Caulk each joint between: (a) a face brick pier and face brick façade; and (b) a face brick pier and window unit; (c) window unit frame and perimeter substrate using backer rod and sealant as required by Specification Section 079200.
- m. Clean new face brick façade as required by Specification Section 04900.

B. **Alternate Bid No. 1 Work:** Specified work includes restoration of the masonry on the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, Pennsylvania as required by the bid documents, specifications and drawings, as described herein:

- 1. **Repair Area 6 (Front Elevation @ Entrance)** - Restore exterior free standing wall in work area as follows:
 - a. Power wash face brick wall to remove all algae, dirt and efflorescence.
 - b. Prepare and paint exposed surfaces of steel lintels as required by Specification Section 099114.
 - c. Tuckpoint loose and cracked mortar as required by Specification Section 04521.
 - d. Remove and discard cracked face brick and associated mortar and replace with new face brick and mortar as required by Specification Section 04810.
 - e. Remove and discard mortar, sealant and backer rod from joints between:
 - (1) cast stone coping units;
 - (2) cast stone coping units and face brick wall;
 - (3) glass block unit and face brick wall;
 - f. Provide and install backer rod and sealant in open joints as required by Specification Section 079200.
 - g. Clean all exposed surfaces of face brick façade as required by Specification Section 04900.
 - h. Provide and install clear penetrating sealer over all masonry surfaces as required by Specification Section 07190.

C. **Alternate Bid No. 2 Work:** Specified work includes restoration of the masonry on the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, Pennsylvania as required by the bid documents, specifications and drawings, as described herein:

- 1. **Repair Area 7 (Window Opening Piers)** - Restore top edge of face brick piers at each window opening as follows:
 - a. Remove and discard deteriorated top course of face brick and mortar at piers.
 - b. Replace removed top course of face brick and mortar at piers using new solid face brick and mortar to match existing as required by Specification Section 04810.
 - c. Provide and install mortar on the top of each pier and slope to wash as required by Specification Section 030110 and the drawings.
 - d. Provide and install clear penetrating sealer over the mortar on the top of each pier after it has cured as required by Specification Section 07190.

D. **Alternate Bid No. 3 Work:** Specified work includes restoration of the masonry on the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, Pennsylvania as required by the bid documents, specifications and drawings, as described herein:

- 1. **Repair Area 8 (Inside Corner Vertical Joint)** - Restore joint at inside corners of exterior walls as follows:
 - a. Remove and discard mortar, sealant and backer rod from joints at inside corners of exterior face brick walls.

- b. Provide and install backer rod and sealant in the open joints as required by Specification Section 079200 and Inside Corner Joint Detail 7/A-3.
- E. **Alternate Bid No. 4 Work:** Specified work includes restoration of the masonry on the Maple Point Elementary School located at 2250 Langhorne-Yardley Road in Langhorne, Pennsylvania as required by the bid documents, specifications and drawings, as described herein:
- F. **Repair Area 9 (Front Entrance Exterior Wall)** - Restore two (2) sections of exterior face brick wall as follows:
 - a. Power wash face brick wall to remove all algae, dirt and efflorescence.
 - b. Tuckpoint loose and cracked mortar as required by Specification Section 04521.
 - c. Provide and install clear penetrating sealer over the mortar on the prepared exterior wall as required by Specification Section 07190.

1.4 JOBSITE AND ROOF TOP CLEANING

- A. The following paragraphs refer to the proper project cleaning procedure to be employed on this project.
 - 1. General Debris
 - a. The contractor shall keep all staging and work areas free of debris by policing these areas daily. This includes perimeter of dumpsters or trash containers.
 - b. Dumpsters used for work generated debris collection shall be covered nightly to prevent wind blown trash from leaving the container. Dumpsters shall not be filled to overflowing nor shall they be allowed to remain on site, in a filled condition, more than 24 hours before dumping.
 - c. Upon completion of work in an area, or change in the project staging area, all trash and debris shall be removed prior to departure.
 - 2. Restoration of Project Grounds
 - a. Repairs or restoration to the project grounds, sidewalks, driveways, parking lots, trees, shrubs and lawn, where damaged due to construction activity, shall be performed to the complete satisfaction of the Owner.

- END OF SECTION -

SECTION 01015 - SUPPLEMENTS TO SUMMARY OF WORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Owner furnished Products.
- B. Contractor use of site and premises.
- C. Work Sequence.
- D. Owner Occupancy.

1.2 OWNER FURNISHED PRODUCTS

- A. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
 - 2. Arrange for manufacturer's warranties, inspections and service after acceptance of work.
 - 3. Contractor's Responsibilities:
 - a. Review Owner reviewed shop drawings, product data, and samples.
 - b. Receive and unload Products at site; inspect for completeness or damage, jointly with Owner.
 - c. Handle, store, install and furnish Products.
 - d. Repair or replace items damaged after receipt.

1.3 CONTRACTOR USE OF SITE AND PREMISES

- A. Limit use of premises for work and for storage to allow for:
 - 1. Owner Occupancy
 - 2. Owner to conduct his operations
 - 3. Public Use
- B. Coordinate use of premises under direction of Owner or Owner's Representative.
- C. Store materials and equipment in an area designated by the Owner.
- D. Contractor will not be allowed to store more materials on the roof than is permissible to maintain the structural integrity of the building.
- E. Assume full responsibility for the protection and safe keeping of materials under this Contract, stored on this site.
- F. Move any stored materials that interfere with operations of the Owner or Separate Contractor.
- G. Comply with all security regulations currently in force at the job site. Personnel shall not be permitted inside the building area at any time, except with the permission of the Owner.
- H. Except for equipment, private vehicle parking will not be allowed on the property except in a designated area set aside for that purpose by the Owner.

- I. Provide means of outside access for all men and materials to and from work area. Such access provided by the Contractor for his personnel shall be removed each night for building security.
- J. Do not interrupt the primary service of utilities at will. Any interruption of primary service of utilities shall be at the convenience of the Owner and shall not occur during regular working hours of the Owner unless otherwise approved by the Owner. Submit notice, at least 48 hours in advance, to the Owner, prior to such proposed interruptions.
- K. Furnish all temporary facilities including water, electricity, office space, telephone, and sanitary facilities. Temporary sanitary facilities shall be of a type consistent with current regulations.
- L. Locate portable sanitary facility on the site where designated by the Owner.
- M. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place. Vehicles may not be parked at site.
- N. Contractor Use of the Existing Building: Maintain the existing building in a safe and weathertight condition throughout the construction period. Repair damage caused by construction operations. Take all precautions necessary to protect the building and its occupants during the construction period.
 - 1. Keep public areas such as hallways, stairs, elevator lobbies and toilet rooms free from accumulation of waste material, rubbish or construction debris.
 - 2. The Contractor must provide for his workmen a temporary portable toilet facility at an appropriate place on site unless the Owner approves the use of existing Toilet Rooms within the facilities.

1.4 WORK SEQUENCE

- A. Perform Masonry Work in stages to accommodate the Owner's use and public use of the premises during the construction period.
- B. Coordinate work with all other trades keeping the masonry restoration watertight and leak free at all times.

1.5 OWNER OCCUPANCY

- A. The Owner will occupy the premises during entire period of Masonry work.
- B. Cooperate with Owner to minimize conflict, and to facilitate Owner's operations.
- C. Schedule the Work to accommodate this requirement.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

- END OF SECTION -

SECTION 01016 - DEFINITIONS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Definitions.
- B. Format and Specification Content Definitions.
- C. Overlapping and Conflicting Assignments.
- D. Minimum Quality/Quantity.
- E. Specialists: Assignments.
- F. Drawing Symbols.

1.2 DEFINITIONS

- A. General Explanation: A substantial amount of specification language consists of definitions for terms found in other contract documents, including drawings. (Drawings must be recognized as diagrammatic in nature and not completely descriptive of requirements indicated thereon). Certain terms used in contract documents are defined in this article. Definitions and explanations contained in this section are not necessarily either complete or exclusive, but are general for the work to extent that they are not stated more explicitly in another element of contract documents.
- B. General Requirements: The provisions or requirements of Division 1 sections apply to entire work of Contract and, where so indicated, to other elements which are included in project.
- C. Special Conditions: Wherever the term "Special Conditions" or "Section, Special Conditions: is used in the specifications, it refers collectively to all of the sections in Division 1, General Requirements.
- D. Indicated: The term "Indicated" is a cross-reference to graphic representations, notes or schedules on drawings, to other paragraphs or schedules in the specifications, and to similar means of recording requirements in contract documents. Where terms such as "shown", "noted", "scheduled", and "specified" are used in lieu of "indicated", it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.
- E. Directed, Requested, etc.: Where not otherwise explained, terms such as "directed", "requested", "authorized", "selected", "approved", "required", "accepted", and "permitted" mean "directed by the Owner". However, no such implied meaning will be interpreted to extend the Owner's responsibility into Contractor's area of construction supervision.
- F. Approve: Only the Owner, or an individual designated by him in writing, can approve or disapprove contract actions. Even if the specifications indicate that an individual other than the Owner (such as the "Owner" or "Consultant") will approve or disapprove an action, it is understood that only the Owner has this authority unless the individual is so designated by him in writing. Even when an individual is so designated, the Contractor may appeal the action to the Owner and the Owner's decision shall be final. In no case will "approval" by the Owner be interpreted as a release of the Contractor from responsibility to fulfill requirements of contract documents.

- G. Owner's Professional Representative: The Owner shall designate an on-site representative to manage activities for the Owner during the course of the construction of the project.
- H. Project Site: The space available to Contractor for performance of the work, either exclusively or in conjunction with others performing other work as part of this project. The extent of project site is shown on drawings, and may or may not be identical with description of land upon which project is to be built.
- I. Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking assembly, installation, etc., as applicable in each instance.
- J. Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
- K. Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.
- L. Installer: The term "Installer" is defined as the entity (person or firm) engaged by the Contractor or its subcontractor or subcontractor for performance of a particular unit of work at the project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (Installers) be expert in operations they are engaged to perform.
- M. Specialist: The term "Specialist" means an individual or firm of established reputation (or, if newly organized, whose personnel have previously established a reputation in the same field), which is regularly engaged in, and which maintains a regular force of workmen skilled in either (as applicable) manufacturing or fabricating items required by the contract, installing items required by the contract, or otherwise performing work required by the contract. Where the contract specification requires installation by a specialist, that term shall also be deemed to mean either the manufacturer of the item, an individual or firm licensed by the manufacturer, or an individual or firm who will perform the work under the manufacturer's direct supervision.
- N. Testing Laboratory: The term "testing laboratory" is an independent entity engaged to perform specific inspections or tests of the work, either at project site or elsewhere; and to report and (if required) interpret results of those inspections or tests.

1.3 FORMAT AND SPECIFICATION CONTENT DEFINITIONS

- A. Underscoring: Is used strictly to assist reader of specification text in scanning text for key words (for quick recall). No emphasis on or relative importance is intended where underscoring is used.
- B. Imperative Language: Is used generally in specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities which must be fulfilled indirectly by Contractor, or when so noted, by others.
- C. Section Numbering: Is used to facilitate cross-references in contract documents. Sections are placed in Project Manual in numeric sequence; however, numbering sequence is not complete, and listing of sections at beginning of Project Manual must be consulted to determine numbers and names of specification sections in contract documents.
- D. Page Numbering: Pages are numbered independently for each section and are recorded in listing of sections (Index or Table of Contents) in the Project Manual. The section number is shown together with the page number at the bottom of each page, to facilitate the location of text in the Project Manual.

- E. Specifying Methods: The techniques or methods of specifying to record requirements varies throughout text, and may include "prescriptive", "open generic-descriptive", "compliance with standards", "performance", or a combination of these. The method used for specifying one unit of work has no bearing on requirements for another unit of work.
- F. Abbreviations: The language of specifications and other contract documents is of the abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self-explanatory nature have been included in texts. Specific abbreviations have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of specification requirements with notations on drawings and in schedules. These are frequently defined in section at first instance of use. Trade association names and titles of general standards are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of the contract documents so indicates.

1.4 OVERLAPPING AND CONFLICTING ASSIGNMENTS

- A. Specifications and Drawings: Where there appear to be overlapping or conflicting requirements in the drawings and specifications, the order of precedence established by the clauses "Specifications and Drawings for Construction" and "Specifications and Drawings" of the General Conditions shall govern.
- B. Standard Details and Specification Drawings: The terms "standard details" and "specification drawings," which may be used interchangeably, refer to detailed drawings which are bound into the project manual and are referenced on the drawings or elsewhere in the project manual. In some instances there may be notes on the drawings which modify the standard details or specification drawings. Where there appear to be overlapping or conflicting requirements between the standard details or specification drawings and other portions of the contract documents, the order of precedence established by the clause "Specifications and Drawings" of the General Conditions shall govern.
- C. Industry Standards: Where compliance with 2 or more industry standards or sets of requirements is specified, and overlapping of those different standards or requirements establishes different or conflicting minimums or levels of quality, most stringent requirement is intended and will be enforced, unless specifically detailed language written into contract documents clearly indicates that a less stringent requirement is to be fulfilled. Refer apparently equal-but-different requirements, and uncertainties as to which level of quality is more stringent, to the Owner for a decision before proceeding.
- D. Contractor's Options: Except for overlapping or conflicting requirements, where more than one set of requirements are specified for a particular unit of work, option is intended to be Contractor's regardless of whether or not it is specifically indicated as such.

1.5 MINIMUM QUALITY/QUANTITY

- A. In every instance, the quality level or quantity shown or specified is intended to be the minimum for the work to be performed or provided. Except as otherwise specifically indicated, the actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable limits. In complying with requirements, indicated numeric values are either minimums or maximums as noted or as appropriate for context of requirements. Refer instances of uncertainty to the Owner for a decision before proceeding with the Work.

1.6 SPECIALISTS; ASSIGNMENTS

- A. In certain instances, specification text requires (or implies) that specific work is to be assigned to specialists, who must be engaged for performance of that work. Such assignments shall be recognized as special requirements over which the Contractor has no choice or option. These requirements should not be interpreted so as to conflict with applicable regulations, union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of requirements remains with the Contractor.

1.7 DRAWING SYMBOLS

- A. General: Except as otherwise indicated, graphic symbols used on drawings are those symbols recognized in the construction industry for purposes indicated. Where not otherwise noted, symbols are defined by "Architectural Graphic Standards", published by John Wiley & Sons, Inc., tenth edition.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 01027 - APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 DOCUMENT INCLUDES

- A. Procedures for preparation and submittal of Applications for Payment.

1.2 RELATED DOCUMENTS

- A. Document 00501 - Agreement: Contract Sum and unit prices, amounts of progress payments and retainage, and time schedule for submittals.
- B. Document 00701 - General Conditions: Progress Payments and Final Payment.
- C. Document 01028 - Change Order Procedures: Procedures for changes to the Work.
- D. Section 01340 - Submittals: Submittal procedures.
- E. Section 01700 - Contract Closeout: Final payment.

1.3 FORMAT

- A. AIA G702 - Application and Certificate for Payment.
- B. AIA G702A - Application and Certificate for Payment Continuation Sheets.

1.4 PREPARATION OF APPLICATIONS

- A. Present required information in typewritten form.
- B. Execute certification by signature of authorized officer.
- C. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed, and for stored products.
- D. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
- E. Prepare Application for Final Payment as specified in Section 01700.

1.5 SUBMITTAL PROCEDURES

- A. Submit three copies of each Application for Payment.
- B. Payment Period: Submit at intervals stipulated in the agreement.
- C. Submit under transmittal letter specified in Section 01340.

1.6 SUBSTANTIATING DATA

- A. When Consultant requires substantiating information, submit data justifying dollar amounts in question.

- B. Provide one copy of data with cover letter for each copy of submittal.
- C. Show Application number and date, and line item by number and description.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 01028 - CHANGE ORDER PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Submittals.
- B. Documentation of change in Contract Sum and Contract Time.
- C. Change procedures.
- D. Construction Change Authorization and Work Directive Change.
- E. Stipulated Sum change order.
- F. Unit price change order.
- G. Time and material change order.
- H. Execution of change orders.
- I. Correlation of Contractor submittals.

1.2 RELATED DOCUMENTS

- A. Document 00501 - Agreement Forms: Monetary values of established Unit Prices.
- B. Document 00701 - General Conditions: Governing requirements for changes in the Work, in Contract Sum, and Contract Time.
- C. Document 00400 - Supplements to Bid Form: Appendix B - Unit Prices.
- D. Section 01027 - Applications for Payment: Payment applications.
- E. Section 01310 - Schedules and Reports: Work schedule and Schedule of Values.
- F. Section 01340 - Submittals: Work schedule and Schedule of Values.
- G. Section 01600 - Material and Equipment: Product options and substitutions.
- H. Section 01700 - Contract Closeout: Project record documents.

1.3 SUBMITTALS

- A. Submit name of the individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. Change Order Forms: AIA G701 Change Order and AIA G701A Change Order continuation sheets.

1.4 DOCUMENTATION OF CHANGE IN CONTRACT SUM AND CONTRACT TIME

- A. Maintain detailed records of work done on a time and material basis.
- B. Provide full information required for evaluation of proposed changes, and to substantiate costs of changes in the Work.
- C. Document each quotation for a change in cost or time with sufficient data to allow evaluation of the quotation.
- D. On request, provide additional data to support computations:
 - 1. Quantities of products, labor and equipment.
 - 2. Taxes, insurance and bonds.
 - 3. Overhead and profit.
 - 4. Justification of any change in Contract Time.
 - 5. Credit for deletions from Contract, similarly documented.
- E. Support each claim for additional costs, and for work done on a time and material basis, with additional information:
 - 1. Origin and date of claim.
 - 2. Dates and times work was performed, and by whom.
 - 3. Time records and wage rates paid.
 - 4. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

1.5 CHANGE PROCEDURES

- A. The Consultant will advise of minor changes in the Work not involving an adjustment to Contract Sum or Contract Time as authorized by AIA A201 Article 7.4 by issuing supplemental instructions on AIA Form G710 Architect's Supplemental Instructions.
- B. The Consultant may issue a Proposal Request which includes a detailed description of a proposed change with supplementary or revised Drawings and Specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested sum will be considered valid. Contractor will prepare and submit an estimate within seven (7) days.
- C. The Contractor may propose a change by submitting a request for change to the Consultant, describing the proposed change and its full effect on the Work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation and a statement describing the effect on Work by separate or other contractors. Document any requested substitutions in accordance with Section 01600.

1.6 CONSTRUCTION CHANGE AUTHORIZATION

- A. Consultant may issue a directive, signed by the Owner, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
- B. The document will describe changes in the Work, and will designate method of determining any change in Contract Sum or Contract Time.
- C. Promptly execute the change in Work.

1.7 STIPULATED SUM CHANGE ORDER

- A. Based on Proposal Request and Contractor's fixed sum quotation or Contractor's request for a Change Order as approved by Consultant.

1.8 UNIT PRICE CHANGE ORDER

- A. For pre-determined unit prices and quantities, the change order will be executed on a fixed unit price basis.
- B. For unit costs or quantities of units of work which are not pre-determined, execute work under a Construction Change Authorization.
- C. Changes in Contract Sum or Contract Time will be computed as specified for Time and Material Change Order.

1.9 TIME AND MATERIAL CHANGE ORDER

- A. Submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- B. Consultant will determine the change allowable in Contract Sum and Contract Time as provided in the Contract Documents.
- C. Maintain detailed records of work done on Time and Material basis.
- D. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

1.10 EXECUTION OF CHANGE ORDERS

- A. Execution of Change Orders: Consultant will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

1.11 CORRELATION OF CONTRACTOR SUBMITTALS

- A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- B. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust time for other times of work affected by the change, and resubmit.
- C. Promptly enter changes in Project Record Documents.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 01039 - COORDINATION AND MEETINGS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Coordination.
- B. Preconstruction conference.
- C. Progress meetings.

1.2 COORDINATION

- A. 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 at a later date.
- B. Prepare and distribute to each entity performing work at project site, a written memorandum of instructions on required coordination activities, including required notices, reports and attendance at meetings. Prepare similar memorandum for separate Contractors where interfacing of work is required.
- C. Coordinate the Work of employees and subcontractors.
- D. Expedite Work to assure compliance with schedules.
- E. Coordinate Work with that of other prime Contractors, if any, and the Owner.
- F. Coordinate completion and clean up of Work of separate sections in preparation for Date of Substantial Completion.

1.3 PRECONSTRUCTION CONFERENCE

- A. Owner shall administer the preconstruction conference for execution of Owner-Contractor Agreement and exchange of preliminary submittals.
- B. Owner shall administer site mobilization conference at Project site for clarification of Owner and Contractor responsibilities in use of site and for review of administrative procedures.
- C. Location: The building on which Masonry Work is being performed or another agreed location.
- D. Attendance:
 - 1. Owner's representative(s).
 - 2. Consultant
 - 3. Contractor's superintendent.
 - 4. Major subcontractors.
 - 5. Others as appropriate.
- E. Agenda:
 - 1. Review of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.

3. Distribution of Contract Documents.
4. Submission of list of subcontractors, list of Products, schedule of values, and progress schedule.
5. Designation of personnel representing the parties in Contract, and the Consultant.
6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders and Contract closeout procedures.
7. Scheduling.
8. Minutes of each meeting will be prepared by the Consultant.
9. Child Abuse Clearance, Criminal Record Check, Act 24 Arrest Conviction Certificate, Public Work Employment Verification Forms.

1.4 PROGRESS MEETINGS

- A. Consultant shall schedule and administer Project meetings throughout progress of the Work at regular intervals, called meetings, and pre-installation conferences.
- B. Consultant shall make physical arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies within seven days to participants and those affected by decisions made at meetings.
- C. Location of meetings: The building at which Masonry Work is being performed.
- D. Attendance Required:
 1. Owner's representative.
 2. Consultant and his professional associates as needed.
 3. Project Superintendent for Masonry Contractor.
 4. Subcontractors.
 5. Material Suppliers.
 6. Owner as appropriate to agenda topics for each meeting.
 7. Others as appropriate to the agenda.
- E. Agenda:
 1. Review of Work progress.
 2. Field observations, problems, and decisions.
 3. Identification of problems which impede planned progress.
 4. Review of submittals schedule and status of submittals.
 5. Review of off-site fabrication and delivery schedules.
 6. Corrective measures to regain projected schedules.
 7. Planned progress during succeeding work period.
 8. Coordination of projected progress.
 9. Maintenance of quality and work standards.
 10. Effect of proposed changes on progress schedule and coordination.
 11. Other business relating to Work.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

- END OF SECTION -

SECTION 01041 - PROJECT COORDINATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Project coordination Owner's Representative.
- B. Administrative/Supervisory Personnel.
- C. Construction mobilization.
- D. Schedules.
- E. Submittals.
- F. Coordination drawings.
- G. Closeout procedures.

1.2 RELATED SECTIONS

- A. Document 00700 - General Conditions: Duties of the Construction Manager.
- B. Section 01010 - Summary of Work: Work covered by each Contract; Work sequence; Owner occupancy.
- C. Section 01015 - Supplements to the Summary of Work: Work covered by each Contract; Work sequence; Owner occupancy.
- D. Section 01039 - Coordination and Meetings: Project meetings; Preconstruction conferences; Progress meetings.
- E. Section 01700 - Contract Closeout: Contract closeout procedures.

1.3 PROJECT COORDINATION Owner's Representative

- A. Project Coordination Owner's Representative: Owner's Representative.

1.4 ADMINISTRATIVE/SUPERVISORY PERSONNEL

- A. General: In addition to a General Superintendent and other administrative and supervisory personnel required for performance of the work, provide specific coordinating personnel as specified herein.
- B. Environmental Control Officer: The Contractor shall designate one of his staff as "Environmental Control Officer" whose duties shall include the responsibility for enforcing the environmental protection provisions of these specifications including safety and health; the requirements of the Occupational Safety and Health Act; and other applicable Federal, state and local standards. As outlined in the applicable sections of this specification, Contractor shall submit, for approval by the Owner, his intended traffic flow plan, security plan, program for temporary structures, housecleaning plan, demolition program, and safety and health plan. After approval by the Owner, the implementation and enforcement of these programs shall become the responsibility of the Environmental Control Officer. Any changes in the programs must be requested by the Contractor through the Environmental Control Officer for written concurrence by the Owner.

- C. Project Manager: Provide a full-time Project Manager, who is experienced in administration and supervision of Masonry work, and who is hereby authorized to act as the general coordinator of interfaces between units of work. For purpose of this work, "interface" is defined to include the scheduling and sequencing of work, sharing of access to work spaces, installations, protection of each other's work, cutting and patching, tolerances, cleaning, selections for compatibility, preparation of coordination drawings, inspections, tests, and temporary facilities and services.
- D. Submittal of Staff Names, Duties: Within 3 days of Contract date, submit a listing of Contractor's principal staff assignments and consultants, naming persons and listing their addresses and telephone numbers.

1.5 CONSTRUCTION MOBILIZATION

- A. Cooperate with the Owner in allocation of mobilization areas of site; for field offices and sheds, for access, traffic, and parking facilities.
- B. During construction, coordinate use of site and facilities through the Owner's Representative.
- C. Comply with Owner's Representative's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- D. Comply with instructions of the Owner's Representative for use of temporary utilities and construction facilities.
- E. Coordinate filed engineering and layout work under instructions of the Owner's Representative.

1.6 SCHEDULES

- A. Submit preliminary progress schedule in accordance with Section 01310 coordinated with Project Construction Schedules.
- B. After review, revise and resubmit schedule to comply with revised Project schedule.
- C. During progress of Work, revise and resubmit as directed.

1.7 SUBMITTALS

- A. Provide submittals to Owner's Representative for review.
- B. Submit preliminary shop drawings, product data and samples in accordance with Section 01340 for review.
- C. Submit applications for payment on AIA G702 forms for review.
- D. Submit requests for interpretation of Contract Documents, and obtain instructions through Owner's Representative.
- E. Process requests for substitutions, and change orders, through Owner's Representative.
- F. Deliver closeout submittals for review and preliminary inspection reports, for transmittal to the owner.

1.8 COORDINATION DRAWINGS

- A. Provide information required by Owner's Representative for preparation of coordination drawings.
- B. Coordination drawings: Refer to clause "Shop Drawings, Coordination Drawings, and Schedules," of "General Conditions," for general requirements.
 - 1. Work by Separate Entities: Where work by separate entities required off-site fabrication of products and materials which must be accurately interfaced and closely intermeshed to produce required results, prepare coordination drawings to indicate how work shown by separate shop drawings will be interfaced, intermeshed, and sequenced for installation. Comply with submittal requirements of "Submittals" section.
 - 2. Work installed without prior approval: Any work installed prior to approval of coordination drawings shall be at the Contractor's risk. Subsequent relocations required to avoid interferences shall be made without additional expense to the Owner. In case interference develops, the Owner will decide which work shall be relocated, regardless of which was installed first.

1.9 CLOSEOUT PROCEDURES

- A. Notify Owner's Representative when Work is considered ready for Substantial Completion. Accompany Owner's Representative on preliminary inspection to determine items to be listed for completion or correction in Contractor's notice of Substantial Completion.
- B. Comply with Owner's Representative's instructions to correct items of Work listed in executed Certificates of Substantial Completion and for access to Owner occupied areas.
- C. Notify Owner's Representative when Work is considered finally complete. Accompany Owner's Representative on preliminary final inspection.
- D. Comply with Owner's Representative's instructions for completion of items of Work determined by the final inspection performed by the Consultant.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 01045 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Requirements and limitations for cutting and patching of Work.

1.2 RELATED SECTIONS

- A. Section 01010 - Summary of Work: Work by Owner or by separate Contractors.
- B. Section 01015 - Supplements to the Summary of Work: Work by Owner or by separate Contractors.
- C. Section 01340 - Submittals.
- D. Section 01600 - Materials and Equipment: Product Options and Substitutions.
- E. Individual Product Specification Sections:
 - 1. Cutting and patching incidental to work of the Section.
 - 2. Advance notification to other Sections of openings required in work of those Sections.
 - a. Limitations on cutting structural members.

1.3 SUBMITTALS

- A. Submit written request in advance of cutting or alteration which affects:
 - 1. Structural integrity of any element of project must be established by a licensed Professional Structural Engineer.
 - 2. Integrity of weather-exposed or moisture-resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.
- B. Include in request:
 - 1. Identification of Project.
 - 2. Location and description of affected work.
 - 3. Necessity for cutting or alteration.
 - 4. Description of proposed work, and products to be used.
 - 5. Alternatives to cutting and patching.
 - 6. Effect on work of Owner or separate Contractor.
 - 7. Written permission of affected separate Contractor.
 - 8. Date and time work will be executed.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Primary Products: Those required for original installation.

- B. Product Substitution: For any proposed change in materials, submit request for substitution under provisions of Section 01600.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.
- B. After uncovering existing work, inspect conditions affecting performance of work.
- C. Beginning of cutting or patching means acceptance of existing conditions.

3.2 PREPARATION

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- B. Provide protection from elements for areas which may be exposed by uncovering work.
- C. Maintain excavations free of water.

3.3 CUTTING AND PATCHING

- A. Execute cutting, fitting, and patching to complete work.
- B. Fit products together, to integrate with other work.
- C. Uncover work to install ill-timed work.
- D. Remove and replace defective or non-conforming work.
- E. Remove samples of installed work for testing, when requested.
- F. Provide openings in the work for penetration of mechanical and electrical work.

3.4 PERFORMANCE

- A. Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- B. Employ original installer to perform cutting and patching for weather exposed and moisture resistant elements, and sight-exposed surfaces.
- C. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- D. Restore work with new products in accordance with requirements of Contract Documents.
- E. Fit work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

- F. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated and fire resistant material to maintain full thickness of the penetrated element and the existing fire rating assembly.
- G. Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

- END OF SECTION -

SECTION 01090 - REFERENCE STANDARDS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance.
- B. Schedule of references.

1.2 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, comply with the applicable requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current at time of submission of the Bid.
- C. Reference standards current at time of award of the Contract shall be in force during the duration of the work, unless reference standards related to the work are revised after the award of the contract and before the beginning of the work. Then, the new revision to the original reference standard shall supersede the reference standard in effect at the time of the award of the contract. Any additional costs due to the requirements of the new reference standards will be included under a Change Order for an addition to the Owner's cost of the contract. Contractor shall notify Owner of such changes so that a Change Order can be developed. Any deduction of costs due to the requirements of the new reference standards will be included under a Change Order for a reduction of the Owner's cost of the Contract. Contractor shall notify Owner of such changes so that a Change Order will be developed.
- D. Obtain copies of most current reference standards when required by contract documents as guide for performance of the Work.
- E. Maintain copy at job site during submittals, planning, and progress of the specific work, until Date of Final Completion.
- F. Reference standards listed herein are not to be considered all inclusive. Other published standards not listed herein may apply.
- G. 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.
- H. Should specified reference standards conflict with Contract Documents, request clarification from the Consultant before proceeding.

1.3 SCHEDULE OF REFERENCES

A. Abbreviations, Names and Addresses of Organizations

AA Aluminum Association
 818 Connecticut Avenue, N.W.
 Washington, DC 20006

ACIL	American Council of Independent Laboratories 1725 K Street, NW Washington, DC 20006
A	Asphalt Institute Asphalt Institute Building College Park, MD 20740
AIA	American Institute of Architects 1735 New York Avenue, N.W. Washington, DC 20006
AISI	American Iron and Steel Institute 1000 16th Street, N.W. Washington, DC 20036
AISC	American Institute of Steel Construction 400 North Michigan Avenue, Eighth Floor Chicago, IL 60611
ANSI	American National Standards Institute 1430 Broadway New York, NY 10018
ARMA	Asphalt Masonry Manufacturers Association Broad Street Tacoma, WA 98411
ASC	Adhesive and Sealant Council 1600 Wilson Blvd., Suite 910 Arlington, VA 22209
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive West Conshohocken, Pennsylvania 19428-2959
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, N.E. Atlanta, GA 30329
AWPA	American Wood - Preservers' Association P.O. Box 849 Stevensville, MD 21666
AWPB	American Wood Preservers Bureau P.O. Box 6085 2772 S. Randolph Street Arlington, VA 22206
AWS	American Welding Society 550 Le Jeune Road Coral Gables, FL 33134

CDA	Copper Development Association, Inc. 57th Floor, Chrysler Building 405 Lexington Avenue New York, NY 10174
CFR	Code of Federal Regulations Available from Government Printing Office Washington, DC 20402 (usually first published in Federal Register)
CRCA	Canadian Masonry Contractors Association 116 Albert Street, Suite 710 Ottawa, Ontario Canada K1P 5G3
CS	Commercial Standard of NBS (U.S. Dept. of Commerce) Government Printing Office Washington, DC 20402
EPA	Environmental Protection Agency 401 M Street, SW Washington, DC 20460
FMG	FM Global 1151 Boston-Provident Turnpike P.O. Box 688 Norwood, MA 02062
GA	Gypsum Association 810 First Street NE, Suite 510 Washington, D.C. 20002
IMIAC	International Masonry Industry All-Weather Council International Masonry Institute 815 15th Street, N.W. Washington, DE 20005
MRCA	Midwest Masonry Contractors Association 1000 Power and Light Building Kansas City, MO 64105
NAAMM	National Association of Architectural Metal Manufacturers 221 North LaSalle Street Chicago, IL 60601
NBS	National Bureau of Standards Washington, DC 20234
NEC	National Electrical Code (by NFPA)

NPCA	National Paint & Coatings Association 1500 Rhode Island Avenue, NW Washington, DC 23005
NRCA	National Masonry Contractors Association 8600 Bryn Mawr Avenue Chicago, IL 60631
OSHA	Occupational Safety Health Administration (U.S. Dept. of Labor) Government Printing Office Washington, DC 20402
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077
PS	Product Standard U.S. Department of Commerce Washington, DC 20203
RCP	Revere Copper Products, Inc. P.O. Box 300 Rome, NY 13440
SMACNA	Sheet Metal & Air Conditioning Contractors National Association 8224 Old Court House Road Vienna, VA 22180
TAS	Technical Aid Series Construction Specifications Institute 601 North Madison Street Alexandria, VA 22314
TIMA	Thermal Insulation Manufacturers Association 7 Kirby Plaza Mt. Kisco, NY 10549
UL	Underwriters' Laboratories, Inc. 333 Pfingsten Road Northbrook, IL 60062
AA	THE ALUMINUM ASSOCIATION INCORPORATED STANDARD Specification for Aluminum Sheet Metal Work in Building Construction
AIA	AMERICAN INSTITUTE OF ARCHITECTS DOCUMENT Roof System Design Manual
AISI	AMERICAN IRON AND STEEL INSTITUTE STANDARD Specification for the Design of Cold Formed Steel Structural Members Specification for the Design of Stainless Steel Flashing

ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS DOCUMENT Masonry Insulation Recommendations
AWS	AMERICAN WELDING SOCIETY STANDARD AWS D1.3-81, Specification for Welding Sheet Steel in Structures
CDA	COPPER DEVELOPMENT ASSOCIATION, INC. DOCUMENTS Architectural Applications 405/7R Base and Cap Flashings 402/9 Sheet Copper Fundamentals 406/9 Building Expansion Joints 408/70
CRCA	CANADIAN MASONRY CONTRACTORS ASSOCIATION DOCUMENT Masonry Manual
MRCA	MIDWEST MASONRY CONTRACTORS ASSOCIATION DOCUMENT Ten Years of Masonry Research
NBS	NATIONAL BUREAU OF STANDARDS PUBLICATIONS Building Science Series No. 9 Thermal Shock Resistance for Built-up Membranes Building Science Series No. 55 Preliminary Performance Criteria for Bituminous Membrane Masonry Building Science Series No. 92 Viscosities of Masonry Asphalts at Application Temperatures Technical Note 473
NBS	NATIONAL BUREAU OF STANDARDS PUBLICATIONS Laboratory Field Comparisons of Built-up Masonry Membranes
NRCA	NATIONAL MASONRY CONTRACTORS ASSOCIATION DOCUMENT NRCA - Masonry & WaterpMasonry Manual, Fifth Edition, 2002
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION STANDARD Architectural Sheet Metal Standards
FS	FEDERAL STANDARDS O-F-506 Flux, Soldering, Paste and Liquid. TT-C-494 Coating Compound, Bituminous, Solvent Type, Acid Resistant.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 01210 - ALLOWANCES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Allowances of work to be included in the Base Bid and Alternate Bid(s) Work.

1.2 ALLOWANCES

- A. There are no allowances for this masonry restoration project.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

- END OF SECTION -

SECTION 01310 - SCHEDULES AND REPORTS

PART 1 - GENERAL

1.1 COORDINATION

- A. Coordinate both the timing and the listing of reports and other activities required by provision of this and other sections, to provide consistency and logical coordination between submitted reports or lists. Maintain coordination and correlation between separate reports by updating at monthly or shorter time intervals. Make appropriate distribution of each report and updated report to entities involved in the work.

1.2 CONSTRUCTION PROGRESS SCHEDULE

- A. Refer to General Conditions clause "Schedules for Construction Contracts."
- B. Phasing: Limits of phasing of the work shall be as recommended by the membrane manufacturer and approved by the Owner.
- C. Individual Work Stages: Show significant stages for each category or unit of work, including (where applicable), but not necessarily limited to, subcontract letting, submittals, purchases, mockups, fabrication, sample testing, deliveries, installation, testing, adjusting, curing, start up and placement into final use and operation.
- D. Area Separations: Arrange the schedule to show each major area of construction of each major category or unit of work. Indicate where each major category of or unit of work must be sequenced or integrated with other work as necessary for completion, Except as otherwise indicated, or subsequently agreed upon with the Owner, a "major area" is defined for the purpose of this article to mean a separate masonry wall area or similar separation.
- E. Distribution: following the initial submittal to and response by the Owner, print and distribute progress schedule to the Owner (3 copies), separate Contractors (if any), principal subcontractors and suppliers or fabricators, and others with a need-to-know schedule-compliance requirement. When revisions are made, distribute updated issues to same entities, and post in same locations. Delete entities from distribution when they have completed their assigned work and are no longer involved in performance of scheduled work.

1.3 SUBMITTAL SCHEDULE

- A. General: Immediately after the development and acceptance of the fully developed progress schedule, prepare a complete schedule of work-related submittals. Submit this schedule within 10 days of the date required for establishment of progress schedule.
- B. Form: Prepare the schedule in chronological order of submittals. Show category of the submittal, name of subcontractor, a generic description of work covered, related section numbers, the activity or event number on the progress schedule, the scheduled date for first submittal, re-submittal, and the final release or approval by the Owner.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

- END OF SECTION -

SECTION 01340 - SUBMITTALS

PART 1 - GENERAL

1.1 DESCRIPTION OF REQUIREMENTS

- A. The types of submittal requirements specified in this section include shop drawings, product data, samples, certificates of conformance or compliance, certified test or inspection reports, and miscellaneous work-related submittals. Individual submittal requirements are specified in applicable sections for each unit of work.
- B. Definitions: Work-related submittals of this section are categorized for convenience as follows:
 - 1. Shop drawings include specially-prepared technical data for this project, including drawings, diagrams, performance curves, data sheets, schedules, templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for general application to a range of similar projects.
 - 2. Product data includes standard printed information on materials, products and systems; and Material Safety Data Sheets (MSDS) for all products used on or during construction not specially-prepared for this project, other than the designation of selections from among available choices printed therein.
 - 3. Samples include both fabricated and unfabricated physical examples of materials, products and units of work; both as complete units and as smaller portions of units of work; either for limited visual inspection or (where indicated) for more detailed testing and analysis.
 - 4. Certificates of conformance or compliance are documents attesting that a product complies with a specified standard.
 - 5. Certified test (or inspection) reports are documents attesting that a product meets a specified level of performance or quality when a prototype specimen is tested or inspected in accordance with a specified procedure, and consist of a certified statement by the product supplier or Contractor accompanied by a complete report of the inspection or test.
- C. Miscellaneous submittals related directly to the work (non-administrative) including warranties, maintenance agreements, workmanship bonds, project photographs, survey data and reports, physical work records, copies of industry standards, record drawings, field measurement data, and similar information, devices and materials applicable to the work and not processed as shop drawings, product data samples, certificates of conformance or compliance, or certified test reports.

1.2 GENERAL SUBMITTAL REQUIREMENTS

A. General:

- 1. All submittals shall be made to the Owner or to an individual designated by the Owner.
- 2. Only the Owner or an individual designated by him in writing can approve or disapprove submittals. Deviations and variations from the contract requirements contained in the submittal can be approved only by the Owner or an individual delegated such authority in writing by the Owner.
- 3. No delays in construction occasioned by the Contractor's failure to submit material for approval in accordance with the approved schedule will be excused.
- 4. Materials that have not been approved by the owner or designated representative will not be used on the project.
- 5. Only a complete submittal package inclusive of all required submittals described in these Specifications will be reviewed. Any submittal package found to be incomplete, will be returned to the Contractor for completion.
- 6. Work shall not start until all submittals are approved.

- B. Scheduling: Submit schedule of submissions for approval by the Owner.
- C. Coordination and Sequencing: Coordinate preparation and processing of submittals with performance of the work so that work will not be delayed by submittals. Coordinate and sequence difference categories of submittals for same work, and for interfacing units of work, so that one will not be delayed for coordination of the Owner's review with another.
- D. Preparation of Submittals: Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal name and similar information to distinguish it from other submittals.
 - 1. Show Contractor's executed review and approval marking and provide space for the Owner's action marking. Package each submittal appropriately for transmittal and handling. Submittals which are received from sources other than through Contractor's office will be returned without action.
 - 2. Prepare all product data and written information such that a 3 2 inch X 3 2 inch space is left on the front page of each submittal sheet for the submittal stamp.
- E. Transmittal Form: Contractor's standard submittal form may be used.

1.3 SPECIFIC-CATEGORY SUBMITTAL REQUIREMENTS

- A. General: Except as otherwise indicated in individual work sections, comply with requirements specified herein for each indicated category of submittal. Provide and process intermediate submittals, where required between initial and final, similar to initial submittals.
- B. Shop Drawings: Refer to clause "Shop Drawings, Coordination Drawings, and Schedules" of the General Conditions. Provide newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated), with name of preparer indicated (firm name). Show dimensions and note which are based on field measurement. Identify compliance with standard, and special coordination requirements. Do not allow shop drawing copies without stamp indicating approval by the Owner to be used in connection with the work.
 - 1. Final Submittal: 4 prints, plus 2 additional prints where required for maintenance manuals; 2 will be retained and remainder will be returned, one of which is to be marked-up and maintained by Contractor as "Record Document".
- C. Product Data: Submit 4 copies, plus 2 additional copies (which will be returned) where required for maintenance manuals for each unit of work or system; and mark each copy to show which choices and options are applicable to project. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements.
- D. Submittals: Do not submit product data, or allow its use on the project, until compliance with requirements of contract documents has been confirmed by Contractor. Submittal is for information and recorded unless otherwise indicated. Initial submittal is final submittal unless returned by the Owner, marked with an action which indicates an observed non-compliance. Submit 4 copies, plus 2 additional copies (which will be returned) where required for maintenance manuals.
 - 1. Provide a preliminary single-copy submittal where required (or desired by Contractor) for selection of options by the Owner.
 - 2. Installer's Copy: Do not proceed with installation of materials, products or systems until final copy of applicable product data is in possession of Installer.

- E. Samples: (Refer to clause "Samples" of General Conditions.) Provide units identical with final condition of proposed materials or products for the work. Include information with each sample to show generic description, source or product name and manufacturer, limitations, and compliance with standards.
1. Submittal: At Contractor's option, provide preliminary submittal of a single set of samples for review and action. Otherwise, initial submittal is final submittal unless returned with action which requires re-submittal. Submit 3 sets of samples in final submittal; one set will be returned.
 2. Quality Control Set: Maintain returned final set of samples at project site, in suitable condition and available for quality control comparisons.
- F. Certificates of Conformance or Compliance: Follow same procedure as for product data. Where feasible, and/or where required by other sections of specification indicate compliance with the specified standard by means of a label on the container, or on an inconspicuous place on the product.
- G. Certified Test and Inspection Reports: Classify each as either "shop drawing" or "product data", depending upon whether report is uniquely prepared for project or a standard publication of workmanship control testing at point of production; process accordingly.
1. Report shall include a description of the prototype specimen tested or inspected which is sufficiently descriptive to ensure positive identification of the product by an inspector when delivered and/or installed.
 2. The report shall be accompanied by a notarized statement from the supplier of the product certifying that the prototype is identical in all respects to the product proposed for the project.
 3. Where feasible and/or where required by other sections of the specification, indicate compliance with the specified performance or quality by means of a label on the container or on an inconspicuous place on the product. The label shall refer to the test or inspection report and include the date of the report.
- H. Warranties (Guarantees): In addition to copies desired for Contractor's use, furnish 2 executed copies and furnish 2 additional (formatted) copies where required for maintenance manuals.
- I. Standards/Manufacturer's Recommendations: Where copy submittal is indicated, and except where specified integrally with "Product Data" submittal, submit 2 copies to the Owner. Where copy submittal is indicated, and except where specified integrally with "Product Data" submittal, submit 2 copies to the Owner. Where workmanship at project site and elsewhere is governed by standard, furnish additional copies to fabricators, installers and others involved in performance of the work. Installation of the item will not be allowed to proceed until the information is received. Failure to furnish the information can be cause for rejection of the material.
- J. Closeout Submittals: Refer to individual work sections and to "closeout" section for specific requirements on submittal of closeout information, materials, tools and similar items.
1. Record Document Copies: Furnish one set.
- K. General Distribution: Provide additional distribution of submittals (not included in foregoing copy submittal requirements) to subcontractors, suppliers, fabricators, installers, and others as necessary for proper performance of the work.

1.4 ACTION ON SUBMITTALS

- A. Owner's Action: Where action and return is required or requested, the Owner will review each submittal, mark with Action, and where possible return within 2 weeks of receipt. Where submittal must be held for coordination, Contractor will be so advised.

1. Final Unrestricted Release: Work may proceed, provided it complies with contract documents, when submittal is returned marked "Approved."
2. Final-But-Restricted Release: Work may proceed, provided it complies with notations and corrections on submittal and with contract documents, when submittal is returned marked "Approved as Noted."
3. Returned for Re-submittal: Do not proceed with work. Revise submittal in accordance with notations thereon, and resubmit without delay to obtain a different action marking. Do not allow submittals marked "Disapproved, Resubmit" (or unmarked submittals where a marking is required) to be used in connection with performance of the work.
4. Other Action: Where submittal is returned for other reasons, with the Owner's explanation included, it will be marked "Action Not Required."

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance and control of installation.
- B. References.
- C. Field samples.
- D. Mock-up.
- E. Inspection and testing laboratory services.
- F. Manufacturers' field services and reports.

1.2 RELATED SECTIONS

- A. Section 01090 - Reference Standards.
- B. Section 01340 - Submittals: Submission of Manufacturers' Instructions and Certificates.
- C. Section 01600 - Material and Equipment: Requirements for material and product quality.

1.3 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 fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from the Consultant 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.

1.4 REFERENCES

- A. Refer to Section 01090 - Reference Standards.

1.5 FIELD SAMPLES

- A. Install field samples at the site as required by individual specifications Sections for review.
- B. Acceptable samples represent a quality level for the Work.

- C. Where field sample is specified in individual Sections to be removed, clear area after field sample has been accepted by Consultant.

1.6 MOCK-UP

- A. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals, and finishes.
- B. Where mock-up is specified in individual Sections to be removed, clear area after mock-up has been accepted by the Consultant.

1.7 INSPECTION AND TESTING LABORATORY SERVICES

- A. General: Required inspection and testing services are intended to assist in determination of probable compliances of work with requirements, but do not relieve Contractor of responsibility for those compliances, or for general fulfillment of requirements of contract documents. Specified inspections and tests are not intended to limit Contractor's quality control program. Afford reasonable access to agencies performing tests and inspections.
 - 1. Owner Tests: Where tests or inspections are indicated as Owner's responsibility, Owner will engage independent testing agency to perform required services.
- B. Qualification for Testing Agencies: Except as otherwise indicated and except where manufacturer's testing facilities are indicated as acceptable, engage independent testing laboratories specializing in required services and acceptable to the Owner.

1.8 MANUFACTURERS' FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections, require material on Product Suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality or workmanship, as applicable, and to initiate instructions when necessary.
- B. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- C. Submit report in duplicate within 30 days of observation to the Owner for review.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 01500 - CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Temporary Utilities:

1. Electricity
2. Telephone service
3. Water
4. Sanitary facilities

B. Temporary Controls:

1. Construction Aids
2. Barriers
3. Fencing
4. Exterior Enclosures
5. Interior Enclosures
6. Temporary Enclosures
7. Ventilation
8. Protection of Installed Work
9. Security
10. Moving Materials/ and/or Equipment
11. Protection of Buildings
12. Roof Loadings
13. Lines, Slopes, Elevations, and Measurement
14. Removal of Utilities, Facilities, and Controls

C. Construction Facilities: Progress Cleaning.

1.2 RELATED SECTIONS

A. Section 01010 - Summary of Work.

B. Section 01015 - Supplements to the Summary of Work.

C. Section 01700 - Contract Closeout: Final cleaning.

1.3 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Specific administrative and procedural minimum actions are specified in this section, as extensions of provisions in other contract documents. These requirements have been included for special purposes as indicated. Nothing in this section is intended to limit types and amounts of temporary work required, and no omission from this section will be recognized as an indication that such temporary activity is not required for successful completion of the work and compliance with requirements of contract documents. Provisions of this section are applicable to, but not by way of limitation, utility services, construction facilities, security/protection provisions, and support facilities.

1.4 JOB CONDITIONS

- A. General: Establish and initiate use of each temporary facility at time first reasonably required for proper performance of the work. Terminate use and remove facilities at earliest reasonable time, when no longer needed or when permanent facilities have, with authorized use, replaced the need.
- B. Conditions of Use: Install, operate, maintain and protect temporary facilities in a manner and at locations which will be safe, non-hazardous, sanitary and protective of persons and property, and free of deleterious effects.
- C. Existing Equipment on Site: Cover equipment that is to remain in place within the area of contract operations and protect it against damage or loss. Store equipment that is removed in performance of work where directed or reuse in work as required by drawings and specifications. Equipment temporarily removed shall be protected, cleaned and replaced equal to its condition prior to starting work. Security for equipment or material that is to be reused and is removed for temporary storage shall be the sole responsibility of the Contractor.
- D. Weather Protection:
 - 1. Submit weather protection plan to the Owner for approval. Any changes to approved plan must be approved by the Owner.
 - 2. Provide protection for all work areas affected by moisture and cold, such as interior building areas, by covering, enclosing and/or temporary roof cutoffs, to maintain a completely dry interior work area. Any damage to building interior or contents due to roof leakage during the construction period will be sole responsibility of the Contractor.
 - 3. Provide the names and home (after working hours) telephone numbers of the project superintendent and the on-site foreman to the Owner and the Buildings Manager prior to the start of work.

1.5 TEMPORARY UTILITIES

- A. The types of services required include, but not by way of limitation, water, electrical power and telephones. When connecting to existing franchised utilities for required services, comply with service companies' recommendations on materials and methods, or engage service companies to install services. Locate and relocate services (as necessary) to minimize interference with construction operations.
 - 1. Temporary Electricity
 - a. Connect to existing power service. Power consumption shall not disrupt Owner's need for continuous service. Owner will pay cost of energy used. Exercise measures to conserve energy.
 - b. Provide power outlets with ground - fault circuit interruption features for construction operations, with branch wiring and distribution boxes. Provide flexible power cords as required.
 - c. Furnish and install all temporary electrical facilities, including lamps and tools, required for construction and safety operations. Remove all such equipment when permanent connections have been completed. Where it is determined during construction that the temporary facilities, as installed, interfere with Owner operations or other construction operations and, when notified by the Owner, relocate said facilities in an approved manner at no cost to the Owner. No wire, bus or electrical equipment which is part of any of the permanent electrical systems may be used for temporary electrical service for construction operations, unless

specifically approved by the Owner. Temporary connections shall be in accordance with NEC and OSHA requirements. The Contractor shall be responsible for any damage or injury to equipment, materials, or personnel caused by improperly protected temporary installations. All costs for materials and installation for temporary electrical facilities and energy for their operation shall be at the expense of the Contractor. The hours of operation, level of illumination and coverage for safety of personnel shall meet the minimum requirements of the Owner.

2. Temporary Telephone Service

- a. Provide, maintain and pay for telephone service to field office at time of project mobilization.

3. Temporary Water Service

- a. Owner will provide water for use during construction. Owner will pay cost of water used. Exercise measures to conserve water.
- b. Provide hoses and necessary fittings to connect to Owner's outlet.

4. Temporary Sanitary Facilities

- a. Provide and maintain required facilities and enclosures. Maintain daily in clean and sanitary condition.
- b. At end of construction, remove facilities and enclosures from the site.

1.6 TEMPORARY CONTROLS

- A. The types of temporary construction facilities required include, but not by way of limitation, water distribution, drainage, enclosure of work, ventilation, electrical power distribution, hoisting facilities, and ladders. Provide facilities reasonably required to perform construction operations properly and adequately.

1. Construction Aids

- a. Provide construction aids and equipment required by personnel and to facilitate execution of the Work; scaffolds, staging, ladders, ramps, runways, platforms, railings, hoists, cranes, chutes, and other such facilities and equipment.
- b. Access Provisions: Provide ramps, stairs, ladders and similar temporary access elements as reasonably required to perform the work and facilitate its inspection during installation. When permanent stairs are available for access during construction, upon approval from the Owner, cover finished surfaces with sufficient protection to ensure freedom from damage and deterioration at time of substantial completion.

2. Barriers

- a. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- b. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- c. Protect non-owned vehicular traffic, stored materials, site and structures from damage.

3. Fencing
 - a. Construction: At Contractor's option, provide temporary commercial grade chain link fence around work area.
 - b. Provide 6 foot high fence around construction site; equip with vehicular and pedestrian gates with locks.
 - c. At end of construction, remove fencing from the site.
4. Exterior enclosures
 - a. Provide temporary insulated weather-tight exterior closures to accommodate acceptable working conditions and protection for Products to allow for temporary heating of Product identified in individual specification Sections.
5. Interior Enclosures
 - a. Provide temporary partitions as required to separate work areas from Owner occupied areas, to prevent penetration of construction/demolition debris, dust and moisture into Owner occupied areas, and to prevent damage to existing materials and equipment.
6. Temporary Enclosures
 - a. Provide temporary watertight enclosures, tie-offs, or water stops in the roofing system affected by the masonry work at the end of the day's work as work progresses in order to provide weather protection for materials and the building.
 - b. Prior to the beginning of the Work, submit for approval by the Consultant, a Waterstop method consistent with the roofing system being applied and the existing roofing system.
7. Protection of Installed Work
 - b. Protect installed Work and provide special protection where specified in individual specification Sections.
 - c. Provide temporary and removable protection for installed Products. Control activity in immediate work area to minimize damage.
 - d. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
 - e. Prohibit traffic from landscaped areas. Provide protection for plant life designated to remain. Replace damaged plant life.
 - f. Protect non-owned vehicular traffic, stored materials, site and structures from damage.
 - g. 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.
8. Security
 - a. Provide security and facilities to protect Work, and existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
 - b. Coordinate with Owner's security program.
 - c. General: Provide necessary services such as to achieve 24-hour, 7 days per week protection from theft, vandalism, personal injury and property damage. Refer to Section 01546, "Safety and Health". Provisions shall include, but not be limited to the following:

- (1) Fire Protection: Provide fire protection on the roof and ground area in the vicinity of the work and make ready for emergency use, and instruct personnel at site on availability and proper use. Minimum protection shall consist of two appropriately labeled fire extinguishers available within 100 feet of any torch in use.
 - (2) Building Lockup: Secure job site against unauthorized entrance at times when personnel are not working.
9. Moving Materials and/or Equipment
 - a. If it becomes necessary at any time during the execution of the work to move materials or equipment to facilitate the work, the Contractor shall, when so directed by the Owner, move them or cause them to be moved and/or reinstalled without delay or additional charge.
7. Protection of Buildings
 - a. The Contractor shall protect all existing and new roofs, and all finished surfaces such as walls, sidewalks, paving, curbs, windows and doors over or through which materials are handled, against any possible damage resulting from the conduct of work.
 - b. All finished surfaces, including roofs, slabs, roadways, and curbs, shall be clean and not marred upon acceptance of the finished project by the Owner. The Contractor shall, without extra compensation, refinish or restore all such proved to have been inadequately protected and damaged.
 - c. Special roof protection as required shall be furnished by the Contractor and set in place prior to entering and placing of any material or equipment by the Contractor or his subcontractors.
11. Roof Loadings
 - a. The Contractor shall conduct his operations so as not to overload the roof structure, roof slabs, joists, or girders from storage of materials or from the weight of equipment. The Contractor shall be solely responsible for any structural problem or damage whatsoever from overloading the roof, and shall completely repair and restore any damage or failure as a result of his operations, either to the roof structure, the floor below, or any roof appurtenances, parapets, vents, drains, or other facility without cost to the Owner.
12. Lines, Slopes, Elevations, and Measurement
 - a. The Contractor shall be responsible for setting and verifying all lines, slopes, elevations, and measurements in the field as required by his work and by the project. Lines, Slopes and Elevations shall be laid out by the Contractor, who will be held solely responsible for its correctness; and all expenses in connection with this work shall be paid for by the Contractor.
 - b. The Contractor shall satisfy himself of the correctness of lines, slopes, elevations, and dimensions during his visit to the site prior to submitting his bid. At the start of work, the Contractor shall be responsible for verifying all measurements and dimensions in the field before preparing any shop drawings or ordering any materials. The Contractor shall be solely responsible for proper sizes, dimensions, and fits of material, fixtures, fittings, components, structures, and appurtenances.
8. Removal of Utilities, Facilities, and Controls
 - a. Remove temporary equipment, facilities, materials, prior to Final Application for Payment inspection.
 - b. Clean and repair damage caused by installation or use of temporary work.

- c. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.7 CONSTRUCTION FACILITIES

A. Progress Cleaning

1. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
2. Remove debris and rubbish from drain pipes, gutters, downspouts, overflow scuppers, and other roof drainage systems before the beginning of the Work, during the Work, and at the completion of the Work as necessary to keep the drainage systems open.
3. Broom clean areas of the roof prior to start of the masonry work, and continue cleaning during the masonry project.
4. Remove waste materials, debris, and rubbish from site periodically and dispose off-site. Immediately recover any wind borne debris which leaves the immediate construction site.
5. Completely remove and dispose of, if necessary, excess release agents, materials, equipment and services periodically.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION NOT USED

- END OF SECTION -

SECTION 01546 - SAFETY AND HEALTH

PART 1 - GENERAL

1.1 APPLICABLE PUBLICATIONS

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

1. Code of Federal Regulations (CFR):

- a. OSHA General Industry Safety and Health Standards (29 CFR 1910), Publication V2206; OSHA Construction Industry Standards (29 CFR 1926). One source of these regulations is OSHA Publication 2207, which includes a combination of both parts 1910 and 1926 as they relate to construction safety and health. It is for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.
- b. National Emission Standards for Hazardous Air Pollutants (40 CFR, Part 61).
- c. Environmental Protection Agency (EPA) Final Rule (40 CFR Part 761) dated July 17, 1985.

2. Federal Standard (Fed. Std.):

- a. 313 Materials Safety Data Sheets, Preparation and the Submission of.

1.2 WORK COVERED BY THIS SECTION

A. This section is applicable to all work covered by this contract.

1.3 DEFINITION OF HAZARDOUS MATERIALS

A. Refer to hazardous and toxic materials/substances included in Subparts H and Z of 29 CFR 1910; and to others as additionally defined in Fed. Std. 313. Those most commonly encountered include asbestos, polychlorinated biphenyls (PCB's), explosives, and radioactive material, but may include others.

1.4 QUALITY ASSURANCE

- A. Safety Meeting: Representatives of the Contractor shall meet with the Owner and his/her representative(s) prior to the start of work under this contract for the purpose of reviewing the Contractor's safety and health programs and discussing implementation of all safety and health provisions pertinent to the work to be performed under the contract. The Contractor shall be prepared to discuss, in detail, the measures he/she intends to take in order to control any unsafe or unhealthy conditions associated with the work to be performed under the contract. If directed by the Owner, this meeting may be held in conjunction with other meetings which are scheduled to take place prior to start of work under this contract. The level of detail for the safety meeting is dependent upon the nature of the work and the potential inherent hazards. The Contractor's principal on-site representative(s), the general superintendent and his/her safety representative(s) shall attend this meeting.
- B. Compliance With Regulations: All work, including contact with and handling of hazardous materials, the disturbance or dismantling of structures containing hazardous materials and/or the disposal of hazardous materials shall comply with the applicable requirements of 29 CFR 1926/1910 and 40 CFR 761. Work involving the disturbance, dismantling of asbestos or asbestos containing asbestos; and/or the disposal and removal of asbestos, shall also comply with the requirements of 40 CFR, Part 61, Subparts A and M. All work shall comply with applicable state and municipal safety and health requirements. Where there is a conflict between applicable regulations, the most stringent shall apply.

- C. Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable regulations pertaining to the health and safety of personnel during the execution of work, and shall hold the Owner harmless for any action on his/her part or that of his/her employees or subcontractors, which results in illness, injury or death.
- D. Inspections, Test and Reports: The required inspections, tests and reports made by the Contractor, subcontractor, specially trained technicians, equipment manufacturers and others as required, shall be at the Contractor's expense.

1.5 SUBMITTALS

- A. Accident Reporting: A copy of each accident report, which the Contractor or subcontractors submit to their insurance carriers, shall be forwarded through the Construction Engineer to the Owner as soon as possible, but in no event later than seven (7) calendar days after the day the accident occurred.
- B. Reports: If hazardous materials disposed of off site, submit copies of permits from applicable, Federal, State, or municipal authorities and necessary certificates that the material has been disposed of as per regulations.
- C. Other Submittals: If agreed to in writing at the safety meeting, other submittals shall be required. One such submittal which may be included is a plan of action for handling hazardous materials, which shall contain the following:
 - 1. Number, type, and experience of employees to be used for the work.
 - 2. Description of how applicable safety and health regulations and standards are to be met.
 - 3. Type of protective equipment and work procedures to be used.
 - 4. Emergency procedures for accidental spills or exposures.
 - 5. Procedures for disposing of or storing the toxic/hazardous materials.
 - 6. Identification of possible hazards, problems, and proposed control mechanisms.
 - 7. Protection of public or others not related to the operation.
 - 8. Interfacing and control of subcontractors, if any.
 - 9. Identifications of any required analyses, test demonstrations, and validation requirements.
 - 10. Method of certification for compliance.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. Special facilities, devices, equipment, clothing, and similar items used by the Contractor in the execution of work shall comply with the applicable regulations.

2.2 HAZARDOUS MATERIALS

- A. The Contractor shall bring to the attention of the Owner any material suspected of being hazardous which he/she encounters during execution of the work. A determination will be made by the Owner as to whether the Contractor shall perform tests to determine if the material is hazardous. If the Owner's representative directs the Contractor to perform tests, and/or if the material is found hazardous and additional protective measures needed, a contract change may be required, subject to the provisions of this contract.

PART 3 - EXECUTION

3.1 STOP WORK ORDERS

- A. When the Contractor or his/her subcontractors are notified by the Owner's representative(s) of any noncompliance with the provisions of the contract and the action(s) to be taken, the Contractor shall immediately, if so directed, or within 48 hours after receipt of a notice of violation correct the unsafe or unhealthy condition. If the Contractor fails to comply promptly, all or any part of the work being performed may be stopped by the Owner or his/her representative(s) with a "Stop Work Order." When, in the opinion of the Owner or his/her representative(s), satisfactory corrective action has been taken to correct the unsafe and unhealthy condition, a start order will be given immediately. The Contractor shall not be allowed any extension of time or compensation for damages by reason of or in connection with such work stoppage.

3.2 PROTECTION

- A. The Contractor shall take all necessary precautions to prevent injury to the public, building occupants, or damage to property of others. For the purposes of this contract, the public or building occupants shall include all persons not employed by the Contractor or a subcontractor working under his/her direction.
- B. Storing, positioning or use of equipment, tools, materials, scraps, and trash in a manner likely to present a hazard to the public or building occupants by its accidental shifting, ignition, or other hazardous qualities is prohibited.
- C. Obstructions: No corridor, aisle, stairway, door, or exit shall be obstructed or used in such a manner as to encroach upon routes of ingress or egress utilized by the public or building occupant, or to present unsafe or unhealthy condition to the public or building occupant.
- D. Work shall not be performed in any area occupied by the public unless specifically permitted by the contract or the Owner and unless adequate steps are taken for the protection of the public.
- E. Wherever practicable, the work area shall be fenced, barricaded, or otherwise blocked off from the public or building occupants to prevent unauthorized entry into the work area.
- F. Alternate Precautions: When the nature of the work prevents isolation of the work area and the public or building occupants may be in or pass through, under or over the work area, alternate precautions such as the posting signs, the use of signal persons, the erection of barricades or similar protection around particularly hazardous operations shall be used as appropriate.
- G. Public Thoroughfare: When work is to be performed over a public thoroughfare such as a sidewalk, lobby, or corridor, the thoroughfare shall be closed, if possible, or other precautions taken such as the installation of screens or barricades. When the exposure to heavy falling objects exists, as during the erection of building walls or during demolition, special protection of the type detailed in 29 CFR 1910/1926 shall be provided.
- H. Fences and barricades shall be removed upon completion of the project, in accordance with local ordinance and to the satisfaction of the Owner or his/her representative(s).

- END OF SECTION -

SECTION 01600 - MATERIAL AND EQUIPMENT

PART 1- GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Transportation and handling.
- C. Storage and protection.
- D. Product options.
- E. Substitutions.

1.2 RELATED SECTIONS

- A. Document 00100 - Instruction to Bidders: Product options and substitution procedures.
- B. Section 01400 - Quality Control: Product quality monitoring.
- C. Section 01010: Summary of Work.
- D. Section 01015 - Supplements to the Summary of Work.
- E. Section 01340: Submittals: Shop Drawings, Product Data and samples.
- F. Section 01700: Contract Closeout.
- G. Section 00700: General Conditions of the Contract - Labor and Materials and Warranty.

1.3 DESCRIPTION OF REQUIREMENTS

- A. General: Refer to clause, "Materials and Workmanship," of the General Conditions. Unless otherwise specifically provided in this contract, reference to any equipment, material, article, or patented process, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition, and the Contractor may, at his option, use any equipment, material, article, or process, which, in the judgement of the Owner, is equal to that named.

1.4 DEFINITIONS

- A. "Products" is defined to include purchased items for incorporation into the work, regardless of whether specifically purchased for project or taken from Contractor's stock of previously purchased products.
- B. "Materials" is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined or otherwise fabricated, processed, installed or applied to form units of work.
- C. "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, etc.).
- D. Definitions in this paragraph are not intended to negate the meaning of other terms used in "structure", "finishes", "accessories", "furnishings", "special construction", and similar items, which are self-explanatory and have recognized meanings in the construction industry.

1.5 PRODUCTS

- A. General: Provide products which comply with the clause "MATERIALS AND WORKMANSHIP" of the General Conditions, and which are undamaged and unused at time of installation, and which are complete with accessories, trim, finish, and other devices and details needed for complete installation and for intended use and effect.
- B. Standard Products: Products shall be essentially the standard catalogued products of manufacturers regularly engaged in production of such products and shall be the manufacturer's latest standard design that complies with the specification requirements. Materials shall duplicate items that have been in satisfactory commercial and industrial use at least two years. The Owner reserves the right to require the Contractor to submit evidence to this effect for his approval.
- C. Labels and Nameplates:
 - 1. General: To the extent feasible and consistent with the following requirements pertaining to the appearance of the finished building, wherever a product is required to comply with a specified standard, grade, class, or type, a permanent label to this effect shall be applied to the product. Where this is not feasible because of the nature of the product, the label shall be on or inside of each container.
 - 2. Nameplates: Except as otherwise indicated for required approval labels, do not permanently attach or imprint manufacturer's or producer's trademarks on exposed surfaces of products which will be exposed to view either in occupied spaces or on exterior of the work.
 - 3. Labels: Locate required labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface which, in occupied spaces, is not conspicuous.
- D. Do not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.
- E. Except as specifically indicated or specified, materials and equipment removed from the roof or building shall not be used in the completed Work.
- F. For material and equipment specifically indicated or specified to be reused in the Work, use special care in removal, handling, storage, and reinstallation, to assure proper function in the completed Work.
- G. Procedures for Selecting Products: Contractor's options for selecting products are limited by contract document requirements, and governing regulations, and are not controlled by industry traditions or procedures experienced by Contractor on previous construction projects. Required procedures include, but are not necessarily limited to, the following for various indicated methods of specifying:
 - 1. Standards, codes and Regulations: Where only compliance with an imposed standard, code or regulation is required, selection from among products which comply with requirements including those standards, codes and regulations, is Contractor's option.
 - 2. Performance Requirements: Provide products which comply with specific performances indicated, and which are recommended by manufacturer (in published product literature or by individual certification) for application indicated. Overall performance of a product implies where product is specified with only certain specific performance requirements.

3. Prescriptive Requirements: Provide products which have been produced in accordance with prescriptive requirements, using specified ingredients and components, and complying with specified requirements for mixing, fabricating, curing, finishing, testing and similar operations in manufacturing process.
 4. Visual Matching: Where matching with an established sample is required, final judgement of whether a product proposed by Contractor matches sample satisfactorily is the Owner's.
 5. Visual Selection: Except as otherwise indicated, where specified product requirements include "...as selected from manufacturer's standard colors, patterns, textures..." or words of similar effect, the selection of manufacturer and basic product (complying with requirements) is Contractor's option, and subsequent selection of color, pattern and texture is the Owner's selection.
- H. Prior to or at the preconstruction conference, or at any other time, the Contractor may be asked to furnish notarized certificates from the various manufacturers guaranteeing that the insulation, various adhesives and sealants, membrane and any other components which the Owner shall deem a certificate necessary, to be used, are as represented or advertised.
- I. Labels and Listings: Where equipment or materials are specified to conform to requirements of the standard of organizations such as Underwriters Laboratories, Inc. (UL), that use a label or listing as a method of indicating compliance, proof of such conformance shall be submitted to the Owner for approval. The label or listing of the specified organization will be acceptable evidence. In lieu of the label or listing, the Contractor may submit a notarized certificate from a nationally recognized testing organization, adequately equipped and competent to perform such services and approved by the Owner, stating that the item has been tested in accordance with the specified organization's test methods and that the item conforms to the specified organization's standard or code. For materials whose compliance with organizational standards or specifications is not regulated by an organization using its own listing or label as proof of compliance, a notarized certificate from the manufacturer shall be furnished to the Owner stating that the material complies with the applicable referenced standard or specification.
- J. When Contract Documents require that installation of work comply with manufacturer's printed instructions, Contractor shall obtain and distribute copies of such instructions to parties involved in the installation, and shall maintain one set of complete instructions at the job site during installation and until completion of the Work.
- K. Handle, install, connect, clean, and adjust products in strict accordance with such instructions and in conformity with specified requirements.
- L. Should job conditions or specified requirements conflict with manufacturer's instructions, confer with Owner for further instructions. Do not proceed with work without clear instructions.
- M. Perform work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.6 TRANSPORTATION AND HANDLING

- A. Transport and handle Products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that Products comply with requirements, quantities are correct, and Products are undamaged.

- C. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.
- D. Arrange deliveries of Products in accordance with construction schedules, coordinate to avoid conflict with work and conditions at the site.
- E. All materials are to be used as received. No diluents or adulterants shall be added. The particular manufacturer's material application instructions shall be followed explicitly.
- F. Provide equipment and personnel to handle products by methods to prevent soiling or damage to Products or packaging.

1.7 STORAGE AND PROTECTION

- A. Store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive Products in weathertight, climate controlled enclosures.
- B. Control delivery schedules to minimize long-term storage of products at site and overcrowding of construction spaces. In particular, provide delivery/installation coordination to ensure minimum holding or storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other sources of loss. Damaged or defective items, in the opinion of the Owner shall be replaced at no cost to the Owner.
- C. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- D. Maintain temperature and humidity within the ranges required by manufacturers instructions.
- E. All waterproofing materials shall be stored at temperatures within the ranges specified by the manufacturer. If none are specified, the lowest allowed storage temperature will be 50°F.
- F. Exterior Storage: All materials shall be delivered dry and are to be properly stored off the ground on pallets at least 4 inches high, and off the roof. Materials shall be protected on all sides and top and bottom from the weather. Low permeable plastic covers shall not be used to protect the materials unless positive venting which prevents wind driven rain intrusion is provided. Covers shall be tented to provide positive drainage.
- G. Felts and bituminous roll Products shall be stored on end rather than on their sides.
- H. No masonry and masonry related materials shall be used for any other use than their originally intended purpose; i.e., use as weights, counterbalances, tie down aids, or coverings for materials in storage is prohibited.
- I. Store loose sand and gravel materials in a well-drained area on solid surfaces to prevent mixing with foreign matter.
- J. Materials other than aggregate becoming wet in the progress of the job will be considered unfit and shall be removed from the job.
- K. Arrange storage in a manner to provide easy access for inspection.
- L. Make periodic inspections of stored Products to assure that Products are maintained under specified conditions, and free from damage or deterioration.

- M. The Contractor shall in all cases protect new and existing roofing from damage. Men and materials shall not be allowed to traverse any roof areas unless 3/8 inch thick plywood or asphalt protection board sufficiently wide is used. The Contractor shall plan the execution of the work so that a minimum amount of protection is required.
- N. During the progress of construction or during suspension of work for any reason, and at any time the Consultant shall direct, the Contractor and his subcontractors shall protect their materials and work against damage and injury from weather and other causes. If, in the opinion of the Owner, any materials or work shall have been damaged or injured by reason of failure on the part of the Contractor or any of the subcontractors to protect his work, such materials and work shall be removed and replaced at the expense of the Contractor.

1.8 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.
- D. Compatibility of Options: Where more than one choice is available as options for Contractor's selection of a product or material, select an option which is compatible with other products and materials already selected (which may have been from among options for those other products and materials). Total compatibility among options is not assured by limitations within contract documents, but must be provided by Contractor. Compatibility is a basic general requirement of product/material selections.

1.9 SUBSTITUTIONS

- A. Instructions to Bidders specify time restrictions for submitting requests for Substitutions during the bidding period to requirements specified in this Section.
- B. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.
- C. Requests for Substitutions: Requests for substitution shall be treated as a contract change and shall be subject to clauses "Changes" and "Equitable Adjustments" in General conditions. Submit three(3) copies, fully identified for product or method being replaced by substitution, including related specification section and drawing number (s), and fully documented to show compliance with requirements for substitutions. Include product data/drawings, description of methods, samples where applicable, Contractor's detailed comparison of significant qualities between specified item and proposed substitution, statement of effect on construction time and coordination with other affected work, cost information or proposal, and Contractor's statement to the effect that proposed substitution will result in overall work equal-to-or-better-than work originally indicated.
- D. A request constitutes a representation that the Bidder:
 - 1. Has investigated proposed Product and determined that it meets or exceeds the quality level of the specified Product.
 - 2. Will provide the same or better warranty or bonds for the substitution as for the specified Product.

3. Will coordinate installation and make changes to other work which may be required for the Work to be complete with no additional cost to Owner.
4. Waives, claims for additional costs or time extension which may subsequently become apparent.
5. Will reimburse Owner for review or redesign services associated with re-approval by authorities.
6. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
7. At the end of the job, the Contractor shall furnish to the Owner copies of all invoices of materials used which become a part of the completed work.
8. Substitution Submittal Procedure:
 - a. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - b. Submit a separate request for each Product, supported with complete data, drawings, and samples as appropriate, including:
 - (1) Comparison of the qualities of the proposed substitution with that specified.
 - (2) Changes required in other elements of the work because of the substitution.
 - (3) Effect on the construction schedule.
 - (4) Cost data comparing the proposed substitution with the Product specified.
 - (5) Any required license fees or royalties.
 - (6) Availability of maintenance service, and source of replacement materials.
9. The Owner will notify Contractor, in writing, of decision to accept or reject request.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

- END OF SECTION -

SECTION 01700 - CONTRACT CLOSEOUT

PART 1- GENERAL

1.1 SECTION INCLUDES

- A. Closeout Procedures.
- B. Final Cleaning.
- C. Adjusting.
- D. Project Record Documents.
- E. Warranties and Bonds.

1.2 RELATED SECTIONS

- A. Section 01500 - Construction Facilities and Temporary Controls: Progress Cleaning.
- B. Section 01740 - Warranties and Bonds.

1.3 DESCRIPTION OF REQUIREMENTS

- A. Definitions: Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for final acceptance, final payment, normal termination of contract, occupancy and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 16. Time of closeout is directly related to "Substantial completion", and therefore may be either a single time period for entire work or a series of time periods for individual parts of the work which have been noted as substantially complete at different dates. That time variation (if any) shall be applicable to other provisions of this section.

1.4 PRE-REQUISITES TO SUBSTANTIAL COMPLETION

- A. General: Prior to requesting inspection for certification of substantial completion (for either entire work or portions thereof), complete the following and list known exceptions in request:
 - 1. In progress payment request, coincident with or first following date claimed, show either 100% completion for portion of work claimed as "substantially complete", or list incomplete items, value of incomplete work, and reasons for being incomplete. Include supporting documentation for completion as indicated in these contract documents.
 - 2. Complete acceptance testing, including an infrared scan. Discontinue and remove from project site temporary facilities and services, along with construction tools and facilities, and similar elements.
- B. Inspection Procedures: Upon receipt of Contractor's request, the Owner will either proceed with inspection or advise Contractor of pre-requisites not fulfilled. Following initial inspection, the Owner will note substantial completion, or advise Contractor of work which must be performed and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form initial "punch-list" for final acceptance.

1.5 PRE-REQUISITES TO FINAL ACCEPTANCE

- A. General: Prior to requesting final inspection for certification of final acceptance and final payment, as required by General Provisions and Conditions, complete the following and list known exception (if any) in request:
1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted.
 2. Submit copy of final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance.
 3. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.
 4. Submit record drawings, and similar as-built final record information.
 5. Deliver tools, spare parts, extras stocks of materials, and similar physical items to Owner.
 6. Advise Owner personnel of change-over in security provisions.
 7. Complete final cleaning up requirements.
 8. Repair and restore marred exposed finishes.
- B. Reinspection Procedure: Upon receipt of Contractor's notice that the work has been completed, including punch-list items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstances, the Owner will reinspect the work. Upon completion of reinspection, the Owner will either prepare certificate of final acceptance or advise Contractor of work not completed or obligations not fulfilled as required for final acceptance. If necessary, procedure will be repeated.

1.6 CLOSEOUT PROCEDURES

- A. Submit written certification that:
1. Contract Documents have been reviewed.
 2. Work has been inspected for compliance with Contract Documents.
 3. Work has been completed in accordance with Contract Documents.
 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 5. Work is completed and ready for Pre-Final inspection.
- B. Owner will make a Pre-Final inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should Owner consider that the Work is incomplete or defective:
1. Owner 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 Owner that the Work is complete.
 3. Owner will reinspect the Work.

- D. When the Owner finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.
- E. Provide submittals to Owner that are required by governing or other authorities.
- F. Submit final application for payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- G. Owner will occupy all portions of the building as specified in Summary of Work Specification Section.

1.7 FINAL CLEANING

- A. Execute final cleaning prior to final inspection according to methods approved by the Owner.
- B. Employ skilled workmen for final cleaning.
- C. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials caused by masonry work from sight-exposed exteriors surfaces.
- D. Wash and shine windows to a clean shine.
- E. At the end of the Work, clean all drain lines, gutters, and downspouts from the level of the roof to discharge in all areas where work has been performed.
- F. Repair any damage done to the roof, drain, or gutter system, or any other area which occurs while cleaning at no additional cost to the Owner and to the satisfaction of the Consultant and the Owner.
- G. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.
- H. Remove waste and surplus materials, rubbish, and temporary construction facilities from the site and adjacent roof and ground areas.

1.8 ADJUSTING

- A. Adjust operating Products and equipment to ensure smooth and unhindered operation.

1.9 PROJECT RECORD DOCUMENTS

- A. Maintain on site, one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other Modifications to the Contract.
 - 5. Consultant Field Orders or written instructions.
 - 6. Approved Shop Drawings, Product Data and Samples.
 - 7. Field Test Records.
 - 8. A Daily Construction Project Report - (Sample Copy May Be Provided) or provide an approved form.
 - 9. Store record documents separate from documents used for construction.
 - 10. Record information concurrent with construction progress.
 - 11. 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.
12. Record documents and shop drawings: Legibly mark each item to record actual construction including:
- a. Field changes of dimension and detail.
 - b. Changes made by field order or by change order.
 - c. Delete Consultant title block and seal from all documents.
 - d. Submit documents to the Owner with claim for Final Application for Payment.

1.10 WARRANTIES

- A. Provide duplicate notarized copies.
- B. Execute and assemble documents from subcontractors, suppliers, and manufacturers.
- C. Submit prior to final Application for Payment.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 01730 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Format and content of manuals.
- B. Instruction of Owner's personnel.
- C. Schedule of submittals.

1.2 RELATED SECTIONS

- A. Section 01340 - Submittals: Submittals procedures; Shop drawings, product data, and samples.
- B. Section 01400 - Quality Control: Manufacturer's instructions.
- C. Section 01600 - Material and Equipment: Systems demonstration.
- D. Section 01700 - Contract Closeout: Contract Closeout Procedures; Project Record Documents.
- E. Section 01740 - Warranties and Bonds.
- F. Individual Specifications Sections: Specific requirements for operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

1.4 FORMAT

- A. Prepare data in the form of an instructional manual.
- B. Binders: Commercial quality, 8-1/2 x 11 three-ring binders with hardback, cleanable, plastic covers; one inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- C. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; list title of Project and separate building; identify subject matter of contents.
- D. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
- E. Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- F. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- G. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

1.5 CONTENTS, EACH VOLUME

- A. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Consultant, subconsultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.
- B. For Each Product or System: List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- C. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- D. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems. Do not use Project Record Documents as maintenance drawings.
- E. Type Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01400.
- F. Warranties and Bonds: Bind in copy of each as specified in Section 01740.

1.6 MANUAL FOR MATERIALS AND FINISHES

- A. Building Products, Applied Materials, and Finishes: Include product data, with catalog number, size, composition, and color and texture designations. Provide information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: As specified in individual product specification Sections, provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

1.7 MANUAL FOR EQUIPMENT AND SYSTEMS

- A. Each Item of Equipment and Each System: Include description of unit or system, and component parts. Identify function, normal operating characteristics, and limiting conditions. Include performance curves, with engineering data and tests, and complete nomenclature and commercial number of replaceable parts.
- B. General: Provide operation and maintenance manuals for each masonry coating system and for other systems and components specified in the technical sections of the specification. Organize manuals into suitable volumes of manageable size, as approved by the contracting officer. Manuals shall have table of contents, and be assembled to conform to table of contents with tab sheets covering each subject. The instructions shall be legible and easy to read. Manuals shall be hard bound and sheets consistent in size; where oversize drawings are necessary they shall be folded in. The words "Operation and Maintenance Manual", the name and location of the building, and contract number shall appear on the cover.

C. Contents: Manuals shall include, but not be limited to, the following data:

1. Detailed description of each system and each of its components including diagrams and illustrations where applicable.
2. Procedure for reporting leaks.
3. Procedure for repair of leaks.
4. Maintenance and instructions.
5. Emergency instructions and safety precautions.
6. Corrected shop drawings.
7. Approved product data.
8. Copies of approved certifications and laboratory test reports (where applicable).
9. Copies of warranties.
10. Test procedures.
11. Name, address, and telephone number of each subcontractor who installed equipment and systems, and local representative for each type of equipment and each system.
12. Other pertinent data applicable to the operation and maintenance of particular systems or equipment and/or other data specified in technical sections of the specification.

1.8 INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection, instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems, at agreed upon times.
- B. 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.
- C. Prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.9 SUBMITTALS

- A. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Owner will review draft and return one copy with comments.
- B. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit documents within ten days after acceptance.
- C. Submit one copy of completed volumes in final form 15 days prior to final inspection. Copy will be returned after final inspection, with comments. Revise content of documents as required prior to final submittal.
- D. Submit three copies of revised volumes of data in final form before final inspection.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

NOT USED

- END OF SECTION -

SECTION 01742 - WARRANTIES

PART 1- GENERAL

1.1 WORK INCLUDED

- A. Preparation and submittals.
- B. Time and schedule of submittals.

1.2 RELATED SECTIONS

- A. Document 00700 - General Conditions: Warranty and Correction of Work.
- B. Section 01700 - Contract Closeout: Contract closeout procedures.
- C. Individual Specifications Sections: Warranties required for specific products or work.

1.3 FORM OF SUBMITTALS

- A. Assemble warranties executed by each of the respective manufacturers, suppliers, and subcontractors.
- B. Number of original signed copies required: Two each.
- C. Prepare in duplicate packets.
- D. Submit standard manufacturer warranty forms included in contract specifications.
- E. Table of Contents: 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 work.
 - 5. Date of completion of work.
 - 6. Duration of warranty or service maintenance contract.
 - 7. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty.
 - c. Contractor, name of responsible principal, address and telephone number.

1.4 PREPARATION OF SUBMITTALS

- A. Obtain warranties, executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten days after completion of the applicable item or work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Final completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties until time specified for submittal.

1.5 TIME OF SUBMITTALS

- A. Submit Warranties within twenty (20) working days after completion of work.

1.6 SCHEDULE OF SUBMITTALS

- A. Submit to the Owner all required warranties as specified in respective sections of the Specifications.
 - 1. Warranties: Form of Warranty from manufacturer of sealant.
 - 2. Submit to the Owner all warranties pertaining to his work specified in respective sections of the Specifications.

1.7 SEALANT WARRANTY

- A. Sealants: After review and acceptance of the Notice of Award and the submission of all required documents to the manufacturer for the sealant, a satisfactorily complete Final Inspection performed by the Owner or Owner's Representative and payment of all invoices and the discharge of all other financial obligations occasioned by or arising out of the course of this work according to the Contract, submit to the Owner the sealant manufacturer's Ten (10) Year Material Warranty.
 - 1. Provide to the Owner and pay for such Warranty as a part of the Masonry Restoration Contract.
 - 2. The warranty shall be issued by the manufacturer of the sealant.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION
NOT USED

- END OF SECTION -

SECTION 02055 - EXTERIOR WALL DEMOLITION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Provide all labor, material, equipment and tools as required to prepare the existing masonry and flashing substrates for restoration of exterior walls as specified in this section.
- B. Provide for the proper disposal of all existing material designated to be removed and use approved trash receptacles in areas designated by the Owner's representative.
- C. Coordinate the exterior wall restoration work with the new roofing, masonry, waterproofing and flashing work in such a manner as to keep the inside of the exterior wall, building and building interior absolutely clean, dry and watertight.

1.2 WORK NOT INCLUDED

- A. Removal and disposal of asbestos containing materials, if any.
- B. Coordinate the removal and disposal of asbestos containing materials with the new exterior wall restoration work in such a manner as to keep the inside of the exterior wall, building and building interior absolutely clean, dry and watertight.

1.3 REGULATORY REQUIREMENTS

- A. Comply with federal, state, and local hauling and disposal regulations. In addition to the requirements of the "Contract Clauses", safety requirements shall conform with ANSI A10.6, "Demolition Operations-Safety Regulations."
- B. Comply with the Department of Labor requirements included under their Safety and Health Regulations for Construction, 29CFR - Part 1518 manual.

1.4 REFERENCES

- A. All work under this section shall conform to the more stringent product and performance procedures outlined within the project specifications and as outlined in, recommended in, or specified in the latest editions of:
 - 1. American National Standards Institute (ANSI)
 - a. ANSI A10.6 - 1983 Demolition Operations-Safety Regulations
 - 2. Department of Labor: Safety and Health Regulations for Construction, 29CFR - Part 1518

1.5 REGULATORY REQUIREMENTS

- A. Applicable Local, State and Federal Building codes.
- B. Local and national environmental and public health laws or requirements shall govern methods of performing the work of this section. Should a conflict in specification or manufacturer recommendation arise relative to environmental or health conditions, responsibility for determining potential conflicts prior to starting work shall be that of the contractor and the product manufacturer.

1.6 SUBMITTALS

- A. General: Comply with all provisions of the contract documents, to include any additional submittal requirement not listed herein. Requirements listed herein are the minimum acceptable.
- B. Product Data and Samples: After award of contract, submit;
 - 1. Demolition Plan:
 - a. Submit proposed demolition and removal procedures to the Owner for approval before work is started.
 - b. Demolition plan shall include procedures for coordination with other work in progress, a disconnection schedule of utilities, and a detailed description of methods and equipment to be used for each operation and of the sequence of operations.

1.7 ENVIRONMENTAL CONDITIONS OR REQUIREMENTS

- A. The removal and disposal work in this section shall not be installed performed during periods of precipitation, frost, snow, dew, high winds or other climatological activity that might preclude performance of the installed material or present a safety hazard to property or person.
- B. It shall be the contractor's responsibility to check daily and long-range weather forecasts before planning each days work; so as to prevent possible entry of water into the building due to rain or other precipitation getting through openings in the exterior wall or flashing areas.
- C. The contractor shall not open more exterior wall or flashing points in one day than can be properly patched or sealed in that same day.
- D. During periods of precipitation, the contractor shall be responsible for performance, at least daily, inspections for leaks in the area of work and if any arise, shall seal them immediately to prevent interior building damage. All leak related damage to the building shall be repaired to the satisfaction of the owner at no cost to the owner.

1.8 PROTECTION OF PROPERTY

- A. Install protective coverings at pavement, side walks and buildings adjacent to hoists, other material conveyance equipment, and scaffolds prior to starting work.
 - 1. Lap protective coverings not less than 6 inches, secure against wind, and vent to prevent collection of moisture on covered surfaces.
 - 2. Keep protective coverings in place for the duration of the exterior wall restoration work.

1.9 COORDINATION

- A. Verify that all preparatory and sequential prior work is complete and properly installed before performing work in the specifications.
- B. Material deliveries, equipment arrivals or movements, or product installation work shall be coordinated with the owner, other trades and/or other potentially impacted parties prior to the implementing of such planned activity.

- C. Once work begins on a section of the exterior wall, all preparation and required work on that section shall be completed prior to moving to another section.

1.10 PROTECTION OF SURFACES

- A. Inform Owner in advance of the section or area of exterior wall to be worked on the following day. Make proper preparations to protect equipment, product, and records from dirt and debris which may fall.
- B. Keep at least one fire extinguisher in the work area with an Underwriter's Laboratory rating of 25: A, B, C when removal of existing exterior wall materials is in progress.
- C. Provide, erect, and maintain a Warning Line System as necessary according to Federal Register, Part XII published by the Department of Labor, Occupational Safety and Health Administration and barricades as required to protect workers and the general public.
- D. Contractor shall take all necessary precautions during exterior wall restoration preparation to protect the building and adjacent surfaces from being soiled or damaged. Similar precautions shall be taken to ensure minimal disruption or damage to existing landscape. Should damage to the landscape occur, repair or replacement will be in accordance with Section 02800 of this specification, or as agreed to by the Owner.
- E. Contractor shall place plywood walkways on the existing roofing and ground surfaces over which his crew and equipment will be traveling. Such walkways shall be removed daily to prevent blow off during potential evening wind storms. Protective plywood walkways shall be used on all roof and ground work areas throughout the course of work on this project.
- F. Traffic Control Signs - Where pedestrian and driver safety is endangered in the area of removal work, traffic barricades with flashing lights. Anchor barricades in a manner to prevent their displacement. Notify the Owner before beginning such work.
- G. In the event an opening in the existing roof system is created during the exterior wall restoration, the contractor shall repair the opening as directed by the Owner to prevent water entry and eliminate the rupture from concern.
- H. When inclement weather conditions such as rain, snow, high winds, etc., threaten, cease work under this section and return exterior wall to a watertight condition.
- I. Protect building interior and materials and equipment from the weather at all times. The building will remain occupied during the course of the project. Where removal of existing roofing is necessary to accomplish work, have materials and workmen ready to provide adequate and temporary covering of exposed areas so as to ensure watertight integrity of the building.

1.11 MAINTAINING ACCESS

- A. Conduct operations with minimum interference to public, private roadways, roadways on site, and entrance doors for the project building.

PART 2 - PRODUCTS NOT USED

PART 3 - EXECUTION

3.1 GENERAL DEMOLITION REQUIREMENTS

- A. Remove and dispose of all debris and useless materials from the exterior wall work area preparation daily and when directed by Owner's Representative. Keep area of work clean and free of useless materials at all times.
- B. Remove and dispose of from the exterior wall existing materials that previously have been removed or disconnected and are not indicated or specified for reuse or salvage in the new work. These materials shall become the property of the Contractor and must be removed from the site by the Contractor at his expense.
- C. Perform the removal and reinstallation of items as indicated on the Contract Drawings or as required to perform the exterior wall restoration work with workman skilled in the trades involved. Coordinate the interruption or disconnection of all electrical lighting and conduit with the Owner. Repair items to remain that are damaged during the exterior wall restoration work or replace damaged items with new undamaged similar items as approved by the Owner. Relocate existing items as identified on the Contract Drawings or as required by the Owner.
- D. Should electrical and conduit lines need to be extended as a result of the exterior wall restoration work, the Contractor shall rework electrical and conduit lines as part of the Base Bid Work, with no additional cost to the Owner.
- E. Do not store debris on roof. Contractor shall take care not to over-stress the roof deck.
- F. Do not throw or dump freely from the exterior wall or roof any removed materials. Removed materials must be lowered to the ground in covered containers or by means of covered chutes or otherwise approved means.
- G. Perform removal work so as to generate the least possible amount of dirt and dust and avoid the creation of a nuisance or hazard in the surrounding area.
- H. Remove and dispose of at completion of the Contract, all containers, materials, equipment and refuse materials from all areas of work. All areas of work must be left in a clean condition acceptable to Owner.

3.2 REMOVAL AND DISPOSAL

- A. Remove and dispose of existing materials in the exterior wall components and flashing system as necessary to perform the masonry restoration work as required by the specifications and drawings.
- B. Remove and dispose of existing defective masonry units and mortar.
- C. Remove and dispose of existing sealant and backer rod in the exterior wall and around window, door and louver units as necessary to perform caulking work as required by the specifications and drawings.

3.3 TITLE TO MATERIALS

- A. Except where specified in other sections, all materials and equipment removed, and not reused, shall become the property of the Contractor and shall be removed from the property.

- B. Title to the materials resulting from demolition, and materials and equipment to be removed, is vested in the Contractor upon approval by the Owner of the Contractor's demolition and removal procedures and notice to proceed is given.
- C. The Owner will not be responsible for the condition or loss of, or damage to, such property after notice to proceed.
- D. Materials and equipment will not be viewed by prospective purchasers or sold on site.

3.4 CLEANUP

- A. At the completion of the work, remove from the job site all tools, equipment, debris and waste.
- B. Conduct final cleaning sufficiently to leave the work area and facility grounds in a visually acceptable condition to the Owner.

3.5 VERIFICATION

- A. Upon completion of the removal of components in each area, visually inspect and verify that all components to be disposed have been disposed in dumpster.
- B. Verify that surfaces are prepared ready to receive new materials.

3.6 REPAIR

- A. Should damage to retained materials, equipment, the interior and components of the building occur as result of Contractor's disregard for the procedures outlined in this section, the Contractor shall at no cost to the Owner restore retained materials, equipment, the interior and components of the building to their original condition to the Owner's satisfaction.

- END OF SECTION -

SECTION 030110- MAINTENANCE OF MASONRY WALL

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Repair mortar for vertical overhead or horizontal patch and repair of existing substrate as shown in the Detail drawings, as specified herein, or where existing imperfections might compromise the waterproof integrity of the exterior masonry walls or building.

1.2 RELATED SECTIONS

- A. Related Sections: Work contained elsewhere, when applicable.

- 1. Unit Masonry
- 2. Roof Demolition
- 3. Wall Demolition
- 4. Sealants and Caulking
- 5. Related Sheet Metal

1.3 REFERENCES

- A. All work under this section shall conform to the more stringent product and performance procedures outlined within the project specifications and as outlined in, recommended in, or specified in the latest editions of:
 - 1. Factory Mutual Global (FMG)
 - a. Approval Guide
 - 2. Underwriters Laboratory Inc. (UL)
 - a. Building Materials Directory
 - 3. American Society for Testing and Materials (ASTM)
 - a. Book of Standards
 - 4. ASTM C 109: Compressive Strength of Hydraulic Mortars
 - 5. ASTM C 191: Setting Time of Hydraulic Cement
 - 6. ASTM C 882: Slant Shear Bond Strength
 - 7. ASTM C 928: Rapid Hardening Cementitious Materials for Concrete Repairs
 - 8. Utah D.O.T. Bond/Slant Shear Testing.

1.4 SYSTEM DESCRIPTION

- A. Contractor shall provide and install new mortar sloped to wash on masonry wall where identified in Specifications and shown on drawings. Work shall be performed as outlined in this specification section or as required by the manufacturer for proper installation of materials under this section.

1.5 SUBMITTALS

- A. General: Comply with all provisions of the contract documents, to include any additional submittal requirement not listed herein. Requirements listed herein are the minimum acceptable.
- B. Product Data and Samples: After award of contract, submit:
 - 1. Complete material list of all items proposed to be furnished and installed under this section.
 - 2. Two (2) samples of mortar material.
 - 3. Manufacturer's complete literature and specifications for installation of the specified mortar mix.
- C. Project Record Documents
 - 1. As specified elsewhere, provide all required warranties, guarantees, and other such documents.

1.6 QUALITY ASSURANCE

- A. Standards: Comply with the standards specified in this section and as listed in the general requirements.
- B. Qualifications of Manufacturers: Products used in the specified masonry work shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.
- C. Qualifications of Installers:
 - 1. Installers shall be thoroughly trained and experienced in the necessary crafts.
 - 2. Installers shall be made familiar with any unique requirements specified for proper performance of The work in this section.
 - 3. An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten (10) years' experience in commercial work installing products comparable to those specified, able to communicate verbally with Contractor, Consultant, and employees.
 - 4. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
 - 5. Installer shall not have pending litigation or outstanding lien(s) on their business.
- D. Inspections: Cooperate and coordinate with inspectors, testing agencies, and manufacturers, in order to facilitate inspection of product installation, to include allowance of field sampling.

- E. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the site at all times.
- F. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.
- B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of six (6) inches above the roof or ground surface. (Roll goods shall be stored on end.) All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.
 - 1. If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.
 - 2. Polyethylene roll stock material is not an acceptable tarp material.
 - 3. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.
- C. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
- D. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the contractor.

1.8 SITE CONDITIONS

- A. General: Do not uncover or install material under this section during periods of inclement weather. Weather conditions, either current or predicted, that would prevent proper execution of the work under this section shall determine placement acceptability for each days work.
- B. Work shall not be performed under this section if the ambient temperature is below 50 degrees Fahrenheit, without prior written approval.
 - 1. When ambient temperatures are anticipated or forecast to drop below 40 degrees Fahrenheit during the course of the work, or for a period 48 hours after installation, or when a film of ice or frost sets on the existing construction, a manufacturer approved Cold Weather Application Specification shall be submitted for review and approval.

2. Submission of a Cold Weather Application Specification does not constitute approval for application of work under this section. No work shall be performed until written approval and authorization has been received.
- C. In very hot weather, it is important that enough water is maintained in the mortar to ensure proper curing and minimize shrinkage cracking. This may require periodically wetting the wall during the curing process.
- D. Field Measurements: Verification of all mortar joint locations, dimensions, sizes, and quantities are the responsibility of the contractor as outlined in the contract documents. Actual field measurements shall be used in preparation of contractor submitted shop drawings.

1.9 SEQUENCING AND SCHEDULING

- A. Verify that all preparatory and sequential prior work is complete and properly installed before performing work in this section.

1.10 WARRANTY

- A. Material and Installation shall meet all the requirements necessary to fulfill the warranty conditions and provisions set forth in this specification and as specifically written in the material manufacturer's warranty as submitted.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide products which are recommended by the manufacturer and that are fully compatible with indicated substrates and other assembly components.

2.2 MATERIALS

- A. Polymer modified, shrinkage compensated, rapid setting high strength, hydraulic cement based repair mortar. Comply with the following:
 1. Manufacturer: Fastset™ Repair Mortar (#1241) as manufactured by the QUIKRETE® Companies, One Securities Centre, 3490 Piedmont Road, NE, Suite 1300, Atlanta, GA 30305; telephone (404) 634-9100.
 2. Other approved equal manufacturers.
 3. Performance and Physical Properties at 73 degrees F (23°C) and 50 percent relative humidity:
 - a. Compliance: ASTM C 928 R-2 specifications
 - b. Setting time, ASTM C 191: 20-40 minutes

- c. Compressive Strength, ASTM C 109 Modified: 2000 psi (13.8 MPa) @ 3 hours, 4000 psi (27.6 MPa) @ 24 hours, 5000 psi (34.5 MPa) @ 7 days and 6000 psi (41.4 MPa) @ 28 days
- d. Slant Shear Bond Strength, ASTM C 882: 1000 psi (6.9 MPa) @ 24 hours, 1500 psi (10.3 MPa) @ 7 days and 2500 psi (17.2 MPa) @ 28 days
- e. Consistency: Gel-like
- f. Unit weight lb/cu ft: ~128 lbs (2051 kg/m³)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas landscaping from contact due to mixing and handling of materials.

3.2 SURFACE PREPARATION:

- A. Comply with manufacturer's printed instructions and the following:
 - 1. Remove all spalled and unsound concrete from area to be repaired. If rusty reinforcing steel is present; it must be abrasive blasted to remove rust.
 - 2. Remove enough material to completely expose reinforcing steel.
 - 3. Large vertical or overhead patches deeper than 2" (50 mm) should contain reinforcing steel. Additional steel should be inserted using appropriate techniques, if none is present.
 - 4. Clean surface to be repaired of all materials including dust, oil, dirt and grease.
 - 5. Dampen with clean water before patching and remove standing water.

3.3 MIXING

- A. Comply with manufacturer's printed instructions and the following:
 - 1. Material should be mechanically mixed for approximately 3 minutes using a five gallon (19L) bucket with a ½" (12 mm) drill and paddle mixer. For large repairs a standard mortar mixer should be used.
 - 2. Add 1 gallon + 3 pints (5.2L) of clean water for each 60lb (27.2 Kg) bag. Add the powder to the water and mix to a stiff gel-like consistency. If mix is too firm, add water sparingly to reach the desired consistency. Do not mix more material than can be placed in 15 minutes.
 - 3. For repair deeper than 2" (51 mm), up to 30 lbs (13.6 Kg) of clean, high quality ½" (12 mm) gravel may be added to the mix per 60-lb (27.2 Kg) bag.

4. Do not re-temper with additional water.

3.4 APPLICATION

- A. Comply with manufacturer's printed instructions and the following:

1. Material should be trowel applied to a damp surface.
2. Apply a thin layer with heavy trowel pressure and then build up to the desired thickness. Material obtains high bond strength without the use of bonding adhesives or acrylic additives.
3. After initial set, the material may be trimmed and shaped to match the contours of existing patch area.
4. Do not apply if temperatures are below 40°F (4°C) or are expected to go below 32° (0°C) within a 24 hour period. Use cold water in hot weather or hot water in cold weather to achieve desired grout temperature.

3.5 CURING

- A. No special procedures are required. During the first 24 hours, keep the patch covered or damp to prevent excessive loss of water.

3.6 CLEANING

- A. Remove excess material before material cures. If material has cured, remove using mechanical methods that will not damage substrate.

3.7 PROTECTION

- A. Contractor shall protect all adjacent work and materials by suitable covering or other methods during performance of work under this section.

3.8 SITE CLEANING

- A. Upon completion of work, contractor shall remove all splattered materials from roof, sidewalks, sheet metal and other adjacent surfaces.
- B. Contractor shall remove from the premises all rubbish and accumulated materials and equipment associated with this work.

- END OF SECTION -

SECTION 04085 - MASONRY ANCHORS AND ACCESSORIES

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Furnish and install new masonry veneer anchors and ties and masonry accessories, in place, as designated in the Summary of Work, as shown in the drawings and as specified herein.

1.2 RELATED SECTIONS

- A. Related Sections: Work contained elsewhere, when applicable.
 - 1. Section 04810 - Unit Masonry Assemblies.
 - 2. Section 079200 -Sealants.

1.3 REFERENCES

- A. All work under this section shall conform to the more stringent product and performance procedures outlined within the project specification Section 01090, "Reference Standards" and as outlined in, recommended in, or specified in the latest editions of:
 - 1. ASCE/ACI 530.1 Specifications for Masonry Structures; 1995.
 - 2. American Society for Testing and Materials (ASTM)
 - a. Book of Standards
 - 3. ASTM Specifications:
 - a. 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 1998.
 - b. A 167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip; 1996.
 - c. A 240/A 240M - Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels; 1998b.
 - d. A 276 - Standard Specification for Stainless Steel Bars and Shapes; 1998b.
 - e. A 479/A 479M - Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes for Use in Boilers and Other Pressure Vessels; 1997a.
 - f. A 580/A 580M - Standard Specification for Stainless Steel Wire; 1998.
 - g. A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 1998.
 - h. B 633 Standard Specification for Electro deposited Coatings of Zinc on Iron and Steel; (Reapproved 1994).
 - 4. Factory Mutual Systems (FM)
 - a. Approval Guide
 - 5. Underwriters Laboratory Inc. (UL)
 - a. Building Materials Directory
 - 6. Published material manufacturer's literature and specifications as submitted for approval.

1.4 SYSTEM DESCRIPTION

- A. Contractor shall install new masonry veneer anchors and ties and masonry accessories for face brick walls included under this section.
- B. Work shall be performed as outlined in this specification section or as required by the manufacturer for proper application of materials under this section.

1.5 REGULATORY REQUIREMENTS

- A. Applicable Local, State and Federal Building codes.
- B. Local and national environmental and public health laws or requirements shall govern methods of performing the work of this section. Should a conflict in specification or manufacturer recommendation arise relative to environmental or health conditions, responsibility for determining potential conflicts prior to starting work shall be that of the contractor and the product manufacturer.

1.6 SUBMITTALS

- A. General: Comply with all provisions of the contract documents, to include any additional submittal requirement not listed herein. Requirements listed herein are the minimum acceptable.
- B. Product Data and Samples: After award of contract, submit:
 - 1. Complete material list of all items proposed to be furnished and installed under this section.
 - 2. Manufacturer's complete literature and specifications for installation of the masonry veneer anchors and ties and masonry accessories.
 - 3. Manufacturer's complete literature and specifications for installation of the specified parge surface sealant.
 - 4. Manufacturer's written certification that contractor is an approved installer of materials used under this section.
 - 5. Material Safety Data Sheets (MSDS) for all products specified under this section.
- C. Project Record Documents
 - 1. As specified elsewhere, provide all required warranties, guarantees, and other such documents.

1.7 QUALITY ASSURANCE

- A. Standards: Comply with the standards specified in this section and as listed in the general requirements.
- B. Qualifications of Self Adhering Asphalt Flashing Sheet System Manufacturer: Products used in the specified flashing system shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.
- C. Qualifications of Installers:
 - 1. Installers shall be thoroughly trained and experienced in the necessary crafts.
 - 2. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.

3. An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten (10) years experience in commercial work installing products comparable to those specified, able to communicate verbally with Contractor, Consultant, and employees.
 4. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
 5. Installer shall not have pending litigation or outstanding lien(s) on their business.
- E. Inspections: Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection of the installation, to include allowance of field sampling.
- F. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the site at all times.
- G. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.

1.8 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.
- B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of 6 inches above the roof or ground surface. Roll goods shall be stored on end. All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.
1. If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.
 2. Polyethylene roll stock material is not an acceptable tarp material.
 3. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.
- C. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
- D. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the contractor.

1.9 SITE CONDITIONS

- A. General: Do not uncover or install material under this section during periods of inclement weather. Weather conditions, either current or predicted, that would prevent proper execution of the work under this section shall determine placement acceptability for each days work.

- B. Work shall not be performed under this section if the ambient temperature is below 40 degrees Fahrenheit, without prior written approval from the Consultant and manufacturer.
- C. When ambient temperatures are anticipated or forecast to drop below 40 degrees Fahrenheit during the course of the work, a manufacturer approved Cold Weather Application Specification shall be submitted for review and approval.
- D. Submission of a Cold Weather Application Specification does not constitute approval for application of work under this section. No work shall be performed until written approval and authorization has been received.
- E. Field Measurements: Verification of all masonry termination points and penetration locations, dimensions, sizes, and quantities are the responsibility of the contractor as outlined in the contract documents. Actual field measurements shall be used in preparation of contractor submitted shop drawings.

1.10 ENVIRONMENTAL CONDITIONS OR REQUIREMENTS

- A. The materials specified for use in the work of this section shall not be installed during periods of precipitation, frost, snow, dew, high winds or other climatological activity that might preclude performance of the installed material or present a safety hazard to property or person.
- B. It shall be the contractor's responsibility to check daily and long-range weather forecasts before planning each days work; so as to prevent possible entry of water into the building due to rain or other precipitation getting through opened masonry work or flashing areas.
- C. The contractor shall not open more roof, wall, or flashing points in one day than can be properly patched, sealed or covered in that same day.
- D. During periods of precipitation, the contractor shall be responsible for performance, at least daily, inspections for leaks in the area of work and if any arise, shall seal them immediately to prevent interior building damage. All leak related damage to the building shall be repaired to the satisfaction of the owner at no cost to the owner.
- E. Install mortar, coatings, sealers, and other materials on dry surfaces only and according to manufacturer's recommended ambient temperatures and relative humidity requirements.

1.11 PROTECTION OF PROPERTY

- A. Install protective coverings at pavement, side walks and buildings adjacent to hoists, scaffolds, and other material conveyance equipment prior to starting work.
 - 1. Lap protective coverings not less than 6 inches, secure against wind, and vent to prevent collection of moisture on covered surfaces.
 - 2. Keep protective coverings in place for the duration of the masonry work.

1.12 COORDINATION

- A. Verify that all preparatory and sequential prior work is complete and properly installed before performing work of this section.

- B. Material deliveries, equipment arrivals or movements, or product installation work shall be coordinated with the owner, other trades and/or other potentially impacted parties prior to the implementing of such planned activity.
- C. Once work begins on a section of the building, all preparation and required work on that section shall be completed prior to moving to another section of the building. The work shall be diligently performed on a daily basis until completion, unless otherwise directed by the owner.
- D. Completion of work shall be defined as the total completion of all work required to render the recently restored masonry work watertight and free of surface defects and requiring no further work or foot traffic in the area by the workers.
- E. The contractor shall arrange to schedule the necessary manufacturer's completion inspection and secure a report of satisfactory performance for each section of the building prior to moving workers or equipment to any other section of the building designated for restoration.

1.13 WARRANTY

- A. Material and installation shall meet all the requirements necessary to fulfill the warranty conditions and provisions set forth in Section 01740, "Warranties and Bonds," and as specifically written in the manufacturer's warranty as submitted.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide products that are recommended by the manufacturer and are fully compatible with indicated substrate and other assembly components.
- B. Minimum product requirements have been listed; it is incumbent on the contractor to include, not only the listed components, but also all others necessary to provide a complete watertight restoration of the existing concrete work as specified herein and as is considered acceptable as a system by an approved product manufacturer.
- C. All primary materials of this section shall be the products of a single manufacturer, unless stated otherwise.

2.2 MANUFACTURER'S OF MASONRY MATERIALS

- A. Acceptable Manufacturer: Heckmann Building Products Inc., 4015 West Carroll Avenue, Chicago, IL 60624. ASD. Tel: (773) 826-8564. Fax: (773) 826-4919.
Email: Heckmann@worldnet.att.net. Website: www.heckmannbuildingprods.com.
- B. Other approved equal manufacturers.

2.3 APPLICATIONS

- A. Provide anchoring systems that comply with ACI 530.1/ASCE 6/TMS 602.

B. Masonry Anchors:

1. Anchors to Block Backup:
 - a. No. 262 DOUBLE EYE ROD ANCHOR: 3/16 inch (94.76 mm) diameter.

C. Masonry Veneer Ties: Provide minimum 2 inches (50 mm) embedment in mortar.

1. For Use With Strap Anchors:
 - a. NO. 316 TRIANGLE WIRE TIE: 3/16 inch (4.76 mm) diameter
 - b. NO. 314 TIE CLIP: 1/4 inch (6.35 mm) diameter x 2 inches (51 mm) wide x 5 inch (127mm) long.
2. For Use With #262 Masonry Anchor:
 - a. NO. 263 DOUBLE PINTLE WIRE TIE, 3/16 inch (4.76 mm) diameter.

2.4 MATERIALS

A. Steel Types

1. Stainless Steel: Type 304.

B. Sheet Metal: ASTM A 167 or ASTM A 240/A 240M.

C. Wire: ASTM A 580/A 580M.

D. Bars: ASTM A 479/A 479M, annealed and ground.

E. Plates, Bars, and Shapes: ASTM A 167 or ASTM A 276.

F. Hot-Dip Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM A 153/A 153M, Class B-2.

G. Electro-Galvanized Steel: Electro-galvanized after fabrication in accordance with ASTM B 633, Service Condition 1.

H. Wire: Minimum 3/16 inch (4.76 mm) diameter.

I. Mill Galvanized Steel:

1. Sheet Metal: ASTM A 653/A 653M, G60 coating.

J. Wire: ASTM A 641, regular coating; minimum 3/16 inch (4.76 mm) diameter.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install masonry anchors and accessories as specified in applicable masonry section(s) and in accordance with manufacturer's instructions.
- B. Install one masonry anchor between back-up block and face brick veneer 16 inches on center horizontally and vertically. Secure each masonry anchor to the back-up block using approved masonry threaded shank fasteners.

3.2 CLEAN UP

- A. Upon completion of the work, contractor shall remove all splattered materials from roof, sidewalks, sheet metal and other adjacent surfaces.
- B. Contractor shall remove from the premises all rubbish and accumulated materials and equipment associated with this work.

3.3 VERIFICATION

- A. Upon completion of the installation in each area, visually inspect and verify that all components are complete and properly installed. Verify that fasteners are properly located and securely anchored.

- END OF SECTION -

SECTION 04521- TUCKPOINTING

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Cleaning and tuckpointing of deteriorated masonry joints as shown in the detail drawings, as specified herein, or where existing imperfections might compromise the waterproof integrity of the roof system or building.

1.2 RELATED SECTIONS

- A. Related Sections: Work contained elsewhere, when applicable.

- 1. Unit Masonry
- 2. Roof Demolition
- 3. Wall Demolition
- 4. Sealants and Caulking
- 5. Related Sheet Metal

1.3 REFERENCES

- A. All work under this section shall conform to the more stringent product and performance procedures outlined within the project specifications and as outlined in, recommended in, or specified in the latest editions of:
 - 1. Factory Mutual Global (FMG)
 - a. Approval Guide
 - 2. Underwriters Laboratory Inc. (UL)
 - a. Building Materials Directory
 - 3. American Society for Testing and Materials (ASTM)
 - a. Book of Standards
 - 4. Published material manufacturer's literature and specifications as submitted for approval.

1.4 SYSTEM DESCRIPTION

- A. Contractor shall clean out and replace with new mortar, all mortar joints that are found to have softened, disintegrated, or cracked, or in other unsound condition for work under this section. Work shall be performed as outlined in this specification section or as required by the manufacturer for proper installation of materials under this section.

1.5 SUBMITTALS

- A. General: Comply with all provisions of the contract documents, to include any additional submittal requirement not listed herein. Requirements listed herein are the minimum acceptable.
- B. Product Data and Samples: After award of contract, submit:
 - 1. Complete material list of all items proposed to be furnished and installed under this section.
 - 2. Two (2) samples of mortar material.
 - 3. Manufacturer's complete literature and specifications for installation of the specified mortar mix.
- C. Project Record Documents
 - 1. As specified elsewhere, provide all required warranties, guarantees, and other such documents.

1.6 QUALITY ASSURANCE

- A. Standards: Comply with the standards specified in this section and as listed in the general requirements.
- B. Qualifications of Manufacturers: Products used in the specified masonry work shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.
- C. Qualifications of Installers:
 - 1. Installers shall be thoroughly trained and experienced in the necessary crafts.
 - 2. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.
 - 3. An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten (10) years' experience in commercial work installing products comparable to those specified, able to communicate verbally with Contractor, Consultant, and employees.
 - 4. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
 - 5. Installer shall not have pending litigation or outstanding lien(s) on their business.
- D. Inspections: Cooperate and coordinate with inspectors, testing agencies, and manufacturers, in order to facilitate inspection of product installation, to include allowance of field sampling.
- E. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the site at all times.

- F. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.
- B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of six (6) inches above the roof or ground surface. (Roll goods shall be stored on end.) All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.
 - 1. If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.
 - 2. Polyethylene roll stock material is not an acceptable tarp material.
 - 3. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.
- C. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
- D. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the contractor.

1.8 SITE CONDITIONS

- A. General: Do not uncover or install material under this section during periods of inclement weather. Weather conditions, either current or predicted, that would prevent proper execution of the work under this section shall determine placement acceptability for each days work.
- B. Work shall not be performed under this section if the ambient temperature is below 50 degrees Fahrenheit, without prior written approval.
 - 1. When ambient temperatures are anticipated or forecast to drop below 40 degrees Fahrenheit during the course of the work, or for a period 48 hours after installation, or when a film of ice or frost sets on the existing construction, a manufacturer approved Cold Weather Application Specification shall be submitted for review and approval.
 - 2. Submission of a Cold Weather Application Specification does not constitute approval for application of work under this section. No work shall be performed until written approval and authorization has been received.
- C. In very hot weather, it is important that enough water is maintained in the mortar to ensure proper curing and minimize shrinkage cracking. This may require periodically wetting the wall during the curing process.

- D. Field Measurements: Verification of all mortar joint locations, dimensions, sizes, and quantities are the responsibility of the contractor as outlined in the contract documents. Actual field measurements shall be used in preparation of contractor submitted shop drawings.

1.9 SEQUENCING AND SCHEDULING

- A. Verify that all preparatory and sequential prior work is complete and properly installed before performing work in this section.

1.10 WARRANTY

- A. Material and Installation shall meet all the requirements necessary to fulfill the warranty conditions and provisions set forth in this specification and as specifically written in the material manufacturer's warranty as submitted.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide products which are recommended by the manufacturer and that are fully compatible with indicated substrates and other assembly components.

2.2 MATERIALS

- A. All mortar for tuckpointing shall be pre-hydrated for between one and one and one-half hours prior to final mixing.
- B. Mortar mix for tuckpointing shall be proportioned by volume. Mortar shall consist of one of the following:
 - 1. Ready Mix Mortar conforming to ASTM C-270 (Type N)
 - 2. One (1) part Portland Cement,
One (1) part type S Hydrated Lime,
Six (6) parts sand
- C. All mortar shall be mixed with less water content than normal for new construction.
- D. When temperatures are 80 degrees or higher, the time interval after mixing for using mortar is less than one hour. For temperatures of less than 80 degrees, the time limit for use is two hours.

2.3 OTHER MATERIALS

- A. Back up materials and sealants shall be as specified in Section 07920.

PART 3 - EXECUTION

3.1 GENERAL

- A. If mortar joints have softened, disintegrated or cracked, or where existing imperfections might compromise the waterproofing integrity of the building masonry, then tuckpointing is required.

3.2 PREPARATION

- A. Examine masonry joints(both bed and head joints) and remove existing mortar to a depth of two (2) to three (3) times the width of the joint and a minimum of $\frac{3}{4}$ inch. Additionally, remove deteriorated mortar encountered behind the minimum depth. Take care to not damage edges of existing masonry units to remain.
- B. Remove mortar to a uniform depth from all joints in the area to be tuckpointed.
- C. Remove all loose material in joint cavities by use of a hose stream of water.

3.3 INSTALLATION

- A. Immediately prior to the application of mortar, dampen mortar joints to be filled with mortar thoroughly before applying fresh mortar.
- B. Allow water to soak into the masonry wall prior to application. Joints should not be visibly wet with free-standing water.
- C. Cleaned joints shall be packed tightly, in thin layers with fresh mortar, approximately $\frac{1}{4}$ inch thick maximum until joint is filled.
- D. Pack final layer flush with surfaces of masonry units. When mortar becomes "thumbprint hard", tool mortar to a solid dense joint, surfaced to the same profile as other surrounding finished joints.

3.4 CLEANING

- A. During tuckpointing, carefully clean all mortar from face of bricks at the end of each working day.
- B. After tuckpointing is completed, carefully clean all walls with water and stiff fiber brushes.
- C. To remove stubborn stains caused by work performed under this section, use a manufacturer approved commercial cleaner.

3.5 PROTECTION

- A. Contractor shall protect all adjacent work and materials by suitable covering or other methods during performance of work under this section.

3.6 SITE CLEANING

- A. Upon completion of work, contractor shall remove all splattered materials from roof, sidewalks, sheet metal and other adjacent surfaces.
- B. Contractor shall remove from the premises all rubbish and accumulated materials and equipment associated with this work.

- END OF SECTION -

SECTION 04810 - FACE BRICK UNIT MASONRY

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Furnish and install face brick unit masonry, in place, as designated in the Summary of Work, as shown in the drawings and as specified herein.

1.2 RELATED SECTIONS

- A. Related Sections: Work contained elsewhere, when applicable.

- 1. Masonry Demolition
- 2. Masonry Anchors and Accessories
- 3. Self Adhering Flashings
- 4. Sealants and Caulking
- 5. Related Sheet Metal
- 6. Clear Penetrating Sealer

1.3 REFERENCES

- A. All work under this section shall conform to the more stringent product and performance procedures outlined within the project specification Section 01090, "Reference Standards" and as outlined in, recommended in, or specified in the latest editions of:

- 1. FM Global (FMG)
 - a. Approval Guide
- 2. Underwriters Laboratory Inc. (UL)
 - a. Building Materials Directory
- 3. American Society for Testing and Materials (ASTM)
 - a. Book of Standards
- 4. Brick Industry Association (BIA)
 - a. Book of Standards
- 5. Published material manufacturer's literature and specifications as submitted for approval.
- 6. Portland Cement Association
 - a. Design and Control of Concrete Mixtures

1.4 DESCRIPTION OF WORK

- A. Contractor shall repair all face brick that are cracked, chipped, spalled or in other unsound condition for work under this section.
- B. Contractor shall replace all existing face brick that were removed as a result of the replacement and installation of flashing around window and door units and the facade.

- C. Work shall be performed as outlined in this specification section, as shown on the drawings or as required by the manufacturer for proper application of materials under this section.

1.5 REGULATORY REQUIREMENTS

- A. Applicable Local, State and Federal Building codes.
- B. Local and national environmental and public health laws or requirements shall govern methods of performing the work of this section. Should a conflict in specification or manufacturer recommendation arise relative to environmental or health conditions, responsibility for determining potential conflicts prior to starting work shall be that of the contractor and the product manufacturer.

1.6 DEFINITIONS

- A. Brick: Extruded and manufactured clay masonry unit that is a structural unit.
- B. Face: Exposed face on brick.
- C. Bed Joint: Horizontal mortar joint between two brick.
- D. Head Joint: Vertical mortar joint between two brick

1.7 SUBMITTALS

- A. General: Comply with all provisions of the contract documents, to include any additional submittal requirement not listed herein. Requirements listed herein are the minimum acceptable.
- B. Product Data and Samples: After award of contract, submit:
 - 1. Complete material list of all items proposed to be furnished and installed under this section.
 - 2. Material Safety Data Sheets (MSDS) for all products specified under this section.
 - 3. Samples: Submit six (6) samples to indicate the approximate range of color and texture of face brick mortar to be expected in the completed wall.
 - 4. Field Panel: Construct not less than a 4' wide and 4' high sample panel of face brick wall, representative of completed wall where directed by Owner.
- C. Project Record Documents
 - 1. As specified elsewhere, provide all required warranties, guarantees, and other such documents.

1.8 QUALITY ASSURANCE

- A. Standards: Comply with the standards specified in this section and as listed in the general requirements.
- B. Sample Field Panel: Construct a wall panel 4 foot wide and 4 foot high for glazed brickwork. Locate where directed by Owner.
 - 1. Panel to indicate quality representation of:
 - a. Brick color and texture range.

- b. Bonding pattern.
 - c. Mortar color.
 - d. Joint tooling.
 - e. Reinforcement/Ties.
 - f. Workmanship.
 2. Sample Field Panel should be erected at least 14 days prior to shipment of the brick to the job site.
 3. Approved Sample Field Panel shall act as the standard of comparison and quality to be expected throughout the work.
 4. Approved Sample Field Panel should be maintained through job completion and not destroyed until instructed by the Owner.
 5. Erect separate Sample Field Panels for each color and texture, mortar color or combinations specified or as indicated on drawings.
- C. Qualifications of Manufacturers: Products used in the specified masonry work shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.
- D. Qualifications of Installers:
1. Installers shall be thoroughly trained and experienced in the necessary crafts.
 2. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.
 3. An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten (10) years experience in commercial work installing products comparable to those specified, able to communicate verbally with Contractor, Consultant, and employees.
 4. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
 5. Installer shall not have pending litigation or outstanding lien(s) on their business.
- E. Inspections: Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection of product installation, to include allowance of field sampling.
- F. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the site at all times.
- G. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.

1.9 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.
- B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of 6 inches above the roof or ground surface. Roll goods shall be stored on end. All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.
 - 1. If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.
 - 2. Polyethylene roll stock material is not an acceptable tarp material.
 - a. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.
- C. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
- D. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the contractor.

1.10 SITE CONDITIONS

- A. General: Do not uncover or install material under this section during periods of inclement weather. Weather conditions, either current or predicted, that would prevent proper execution of the work under this section shall determine placement acceptability for each days work.
- B. Work shall not be performed under this section if the ambient temperature is below 40 degrees Fahrenheit, without prior written approval from the Owner and manufacturer. Do not lay brick and mortar when ambient temperatures are below 40 degrees F., unless properly protected in a heated enclosure and accepted means are provided to heat units and mortar, with specific written approval from Owner. Maintain air temperature above 40 degrees F. on both sides of masonry for at least 72 hours after erection of walls.
- C. Protect masonry construction from direct exposure to wind and sun when erected in ambient air temperatures of 95 degrees F. in shade with relative humidity less than 50%.
- D. Field Measurements: Verification of all masonry termination points and penetration locations, dimensions, sizes, and quantities are the responsibility of the contractor as outlined in the contract documents. Actual field measurements shall be used in preparation of contractor submitted shop drawings.

1.11 ENVIRONMENTAL CONDITIONS OR REQUIREMENTS

- A. The materials specified for use in the work of this section shall not be installed during periods of precipitation, frost, snow, dew, high winds or other climatological activity that might preclude performance of the installed material or present a safety hazard to property or person.

- B. It shall be the contractor's responsibility to check daily and long-range weather forecasts before planning each days work; so as to prevent possible entry of water into the building due to rain or other precipitation getting through opened masonry work or flashing areas.
- C. The contractor shall not open more roof, wall, or flashing points in one day than can be properly patched, sealed or covered in that same day.
- D. During periods of precipitation, the contractor shall be responsible for performance, at least daily, inspections for leaks in the area of work and if any arise, shall seal them immediately to prevent interior building damage. All leak related damage to the building shall be repaired to the satisfaction of the owner at no cost to the owner.

1.12 PROTECTION OF PROPERTY

- A. Install protective coverings at pavement, sidewalks and the building facade adjacent to hoists, scaffolds, and other material conveyance equipment prior to starting work.
- B. Lap protective coverings not less than 6 inches, secure against wind, and vent to prevent collection of moisture on covered surfaces.
- C. Keep protective coverings in place for the duration of the masonry work.

1.13 COORDINATION

- A. Verify that all preparatory and sequential prior work is complete and properly installed before performing work of this section.
- B. Material deliveries, equipment arrivals or movements, or product installation work shall be coordinated with the owner, other trades and/or other potentially impacted parties prior to the implementing of such planned activity.
- C. Once work begins on a section of the building, all preparation and required work on that section shall be completed prior to moving to another section of the building. The work shall be diligently performed on a daily basis until completion, unless otherwise directed by the owner.
- D. Completion of work shall be defined as the total completion of all work required to render the newly restored masonry work watertight and free of surface defects and requiring no further work or foot traffic in the area by the workers.
- E. The contractor shall arrange to schedule the necessary manufacturer's completion inspection and secure a report of satisfactory performance for each section of the building prior to moving workers or equipment to any other section of the building designated for restoration.

1.14 WARRANTY

- A. Material and installation shall meet all the requirements necessary to fulfill the warranty conditions and provisions set forth in Section 01740, "Warranties and Bonds," and as specifically written in the manufacturer's warranty as submitted.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide products that are recommended by the manufacturer and are fully compatible with indicated substrate and other assembly components.
- B. Minimum product requirements have been listed; it is incumbent on the contractor to include, not only the listed components, but also all others necessary to provide a complete a water resistant restoration of the existing exterior masonry work as specified herein and as is considered acceptable as a system by an approved product manufacturer.

2.2 MATERIALS

- A. Face Brick
 - 1. To match existing face brick in color, texture, and size meeting ASTM C216 standard.
 - 2. Characteristics:
 - a. Meet ASTM C-126-94 for properties of finish.
 - b. Meet ASTM C-1405, Grade S or SS, Type I or II, Class Exterior , as specified.
 - c. Must meet UL requirements for zero flame spread and zero smoke developed.
- B. Mortar
 - 1. To match existing mortar in color, texture and shape conforming to the following minimum requirements.
 - a. Hydrated Lime: ASTM C207, Type N.
 - b. Portland Cement: ASTM C150, Type II, white, non-staining.
 - c. Aggregate: ASTM C144, sand with rounded edges.
- C. Water: Clean and potable.
- D. Wall Ties: Refer to Section 04085 - Masonry Anchors and Accessories.
- E. Weep Hole Inserts: Rectangular vented plastic weep hole insert.
- F. Clear Penetrating Sealer(when required): Refer to Section 07135 – Clear Penetrating Sealer.
- G. Application Equipment
 - 1. Shall be as recommended by the material manufacturer for proper application of materials in this section.

PART 3 - EXECUTION

3.1 GENERAL

- A. All efforts shall be coordinated to prevent moisture infiltration into the facility.

- B. When approved during submittal review, the manufacturer's published recommended method of installation, unless superseded by the specification, will become the basis for inspection and acceptance or rejection of the actual installation procedures used on this work.
- C. Contractor shall perform work in a manner to prevent damage to sequentially prior work. Verify that all work specified elsewhere in the project specifications is properly installed and that the prepared substrate is ready for application of the work under this section.
- D. In no case shall work area be left without a temporary watertight night seal if circumstances arise which does not allow for complete installation of the new masonry assembly. Prior approval is required before installation of a temporary night seal and shall be provided at no additional cost.
- E. All other irregularities including high points, low points, projections and cracks or portions thereof which are larger than hair line shall be repaired.
- F. Installation of new masonry products indicates full compliance with this section and acceptance of the substrates by the contractor.

3.2 INSPECTION OF EXISTING SUBSTRATES

- A. Verify surfaces to receive new materials, including backer rod and sealants, are free of contaminants and foreign matters such as, but not limited to, water, dew, frost, dust, oil, grease, paint, scale, asphalt mastics, curing compounds, sealants and other contaminants that could affect the proper installation and performance of new materials.
- B. Verify that proper masonry substrates are in place and in good condition before the new masonry work is performed. Notify the Owner of any defects and do not proceed with the installation of the masonry until all defects in the substrates are corrected.

3.3 PROTECTION

- A. Install protective coverings over all adjacent substrates prior to starting the work. Lap protective coverings at least 12 inches and secure against the wind. Leave protective covering in place for the duration of the masonry work.
- B. Protect the surfaces of the installed brick and mortar from exposure to precipitation, excessive drying, freezing and soiling. Cover freshly-laid weather exposed masonry at the end of each work day with non-staining waterproof material in such a manner that will ensure that the covering will overhang the masonry not less than two(2) feet on each side of the masonry.
- C. Anchor on each side of wall to stabilize work.
- D. Cover finished walls with approved covers and erect wooden barriers to protect walls at areas that are subject to large amounts of construction traffic or material movement. Protect glazed face from exposure to welding burns, stains, etc.

3.4 PREPARATION OF SURFACES

- A. Contractor shall remove all dirt, oils, asphalt or other surface contaminants that would prevent proper bonding of the mortar.

- B. Loose mortar and poorly bonded pieces of masonry shall be removed. Materials shall be removed to provide sound surface. Spalled areas or areas of broken masonry shall be chiseled or scored to provide shoulders or edges to accommodate repairs.
- C. Surfaces to receive mortar shall be pre-dampened prior to mortar application. Care shall be taken not to over wet surfaces.

3.5 FACE BRICK INSTALLATION, GENERAL

- A. Lay out face brick in advance for accurate spacing of surface bond patterns with uniform joint widths and for accurate locating of openings, movement-type joints, returns, and offsets.
- B. Lay up face brick with courses accurately spaced and coordinated with existing face brick wall.
- C. Lay face brick in a bond patterns that matches existing. Do not use face brick unit that has less than a 4 inch horizontal face dimension at corners and jambs.
- D. Install embedded flashing in masonry at shelf angles, lintels, ledges and other obstructions as required by Specification Section 07555 and drawings and where indicated in these specifications and drawings.
- E. Keep cavities clean of mortar droppings.
- F. Acceptable Tolerances:
 - 1. Maximum Variation from Alignment of Columns, or Pilasters: ¼ inch.
 - 2. Maximum Variation from Unit to adjacent Unit: 1/16 inch.
 - 3. Maximum Variation from Plane of Wall: 1/4 inch in 10 feet; and 1/2 inch in 20 feet or more.
 - 4. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
 - 5. Maximum Variation from Level Coursing: 1/8 inch in 3 feet; and 1/4 inch in 10 feet; 1/2 inch in 30 feet.
 - 6. Maximum Variation of Joint Thickness: 1/8 inch in 3 feet.
 - 7. Maximum Variation from Cross-sectional Thickness of Walls: 1/4 inch.

3.6 MORTAR BEDDING AND JOINTING

- A. Dampen existing face brick surfaces to receive mortar to enhance bonding.
- B. Lay face brick with full mortar coverage on horizontal and vertical face shells.
- C. Lay face brick units with mortar completely filling bed and head joints. Butter ends with sufficient mortar to fill head joints and shove in place. Do not deeply furrow bed joints or slush head joints.
- D. Maintain joint thicknesses indicated, except for minor variations required to maintain bond alignment.
- E. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than the joint thickness, unless otherwise indicated.
- F. Mixing
 - 1. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270, Type N.
 - 2. Add mortar color and admixtures in accordance with manufacturer's instructions. Provide uniformity of mix and coloration.
 - 3. Do not use anti-freeze compounds to lower the freezing point of mortar.

4. If water is lost by evaporation, re-temper only within two hours of mixing.
5. Use mortar within two hours after mixing at temperatures of 80 degrees F, or two-and-one-half hours at temperatures under 50 degrees F.

3.7 ANCHORING MASONRY TO STRUCTURAL MEMBERS

- A. Anchor masonry wall to structural members as follows:
 1. Provide an open space not less than 1 inch in width between masonry and structural member, unless otherwise indicated. Keep open space free of mortar or other rigid materials, excluding Mortarnet.
 2. Anchor masonry to structural members with anchors embedded in mortar joints and attached to structure as specified in Section 04085.

3.8 CONTROL AND EXPANSION JOINTS

- A. Install control and expansion joints in unit masonry where indicated on Drawings and in the Specifications. Saw cut masonry as necessary to provide a straight joint.
- B. Fill each control and expansion joint with backer rod and sealant as required by Specification Section 07920.

3.9 WEEP HOLES

- A. Form full header weep hole openings in the header joints between masonry units above through-the-wall flashings.
- B. Insert one vented plastic weep hole in each full sized header weep hole opening.
- C. Space weep hole openings a maximum of 24 inches on center.

3.10 CLEANING

- A. In-Progress Cleaning:
 1. Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
 - a. Do not use metal scrapers, abrasive powders or unauthorized cleaning agents.
 - b. Use wooden paddles or scrapers to clean away mortar residue or lumps.
 - c. Wash with clean water. A mild detergent may be used.
 - d. Rinse wall with clean water to remove mild detergent residue. Wipe wall surface with clean cloths, sponges or similar item.
 2. During construction, wipe masonry surfaces clean after tooling of joints or within 30 minutes after laying, with coarse rag.
 3. In event of unexpected contamination of brick walls, perform any cleaning with other than a non-metallic scraper, stiff bristled brush or wooden paddle only after approval by Owner and necessary tests to insure against any wall damage.

B. Final Cleaning

1. After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - a. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - b. Clean wall surfaces with cleaner as specified in Specification Section 049050.
 - c. Remove cleaners promptly by rinsing the surfaces thoroughly with clear water.

3.11 VERIFICATION

- A. Upon completion of the installation in each area, visually inspect and verify that all components are complete and properly installed.

- END OF SECTION -

SECTION 04900 – MASONRY CLEANING

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Clean new face brick unit masonry, in place, as designated in the Summary of Work, as shown in the drawings and as specified herein.

1.2 RELATED SECTIONS

- A. Related Sections: Work contained elsewhere, when applicable.

- 1. Masonry Demolition
- 2. Masonry Anchors and Accessories
- 3. Self Adhering Flashings
- 4. Sealants and Caulking
- 5. Related Sheet Metal
- 6. Clear Penetrating Sealer

1.3 REFERENCES

- A. All work under this section shall conform to the more stringent product and performance procedures outlined within the project specification Section 01090, "Reference Standards" and as outlined in, recommended in, or specified in the latest editions of:

- 1. FM Global (FMG)
 - a. Approval Guide
- 2. Underwriters Laboratory Inc. (UL)
 - a. Building Materials Directory
- 3. American Society for Testing and Materials (ASTM)
 - a. Book of Standards
- 4. Brick Industry Association (BIA)
 - a. Book of Standards
- 5. Published material manufacturer's literature and specifications as submitted for approval.
- 6. Portland Cement Association
 - a. Design and Control of Concrete Mixtures

1.4 DESCRIPTION OF WORK

- A. Contractor shall repair all face brick that are cracked, chipped, spalled or in other unsound condition for work under this section.
- B. Contractor shall replace all existing face brick that were removed as a result of the replacement and installation of flashing around window and door units and the facade.

- C. Work shall be performed as outlined in this specification section, as shown on the drawings or as required by the manufacturer for proper application of materials under this section.

1.5 REGULATORY REQUIREMENTS

- A. Applicable Local, State and Federal Building codes.
- B. Local and national environmental and public health laws or requirements shall govern methods of performing the work of this section. Should a conflict in specification or manufacturer recommendation arise relative to environmental or health conditions, responsibility for determining potential conflicts prior to starting work shall be that of the contractor and the product manufacturer.

1.6 SUBMITTALS

- A. General: Comply with all provisions of the contract documents, to include any additional submittal requirement not listed herein. Requirements listed herein are the minimum acceptable.
- B. Product Data and Samples: After award of contract, submit:
 - 1. Complete material list of all items proposed to be furnished and installed under this section.
 - 2. Material Safety Data Sheets (MSDS) for all products specified under this section.
 - 3. Cleaning Plan: Written description of cleaning process, including materials, methods, equipment, and sequencing of work.
- C. Project Record Documents
 - 1. As specified elsewhere, provide all required warranties, guarantees, and other such documents.

1.7 QUALITY ASSURANCE

- A. Standards: Comply with the standards specified in this section and as listed in the general requirements.
- B. Qualifications of Manufacturers: Products used in the specified masonry work shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.
- C. Qualifications of Installers: Installer experienced in performing this type of work and who has specialized in work similar to the type required for this project. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.
- D. Inspections: Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection of product installation, to include allowance of field sampling.
- E. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the site at all times.

- F. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.

1.8 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.
- B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of 6 inches above the roof or ground surface. Roll goods shall be stored on end. All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.
 - 1. If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.
 - 2. Polyethylene roll stock material is not an acceptable tarp material.
 - a. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.
- C. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
- D. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the contractor.

1.9 SITE CONDITIONS

- A. General: Do not uncover or install material under this section during periods of inclement weather. Weather conditions, either current or predicted, that would prevent proper execution of the work under this section shall determine placement acceptability for each days work.
- B. Work shall not be performed under this section if the ambient temperature is below 40 degrees Fahrenheit, without prior written approval from the Owner and manufacturer. Do not clean brick and mortar when ambient temperatures are below 40 degrees F.
- C. Field Measurements: Verification of all masonry termination points and penetration locations, dimensions, sizes, and quantities are the responsibility of the contractor as outlined in the contract documents. Actual field measurements shall be used in preparation of contractor submitted shop drawings.

1.10 ENVIRONMENTAL CONDITIONS OR REQUIREMENTS

- A. The materials specified for use in the work of this section shall not be installed during periods of precipitation, frost, snow, dew, high winds or other climatological activity that might preclude performance of the installed material or present a safety hazard to property or person.

- B. It shall be the contractor's responsibility to check daily and long-range weather forecasts before planning each days work; so as to prevent possible entry of water into the building due to rain or other precipitation getting through opened masonry work or flashing areas.
- C. The contractor shall not open more roof, wall, or flashing points in one day than can be properly patched, sealed or covered in that same day.
- D. During periods of precipitation, the contractor shall be responsible for performance, at least daily, inspections for leaks in the area of work and if any arise, shall seal them immediately to prevent interior building damage. All leak related damage to the building shall be repaired to the satisfaction of the owner at no cost to the owner.

1.11 PROTECTION OF PROPERTY

- A. Install protective coverings at pavement, sidewalks and the building facade adjacent to hoists, scaffolds, and other material conveyance equipment prior to starting work.
- B. Lap protective coverings not less than 6 inches, secure against wind, and vent to prevent collection of moisture on covered surfaces.
- C. Keep protective coverings in place for the duration of the masonry work.

1.12 COORDINATION

- A. Verify that all preparatory and sequential prior work is complete and properly installed before performing work of this section.
- B. Material deliveries, equipment arrivals or movements, or product installation work shall be coordinated with the owner, other trades and/or other potentially impacted parties prior to the implementing of such planned activity.
- C. Once work begins on a section of the building, all preparation and required work on that section shall be completed prior to moving to another section of the building. The work shall be diligently performed on a daily basis until completion, unless otherwise directed by the owner.
- D. Completion of work shall be defined as the total completion of cleaning of all masonry.

1.13 WARRANTY

- A. Material and installation shall meet all the requirements necessary to fulfill the warranty conditions and provisions set forth in Section 01740, "Warranties and Bonds," and as specifically written in the manufacturer's warranty as submitted.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide products that are recommended by the manufacturer and are fully compatible with indicated substrate and other assembly components.

- B. Minimum product requirements have been listed; it is incumbent on the contractor to include, not only the listed components, but also all others necessary to provide a complete a water resistant restoration of the existing exterior masonry work as specified herein and as is considered acceptable as a system by an approved product manufacturer.

2.2 MANUFACTURER'S OF MASONRY CLEANERS

- A. Manufacturers listed herein do not reflect prior product approval. All materials must be submitted for approval.

- 1. PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046.

2.3 MASONRY CLEANERS

- A. Cleaner for New Brick, Concrete, Tile, and Unpolished Stone: PROSOCO 600 Detergent; clear liquid prepared at 1:9 dilution, with following characteristics:
 - 1. pH: 0.1.
 - 2. Specific Gravity: 1.130.
 - 3. Freeze Point: Minus 40 degrees F.
 - 4. Weight: 9.4 lb/gal.
- B. Application Equipment
 - 1. Shall be as recommended by the material manufacturer for proper application of materials in this section.

PART 3 - EXECUTION

3.1 GENERAL

- A. All efforts shall be coordinated to prevent moisture infiltration into the facility.
- B. When approved during submittal review, the manufacturer's published recommended method of installation, unless superseded by the specification, will become the basis for inspection and acceptance or rejection of the actual installation procedures used on this work.
- C. Contractor shall perform work in a manner to prevent damage to sequentially prior work. Verify that all work specified elsewhere in the project specifications is properly installed and that the prepared substrate is ready for application of the work under this section.
- D. In no case shall work area be left without a temporary watertight night seal if circumstances arise which does not allow for complete installation of the new masonry assembly. Prior approval is required before installation of a temporary night seal and shall be provided at no additional cost.
- E. Cleaning of masonry products indicates full compliance with this section and acceptance of the substrates by the contractor.

3.2 INSPECTION OF EXISTING SUBSTRATES

- A. Verify that proper masonry substrates are in place and in good condition before cleaning the masonry. Notify the Owner of any defects and do not proceed with the cleaning of the masonry until all defects in the substrates are corrected.

3.3 PROTECTION

- A. Install protective coverings over all substrates adjacent to masonry prior to starting the work. Lap protective coverings at least 12 inches and secure against the wind. Leave protective covering in place for the duration of the masonry cleaning.

3.4 CLEANING EXISTING MASONRY

- A. Clean all exposed surfaces of masonry using materials specified, so that resulting surfaces have a uniform appearance.
- B. When cleaning stains and tough dirt, test masonry for composition and select appropriate cleaner in accordance with manufacturer's instructions and recommendations; use cleaner and cleaning methods selected to minimize damage to surfaces and deterioration of appearance.

3.5 CLEANING NEW MASONRY

- A. Clean all exposed surfaces of new masonry of excess mortar, efflorescence, stains, and job dirt, using materials specified.
- B. Clean from top down; prevent cleaning materials and rinse water from contacting non-cementitious materials.
- C. Clean in accordance with manufacturer's instructions and recommendations.
- D. Mix materials in strict accordance with manufacturer's instructions; do not dilute unless permitted by manufacturer.
- E. Prevent overspray, wind drift, and splash onto surfaces not to be treated.

3.6 CLEANING AND PROTECTION

- A. At completion of work, remove protective coverings.
- B. If surfaces that should have been protected from damage by this work have been damaged, clean, repair or replace to the satisfaction of the Owner.
- C. Repair or replace damaged treated surfaces.
- D. Protect completed work from damage during construction.

3.7 VERIFICATION

- A. Upon completion of the installation in each area, visually inspect and verify that all components are complete and properly installed.

- END OF SECTION -

SECTION 07190 - WATER REPELLENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes penetrating water-repellent coatings for the following vertical and horizontal surfaces:
 - 1. Concrete (unpainted).
 - 2. Cast stone.
 - 3. Brick masonry.
 - 4. Concrete unit masonry (unpainted and unglazed).
- B. Related Sections include the following:
 - 1. Division 7 Section "Joint Sealants."
- C. Alternates: Refer to Division 1 Section "Alternates" for description of Work in this Section affected by alternates.

1.3 PERFORMANCE REQUIREMENTS

- A. Performance Testing: Provide water repellents that comply with test-performance requirements indicated, as evidenced by reports of tests performed by manufacturer by a qualified independent testing agency on manufacturer's standard products applied to substrates simulating those on Project using same application methods to be used for Project.
 - 1. Owner will engage testing agency to perform preconstruction tests on laboratory mockups.
 - 2. Select sizes and configurations of assemblies to adequately demonstrate capability of water repellents to comply with performance requirements.
 - 3. Notify Consultant seven days in advance of the dates and times when assemblies will be constructed.
 - 4. Absorption: Minimum 95 percent reduction of absorption after 24 hours in comparison of treated and untreated specimens.
 - a. Brick: ASTM C 67.
 - b. Concrete Unit Masonry: ASTM C 140.
 - c. Hardened Concrete: ASTM C 642.
 - 5. Water-Vapor Transmission: Maximum 10 percent reduction in rate of vapor transmission in comparison of treated and untreated specimens, per ASTM E 96.

6. Permeability: Minimum 80 percent water-vapor transmission in comparison of treated and untreated specimens, per ASTM D 1653.
7. Water Penetration and Leakage through Masonry: Maximum 90 percent reduction in leakage rate in ON -comparison of treated and untreated specimens, per ASTM E 514.
8. Durability: Maximum 5 percent loss of water repellency after 2000 hours of weathering in comparison to specimens before weathering, per ASTM G 23.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
 1. Include manufacturer's printed statement of VOC content.
 2. Include manufacturer's standard colors.
- B. Samples: For each type and color of water repellent and substrate indicated, 12 by 12 inches in size, with specified water-repellent treatment applied to half of each Sample.
- C. Manufacturer Certificates: Signed by manufacturers certifying that water repellents comply with requirements.
- D. Qualification Data: For Installer.
- E. Preconstruction Testing Reports: For water-repellent-treated substrates.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for assemblies.
- G. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

- A. Standards: Comply with the standards specified in this section and as listed in the general requirements.
- B. Manufacturers: Products used in the specified masonry work shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.
- C. Qualifications of Installers:
 1. Installers shall be thoroughly trained and experienced in the necessary crafts.
 2. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.
 3. An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten (10) years' experience in commercial work installing products comparable to those specified, able to communicate verbally with Contractor, Consultant, and employees.
 4. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.

5. Installer shall not have pending litigation or outstanding lien(s) on their business.
- D. Testing Agency Qualifications: An independent agency qualified according to ASTM E 548 for testing indicated.
- E. Test Application: Apply a finish sample for each type of water repellent and substrate required. Duplicate finish of approved sample.
 1. Locate each test application as shown on Drawings and as directed by Consultant.
 2. Size: 25 sq. ft.
 3. Final approval by Consultant of color and water-repellent application will be from test applications.
- G. Inspections: Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection of the installation, to include allowance of field sampling.
- H. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the roof at all times.
- I. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.
- J. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.5 PROJECT CONDITIONS

- A. Limitations: Proceed with application only when the following existing and forecasted weather and substrate conditions permit water repellents to be applied according to manufacturers' written instructions and warranty requirements:
 1. Ambient temperature is above 40 deg F.
 2. Concrete surfaces and mortar have cured for more than 28 days.
 3. Concrete or brick masonry walls are not treated prior to 30 days after building close-in.
 4. Rain or snow is not predicted within 24 hours.
 5. Application proceeds more than 24 hours after surfaces have been wet.
 6. Substrate is not frozen, or surface temperature is above 40 deg F.
 7. Windy conditions do not exist that may cause water repellent to be blown onto vegetation or surfaces not intended to be treated.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer and Applicator agree(s) to repair or replace materials that fail to maintain water repellency specified in Part 1 "Performance Requirements" Article within specified warranty period.

1. Warranty Period: Five (5) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

2.2 PENETRATING WATER REPELLENTS

- A. Silane, Penetrating Water Repellent: Clear, monomeric compound containing 100 percent or more solids of alkyltrialkoxysilanes; with alcohol, mineral spirits, water, or other proprietary solvent carrier; and with 3.3 lb/gal. or less of VOCs.
 1. Products: Decktite WDS Water Dispersed Silane Sealer, low odor, penetrating concrete sealer manufactured by Tremco, Inc. - Basis of Design.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Examine areas and conditions under which Work is to be performed and identify conditions detrimental to proper or timely completion.
 1. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Preparation:
 1. Verify masonry joints found to be unsound, hollow, or otherwise defective, have been raked out to a depth of 1/2 inch and pointed with mortar.
 2. Verify cracks that exceed 1/64 inch wide have been filled with pointing mortar.
 3. All repointing must be completed and allowed to cure.
 4. Remove dirt, dust, mold, mildew and materials that will interfere with the proper and effective application of the penetrating sealer. It is the responsibility of the Contractor to prepare the surfaces of the concrete as recommended by the Water Repellent Manufacturer and acceptable to the Consultant.
 5. Sealants, patching materials, and expansion joints shall have been installed and approved by the Consultant.
- B. Clean substrate of substances that might interfere with penetration or performance of water repellents. Test for moisture content, according to water-repellent manufacturer's written instructions, to ensure that surface is dry enough.
 1. Cast-in-Place Concrete: Remove oil, curing compounds, laitance, and other substances that could prevent adhesion or penetration of water repellents.
 2. Clay Brick Masonry: Clean clay brick masonry per ASTM D 5703.
 3. Test for pH level, according to water-repellent manufacturer's written instructions, to ensure chemical bond to silicate minerals.

- C. Protect adjoining work, including sealant bond surfaces, from spillage or blow-over of water repellent. Cover adjoining and nearby surfaces of aluminum and glass if there is the possibility of water repellent being deposited on surfaces. Cover live plants and grass.
- D. Coordination with Sealants: Do not apply water repellent until sealants for joints adjacent to surfaces receiving water-repellent treatment have been installed and cured.
 - 1. Water-repellent work may precede sealant application only if sealant adhesion and compatibility have been tested and verified using substrate, water repellent, and sealant materials identical to those used in the work.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 FIELD QUALITY CONTROL

- A. Spray Test: After water repellent has dried, spray coated surfaces with water.
 - 1. After surfaces have adequately dried, recoat surfaces that show water absorption.
- B. Manufacturer's Field Services:
 - 1. Furnish written certification that surface preparation method and final condition has manufacturer's approval and comply with the warranty.
 - 2. Test area: Furnish results of test area absorption on each type of substrate. Test results shall determine application rate.
- C. Test Area:
 - 1. Before a sealer application the following field evaluation will be done. The cost of the field Testing will be the responsibility of the Water Repellent Manufacturer.
 - 2. Prepare a three feet by three feet area to be sprayed with the water repellent. The area will be determined by the Owner. Apply the water repellent in a flooding application, from the bottom up to cause material to run down 6 to 8 inches below the spray pattern.
 - 3. After allowing five days for the sample to cure run a RILEM uptake test on the treated area. Place one tube on the brick and one tube on a mortar joint. Owner must be present for the application of the water repellent and the test.
 - 4. Acceptable minimum results are as stated in the warranty provisions. Coverage rate used to pass this test section must be used on entire project.

3.4 APPLICATION

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect the substrate before application of water repellent and to instruct Applicator on the product and application method to be used.
- B. Decktite WDS is applied by specialized metered spray equipment available exclusively from Tremco. Coverage rates will vary with surface composition, finish and porosity. Protection from overspray is required. Avoid over spray when using near windows, metals, or foliage.
- C. Apply spray in one application until saturation occurs. Surfaces must be uniformly wet during application. Avoid excessive puddling. Broom out all puddle areas. Allow treated surface to fully dry before exposure to rain or wet conditions.

- D. After Decktite WDS has dried, water test the treated surface to assure proper application. Allow for at least 24 hours after completing application before water test.
- E. **Coverage Rates for WDS Dispersion:**
 - 1. Shot Blast Surfaces
80-150 sq. ft. per gallon (2.0-3.7 m2/liter)
 - 2. Fine Broom finish
100-125 sq. ft. per gallon (2.5-3.1 m2/liter)
 - 3. Power trowel or light trowel finish
125-150 sq. ft. per gallon (3.1-3.7 m2/liter)
 - 4. Vertical
175-250 sq. ft. per gallon (4.3-6.1 m2/liter)
Coverage will vary due to surface.
- F. Apply at temperature and weather conditions recommended by the manufacturer or written in this specification.
- G. Follow manufacturer's recommendations concerning protection of glass, metal and other non-porous substrates. Contractor will be responsible to clean all surfaces that are contaminated by the water repellent.
- H. Follow manufacturer's recommendation concerning protection of plants, grass and other vegetation. Contractor will be responsible for replacing all plants, grass or vegetation damaged by the water repellent.
- I. Brush apply water repellent only at locations where overspray would affect adjacent materials and where not practicable for spray application.

3.5 CLEANING

- A. Immediately clean water repellent from adjoining surfaces and surfaces soiled or damaged by water-repellent application as work progresses. Repair damage caused by water-repellent application. Comply with manufacturer's written cleaning instructions.
- B. Remove protective coverings from adjacent surfaces when no longer needed.

3.6 COMPLETION

- A. Work that does not conform to specified requirements shall be corrected and/or replaced as directed by the Owners Representative at contractor's expense without extension of time.

- END OF SECTION -

SECTION 07555 - SELF ADHERING ASPHALT FLASHING SHEET

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Furnish all equipment, labor, materials and supervision to install a weathertight self-adhering asphalt flashing sheet system complete, in place, as designated in the Summary of Work, as shown in the Contract Drawings and as specified herein.

1.2 RELATED SECTIONS

- A. Related Sections: Work contained elsewhere, when applicable.

- 1. Roof Demolition
- 2. Rough Carpentry
- 3. Roof Insulation
- 4. Related Sheet Metal
- 5. Sealants and Caulking
- 6. Roof Drain Installation, Repair, Replacement

1.3 REFERENCES

- A. All work under this section shall conform to the more stringent product and performance procedures outlined within the project specification Section 01090, "Reference Standards" and as outlined in, recommended in, or specified in the latest editions of:

- 1. FM Global (FMG)
 - a. Approval Guide
- 2. Underwriters Laboratory Inc. (UL)
 - a. Building Materials Directory
- 3. American Society for Testing and Materials (ASTM)
 - a. Book of Standards
- 4. National Roofing Contractors Association (NRCA)
 - a. Roofing and Manual
 - b. Handbook of Accepted Roofing Knowledge (HARK)
- 5. Asphalt Roofing Manufacturers Association (ARMA)
 - a. Residential Asphalt Roofing Manual
- 6. Published material manufacturer's literature and specifications as submitted for approval.

1.4 SYSTEM DESCRIPTION

- A. All work shall be performed as delineated herein and as described by the self adhering asphalt Flashing sheet system products manufacturer's printed installation instructions and as necessary to render the existing roof assembly watertight and free from surface defects.
- B. Self adhering asphalt flashing sheet system for wall cavities and masonry walls installed in accordance with appropriate installation procedures listed herein.

1.5 REGULATORY REQUIREMENTS

- A. FM Global (FMG): FMG Class 1 Rated and FMG 1-90 Wind Rating.
- B. Underwriters Laboratory Inc. (UL): UL Class A Fire Rating.
- C. Applicable Local, State and Federal Building codes.
- D. ASTM Specifications:
 - C836 Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Membrane for Use with Separate Wearing Course
 - D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension
 - D570 Standard Test Method for Water Absorption of Plastics
 - D903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
 - D1876 Standard Test Method for Peel Resistance of Adhesives (T-Peel Test)
 - D1970 Standard Specification for Self- Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Flashing for Ice Dam Protection
 - D3767 Standard Practice for Rubber- Measurement of Dimensions
- E. Local and national environmental and public health laws or requirements shall govern methods of performing the work of this section. Should a conflict in specification or manufacturer recommendation arise relative to environmental or health conditions, responsibility for determining potential conflicts prior to starting work shall be that of the contractor and the product manufacturer.

1.6 SUBMITTALS

- A. General: Comply with all provisions of the contract documents, to include any additional submittal requirement not listed herein. Requirements listed herein are the minimum acceptable.
 - 1. Product Data and Samples: After award of contract, submit;
 - a. Complete material list of all items proposed to be furnished and installed under this section.
 - b. Manufacturer's complete literature and specifications for installation of the specified self adhering asphalt flashing sheet system, inclusive of physical properties of the Flashing sheet.
 - c. Certification of FMG approval of mechanical fasteners used in the work on this section.
 - d. Certification of UL Class Rating.
 - e. Certification of FMG Classification and Rating.
 - f. Manufacturer's written certification that the contractor is an approved installer of the specified self adhering asphalt flashing sheet system submitted. Manufacturer's statement of certification shall include the date of original contractor approval.
 - g. Material Safety Data Sheets (MSDS) for all products specified under this section.

h. Shop Drawings

- (1) Manufacturer approved shop drawings shall include detailed installation of all flashing system components, as listed but not limited to:
 - (a) Wood nailers and cants
 - (b) Insulation
 - (c) Base ply membrane sheet
 - (d) Top ply membrane sheet
 - (e) Sheet metal flashings and components
 - (f) Top, reinforcing, and base ply flashing sheets

2. Project Record Documents

- a. Upon completion of the flashing system installation, provide written certification that the flashing system assembly, has been installed in accordance with the project specifications and drawings, and any approved contractor submitted shop drawings.
- b. The contractor will also submit as-built scale drawings depicting all installation details used and their location in the walls cavities and on the walls. This information shall be submitted on paper suitable for blue-line reproduction.

3. As specified elsewhere, provide all required warranties, guarantees, and other such documents.

1.7 QUALITY ASSURANCE

- A. Standards: Comply with the standards specified in this section and as listed in the general requirements.
- B. Qualifications of Self Adhering Asphalt Flashing Sheet System Manufacturer: Products used in the specified flashing system shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.
- C. Qualifications of Installers:
 1. Installers shall be thoroughly trained and experienced in the necessary crafts.
 2. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.
 3. An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten (10) years experience in commercial work installing products comparable to those specified, able to communicate verbally with Contractor, Consultant, and employees.
 4. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
 5. Installer shall not have pending litigation or outstanding lien(s) on their business.
- E. Inspections: Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection of the installation, to include allowance of field sampling.

- F. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the site at all times.
- G. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.

1.8 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.
- B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of 6 inches above the roof or ground surface. Roll goods shall be stored on end. All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.
 - 1. If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.
 - 2. Polyethylene roll stock material is not an acceptable tarp material.
 - 3. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.
 - 4. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
 - 5. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the contractor.

1.9 SITE CONDITIONS

- A. General: Do not uncover or install material under this section during periods of inclement weather. Weather conditions, either current or predicted, that would prevent proper execution of the work under this section shall determine placement acceptability for each days work.
- B. Work shall not be performed under this section if the ambient temperature is below 40 degrees Fahrenheit, without prior written approval from the Consultant and manufacturer.
 - 1. When ambient temperatures are anticipated or forecast to drop below 40 degrees Fahrenheit during the course of the work, a manufacturer approved Cold Weather Application Specification shall be submitted for review and approval.
 - 2. Submission of a Cold Weather Application Specification does not constitute approval for application of work under this section. No work shall be performed until written approval and authorization has been received.

- C. Field Measurements: Verification of all roof and wall termination points and penetration locations, dimensions, sizes, and quantities are the responsibility of the contractor as outlined in the contract documents. Actual field measurements shall be used in preparation of contractor submitted shop drawings.

1.10 ENVIRONMENTAL CONDITIONS OR REQUIREMENTS

- A. The materials specified for use in the work of this section shall not be installed during periods of precipitation, frost, snow, dew, high winds or other climatological activity that might preclude performance of the installed material or present a safety hazard to property or person.
- B. It shall be the contractor's responsibility to check daily and long- range weather forecasts before planning each days work; so as to prevent possible entry of water into the building due to rain or other precipitation getting through opened flashing areas.
- C. The contractor shall not open more flashing points in one day than can be properly patched, sealed or recovered in that same day.
- D. During periods of precipitation, the contractor shall be responsible for performance, at least daily, inspections for leaks in the area of work and if any arise, shall seal them immediately to prevent interior building damage. All leak related damage to the building shall be repaired to the satisfaction of the owner at no cost to the owner.
- F. Self-Adhered Flashing cannot be applied to moist or damp surfaces. After precipitation, allow a minimum of 24 hours for drying before installing the flashing. Self-Adhered Flashing can be applied only in air and surface temperature of 25 degrees F and above.
- G. Flashing Primer can be applied only in air and surface temperatures of 25 degrees F and above.

1.11 PROTECTION OF PROPERTY

- A. Install protective coverings at pavement, side walks and buildings adjacent to hoists, other material conveyance equipment, and kettles prior to starting work.
 - 1. Lap protective coverings not less than 6 inches, secure against wind, and vent to prevent collection of moisture on covered surfaces.
 - 2. Keep protective coverings in place for the duration of the flashing work.

1.12 COORDINATION

- A. Verify that all preparatory and sequential prior work is complete and properly installed before performing work of this section.
- B. Phased construction without prior written approval is strictly prohibited. Incomplete installation of all flashing system components is justification for rejection of part or all work performed as being an improper installation.
- C. Material deliveries, equipment arrivals or movements, or product installation work shall be coordinated with the owner, other trades and/or other potentially impacted parties prior to the implementing of such planned activity.

- D. Once work begins on a work area, all preparation and required work on that work area shall be completed prior to moving to another work area. The work shall be diligently performed on a daily basis until completion, unless otherwise directed by the owner.
- E. Completion of work shall be defined as the total completion of all work required to render the newly restored flashing area watertight and free of surface defects and requiring no further work or foot traffic in the area by the workers.
- F. The contractor shall arrange to schedule the necessary manufacturer's completion inspection and secure a report of satisfactory performance for each flashing area prior to moving workers or equipment to any other designated work areas for flashing.

1.13 WARRANTY

- A. Material and installation shall meet all the requirements necessary to fulfill the warranty conditions and provisions set forth in Section 01740, "Warranties and Bonds," and as specifically written in the manufacturer's warranty as submitted.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide products that are recommended by the manufacturer and are fully compatible with indicated substrate and other assembly components.
- B. Minimum product requirements have been listed; it is incumbent on the contractor to include, not only the listed components, but also all others necessary to provide a complete watertight flashing system as specified herein and as is considered acceptable as a system by an approved product manufacturer.
- C. All primary materials of this section shall be the products of a single manufacturer, unless stated otherwise.

2.2 ACCEPTABLE MANUFACTURERS

- A. Manufacturers listed herein do not reflect prior product approval. All materials must be submitted for approval.
- B. Acceptable manufacturers of products:
 - 1. Self Adhering Asphalt Flashing Sheet System as manufactured by the following manufacturer's is approved for use in the work of this section.
 - a. W. R. Grace Construction Products, Cambridge, Mass.
 - b. Carlisle Waterproofing Products, Carlisle, PA.
 - c. Other approved equal manufacturers.

2.3 MATERIALS

A. Self Adhering Asphalt Flashing Sheets

1. Size: 25 mil cold applied, self-adhering membrane consisting of a 3 mil high density, cross-laminated polyethylene film coated on one side with a 22 mil layer of rubberized asphalt adhesive. For ease of application, the rolls are interwound with a disposable silicone coated release sheet.
2. Type, Color: Dark gray-black sheet meeting ASTM D3018 specification.

C. Primer: Manufacturer's approved primer for use with self adhering asphalt flashing sheets.

PART 3 - EXECUTION

3.1 GENERAL

- A. All efforts shall be coordinated to prevent moisture infiltration into the facility, the existing roof and wall assembly, or the newly installed flashing sheet system.

3.2 INSPECTION OF EXISTING DECK, AND FLASHING SURFACES (SUBSTRATES)

- A. Verify surfaces to receive new materials, including sealants, are free of contaminants and foreign matters such as, but not limited to, water, dew, frost, dust, oil, grease, paint, scale, asphalt roof cement, curing compounds, and other contaminates which could affect the proper installation and performance of new materials.
- B. Examine all surfaces designated to receive the roofing and flashing system and report all unacceptable surfaces to the Owner.
- C. Notify the Owner prior to acceptance of substrate for inspection and approval.
- D. Verify that proper substrates are in place, structurally sound and in good condition before the new flashing sheet system is installed. Notify the Owner of any defects and do not proceed with the installation of the flashing sheet system until all defects in the substrate are corrected.

3.3 SURFACE CONDITIONS

- A. Sweep surfaces to receive new roof membrane of all dirt, dust and other foreign matter.
- B. All joints, gaps or other openings at or around penetrations in the deck, that may allow primer flow into the building interior shall be sealed.
- C. Surfaces to receive new flashing sheet system are to be free of any standing water, frost, snow or loose debris. Substrate is to be smooth, free of sharp projections and obvious holes, gouges or other critical depressions.
- D. All masonry units specified or shown on the drawings are to be in place before installation of new flashing. All wood nailers and cants shall be securely installed.
- E. Verify that all work specified elsewhere in the project specifications is properly installed and that the prepared substrate is ready for application of the work under this section.

3.4 PROTECTION

- A. Flashing sheets must be protected from damage from other trades or construction materials.

3.5 SELF ADHERING ASPHALT FLASHING SHEET SYSTEM INSTALLATION

A. Self Adhering Asphalt Flashing Sheet

1. Surface Conditioning
 - a. Primer shall be used to adhere the flashing to the substrate as required by the manufacturer.
 - b. Allow primer to dry completely before application of flashing. Excess primer will not improve the adhesion of the flashing. If primed areas are not covered that day, re-prime area if there is significant dust or dirt contamination.
 - c. Prime concrete and masonry surfaces with primer at a rate recommended by the manufacturer.
2. Flashing Application
 - a. Apply self adhering asphalt flashing sheet system in cavities and on masonry walls where shown on the drawings and as required by the manufacturer.
 - b. Provide end dams at the ends of flashings to divert water into weep holes and prevent water from falling downward into the cavity.
 - c. Lap succeeding courses of flashing sheets over proceeding courses of flashing sheets 3 inches minimum with 3 inches minimum end laps.
 - d. For ease of installation, flashing sheets have measure markings at 6 inch and 12 inch intervals. Cut flashing into appropriate lengths. If required and a familiarity with installation increases, the flashing can be installed in continuous fashion.
 - e. Peel release paper from roll to expose rubberized asphalt and position flashing to center over joint location before applying. Move along opening or joint, being careful to put flashing as evenly as possible over the opening and avoiding fishmouths along the edges. Press flashing firmly into place with heavy hand pressure as soon as possible, to ensure continuous and intimate contact with the substrate. If wrinkles develop, carefully cut out affected area and replace in the similar procedure outlined above. The repair piece also must be pressed into place with heavy hand pressure as soon as possible to ensure continuous and intimate contact with the substrate.
 - f. Self-Adhered Flashing must be continuously supported by the substrate and must not span or bridge joints, gaps or voids in excess of 1/4 inch. End laps that occur in subsequent lengths must maintain a minimum overlap of 2 inches.

3.6 CLEAN UP

- A. Remove excess flashing sheets from the site.

3.7 VERIFICATION

- A. Upon completion of the installation in each area visually inspect and verify that all components are complete and properly installed so that the flashing system is defect-free and in a watertight condition.
- B. Verify that flashings are properly located and securely adhered to substrates.

- END OF SECTION -

SECTION 076200 - RELATED SHEET METAL

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Work included: Furnish all equipment, labor, materials and supervision necessary to complete Minor Sheet Metal Work, as designated in the Summary of Work, as shown in the Contract Drawings and as specified herein.

1.2 RELATED SECTIONS

- A. Related Sections: Work contained elsewhere, when applicable.

- 1. Masonry Repair
- 2. Related Sheet Metal
- 3. Rough Carpentry
- 4. Insulation
- 5. Sealants and Caulking

1.3 REFERENCES

- A. All work under this section shall conform to the more stringent product and performance procedures outlined within the project specifications and as outlined in, recommended in, or specified in the latest editions of:
 - 1. FM Global (FMG)
 - a. Approval Guide
 - 2. Underwriters Laboratory Inc. (UL)
 - a. Building Materials Directory
 - 3. American Society for Testing and Materials (ASTM)
 - a. Book of Standards
 - 4. National Roofing Contractors Association (NRCA)
 - a. Roofing and Waterproofing Manual
 - b. Handbook of Accepted Roofing Knowledge (HARK)
 - 5. Published material manufacturer's literature and specifications as submitted for approval.
 - 6. Sheet Metal and Air Conditioning Contractors National
 - a. Architectural Sheet Metal Manual
 - 7. Revere Products Company, Inc., Rome, New York
 - a. Copper and Common Sense Association, Inc. (SMACNA)

1.4 REGULATORY REQUIREMENTS

- A. FM Global (FMG): FMG Class 1 Rated and FMG 1-360 Wind Rating.
- B. Applicable Local, State and Federal Building codes.
- C. Local and national environmental and public health laws or requirements shall govern methods of performing the work of this section. Should a conflict in specification or manufacturer recommendation arise relative to environmental or health conditions, responsibility for determining potential conflicts prior to starting work shall be that of the contractor and the product manufacturer.

1.5 SUBMITTALS

- A. General: Comply with all provisions of the contract documents, to include any additional submittal requirement not listed herein. Requirements listed herein are the minimum acceptable.
- B. Product Data and Samples: After award of contract, submit:
 - 1. Complete material list of all items proposed to be furnished and installed under this section.
 - 2. Two 12 inch long samples of all sheet metal material.
 - 3. Two samples of each mechanical fastener to be used for the installation of sheet metal.
- C. Shop Drawings
 - 1. After the contract is awarded, submit shop drawings showing location, diagrams and details of fabrication and installation inclusive of dimensions, shape, thickness, finish, and color.
 - 2. Drawings to show type and gauge of metal used. Gauges of sheet metal specified in this section are minimums.
 - 3. Drawings to show type and location of fasteners.
- D. Project Record Documents
 - 1. Upon completion of the installation, provide written certification that the work has been installed in accordance with the project specifications and drawings, and any approved Contractor submitted shop drawings.
 - 2. As specified elsewhere, provide all required warranties, guarantees, and other such documents.

1.6 QUALITY ASSURANCE

- A. Standards: Comply with the standards specified in this section and as listed in the general requirements.
- B. Manufacturers: Products used in the specified masonry work shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.

C. Qualifications of Installers:

1. Installers shall be thoroughly trained and experienced in the necessary crafts.
 2. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.
 3. An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten (10) years' experience in commercial work installing products comparable to those specified, able to communicate verbally with Contractor, Consultant, and employees.
 4. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
 5. Installer shall not have pending litigation or outstanding lien(s) on their business.
- D. Inspections: Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection of the installation, to include allowance of field sampling.
- E. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the roof at all times.
- F. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.
- G. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.7 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturers original sealed and labeled containers or wrappings and in sufficient quantities to provide for continuous installation progress without disruption or delay due to lack of materials on site.
- B. Storage: Materials shall be stored out of direct exposure to the elements and shall be stored on pallets or other storage supports, a minimum of 6 inches above the roof or ground surface. All materials shall be covered with canvas tarps or fitted synthetic tarp like covers.
1. If materials are to be stored on the roof, they shall be sufficiently distributed around the perimeter or over load bearing supports to prevent over stressing of the roof deck.
 2. Polyethylene roll stock material is not an acceptable tarp material.
 3. Prior to leaving the job site, daily, tarps are to be secured at all edges to immovable objects and anchored sufficiently to prevent blow off or dislocation.

- C. Handling: Material shall be handled in such a manner as to preclude damage or contamination with moisture or foreign matter.
- D. In the event of damage from delivery, storage, or handling of materials under this section, immediately replace deficient materials. Any installation of damaged materials shall be immediately removed and replaced. Replacement of damaged or improperly installed materials shall be at the sole cost of the contractor.

1.8 SITE CONDITIONS

- A. Field Measurements: Verification of all roof termination points and penetration locations, dimensions, sizes, and quantities are the responsibility of the contractor as outlined in the contract documents. Actual field measurements shall be used in preparation of contractor submitted shop drawings.

1.9 PROTECTION OF PROPERTY

- A. Install protective coverings at pavement, side walks and buildings adjacent to hoists, other material conveyance equipment, and kettles prior to starting work.
 - 1. Lap protective coverings not less than 6 inches, secure against wind, and vent to prevent collection of moisture on covered surfaces.
 - 2. Keep protective coverings in place for the duration of the roof work.

1.10 COORDINATION

- A. Verify that all preparatory and sequential prior work is complete and properly installed before performing work of this section.
- B. Material deliveries, equipment arrivals or movements, or product installation work shall be coordinated with the owner, other trades and/or other potentially impacted parties prior to the implementing of such planned activity.
- C. Once work begins on a roof, all preparation and required work on that roof shall be completed prior to moving to another roof area. The work shall be diligently performed on a daily basis until completion, unless otherwise directed by the owner.
- D. Completion of work shall be defined as the total completion of all work required rendering the newly restored roof area watertight and free of surface defects and requiring no further work or foot traffic in the area by the workers.
- E. The contractor shall arrange to schedule the necessary manufacturer's completion inspection and secure a report of satisfactory performance for each roof prior to moving workers or equipment to any other roof designated for restoration.

1.11 WARRANTY

- A. Material and installation shall meet all the requirements necessary to fulfill the warranty conditions and provisions set forth in Section 01740, "Warranties and Bonds," and as specifically written in the manufacturer's warranty as submitted.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide products that are recommended by the manufacturer and are fully compatible with indicated substrate and other assembly components.
- B. Minimum product requirements have been listed; it is incumbent on the contractor to include, not only the listed components, but also all others necessary to provide a complete watertight restoration of the existing roof or roofs as specified herein and as is considered acceptable as a system by an approved product manufacturer.
- C. All primary materials of this section shall be the products of a single manufacturer, unless stated otherwise.
- D. In addition to complying with all pertinent codes and regulations, comply with pertinent recommendations contained in "Architectural Sheet Metal Manual", current edition, as published by SMACNA.
- E. Sheet metal shall be formed sheet shapes as indicated on the contract drawings and in conformance with details on the approved shop drawings. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Hem exposed edges of metal.
- F. Where sheet metal is required and no material or gauge is indicated on the drawings, provide the highest quality and gauge commensurate with the referenced manual.
- G. Counterflashings, copings, expansion joints, cap flashing, gravel stops and metal edging shall be the gauge and thickness shown on the drawings and recommended by the SMACNA Manual. In no case, however, shall any material be less than the following:
 - 1. Aluminum - 0.050 inch thick @ copings, expansion joints, cap flashing, gravel stops and metal edging.
 - 2. Aluminum - 0.040 inch thick @ counterflashings.
 - 3. Prefinished Galvanized Steel - 24 Gauge.
 - 4. Stainless Steel: 24 Gauge.
 - 5. Copper - 16 ounces per square foot.
 - 6. Lead Coated Copper - 17.1 ounces per square foot minimum.
 - 7. Lead (Common Desilverized Pig Lead) - 4 pounds per square foot.

- H. Aluminum sheet metal shall meet ASTM B209, Alloy 3003, Temper H14 standards and shall be finished with a 70% KYNAR 500 type fluorocarbon finish in standard color chosen by Owner. Should custom color be required by Owner, additional costs for the custom color will be borne by the Owner.
- I. Galvanized sheet metal shall meet ASTM A525, Class G90 zinc coating standards and shall be finished with a 70% KYNAR 500 type fluorocarbon finish in standard color chosen by Owner. Should custom color be required by Owner, additional costs for the custom color will be borne by the Owner.
- J. Lead sheet metal shall meet Federal Specification PP-L-2-1, Grade B.
- K. Lead-Coated Copper sheet metal shall meet ASTM B 101, Type I, Grade 2 (cold-rolled), required for forming, Class A lead weight, 16 oz. per sq. ft. (0.0216 inch thick) bare copper for total 17.1 oz. per sq. ft. of lead-coated copper.
- L. Copper sheet metal shall meet ASTM B370, 16 oz. per sq. ft. cold-rolled.
- M. Stainless Steel sheet metal shall meet AISI Type 304, ASTM A-I 67, No. 2D Finish standards.
- N. Exposed Fasteners: Provide stainless steel fasteners each through a stainless steel and EPDM rubber washer. Select fasteners for the type, grade, and class required. Use only 304 series stainless steel fasteners with stainless steel sheet metal unless specifically shown otherwise on the detail drawings.
- O. Hidden Fasteners: Provide hot dipped galvanized steel fasteners conforming to ASTM A1-53 or cadmium plate with at least a 7/16 diameter head. Use 1 inch diameter washers with galvanized steel fasteners as necessary to increase holding power and prevent tearing of materials. Select fasteners for the type, grade, and class required. Use only 304 series stainless steel fasteners with stainless steel sheet metal unless specifically shown otherwise on the detail drawings.
- P. Unless specifically shown otherwise on the detailed drawings, all exposed fasteners shall have EPDM washers.
- Q. Solder shall be 50-50 tin/lead in accordance with ASTM B-32.
- R. Flux shall be muriatic acid "killed" with zinc or suitable brand of prepared soldering flux.
- S. Sealants used in conjunction with sheet metal shall be as required by Section 079200.

2.2 FABRICATION

- A. Form sheet metal of type, profiles, and size indicated on detail drawings and approved shop drawings.
- B. Fabricate with required connection pieces.
- C. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.
- D. Hem exposed edges of metal.

- E. Prein edges of copper and stainless steel sheet. Solder shop formed metal joints. After soldering, remove flux. Wipe and wash solder joints clean. Weather seal joints.

PART 3 - EXECUTION

3.1 GENERAL

- A. Examine the areas and conditions under which work of this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.
- B. Dissimilar metals shall not be allowed to come into contact with one another. Provide bituminous paint or other protective coating on concealed surfaces to prevent interaction of materials.
- C. All efforts shall be coordinated to prevent moisture infiltration into the facility, the existing roof assembly, or the newly installed roofing system.
- D. When using mechanical fasteners which penetrate through the structural deck, contractor shall ensure that fasteners do not penetrate conduit or miscellaneous piping located on the underside of the deck.
- E. Manufacturers details and recommendations and approved shop drawings shall be followed in the event a condition is not covered within this written specification.
- F. The methods of installation and thickness and type of material application specified herein are the minimum standard for workmanship and application quality.
- G. Other methods, when approved by the products manufacturer, may be substituted for those described herein, but in no case shall the quality of the installation be compromised to extend below the minimum standards set forth in this section.
- H. Should the primary materials manufacturer require more stringent installation methods than those specified in this section, then the manufacturer's requirements shall prevail in lieu of that stated herein.

3.2 INSPECTION OF EXISTING DECK, AND FLASHING SURFACES (SUBSTRATES)

- A. Examine all surfaces designated to receive the sheet metal and report all unacceptable surfaces to the Owner.
- B. Notify the Owner prior to acceptance of substrate for inspection and approval.

3.3 SURFACE CONDITIONS

- A. Sweep surfaces to receive new sheet metal of all dirt, dust and other foreign matter.
- B. All joints, gaps or other openings at or around penetrations in the deck, that may allow bitumen flow into the building interior, shall be sealed using asphalt plastic cement prior to sheet metal application.

- C. Surfaces to receive new sheet metal are to be free of any standing water, frost, snow or loose debris. Substrate is to be smooth, free of sharp projections and obvious holes, gouges or other critical depressions.
- D. All wood nailers and cants shall be securely installed.
- E. Verify that all work specified elsewhere in the project specifications is properly installed and that the prepared substrate is ready for application of the work under this section.

3.4 WORKMANSHIP

- A. Form all sheet metal accurately and to the required dimensions and shapes.
- B. All exposed edges of cut sheet metal shall be folded back on concealed surfaces.
- C. Form, fabricate, and install all sheet metal so as to adequately provide for expansion and contraction in the finished work.
- D. Whenever possible, secure metal by means of clips or cleats without fastening through exposed metal.

3.5 WEATHERPROOFING

- A. Finish all sheet metal watertight and weathertight where so required.
- B. Where lap seams do not have a joint cover, lap according to pitch, but in no case less than 3 inches.
- C. Make all lap seams in the direction of the water flow.

3.6 COUNTERFLASHINGS

- A. Install new counterflashings where required by the Contract Drawings.
- B. Form counterflashings per the detail drawings in not more than 10 foot lengths.
- C. Counterflashings shall overlap the top edge of base flashings a minimum of 3 inches.
- D. Lap ends of counterflashing 3 inches with an approved elastomeric sealant between the two overlapped sections. Use a loose, locking-type, joint or rivets to secure all laps in the counterflashing.
- E. Where applicable, secure counterflashings into reglet joints with lead wedges spaced 12 inches on center. After installing counterflashing into the reglet, caulk joint with sealant as required by Section 079200.
- F. If surface mounted counterflashing is used, install counterflashing into a bead of approved sealant and fasten 8 inches on center.
- G. Apply a bead of approved sealant in the joint between the top edge counterflashing and substrate as by Section 079200.

3.7 FASCIA FLASHING

- A. Install new fascia flashing where required by the Contract Drawings.
- B. Form fascia flashing per the detail drawings in not more than 10 foot lengths.
- C. Secure fascia flashing 12 inches on center to steel, wood, or masonry substrates using approved fasteners and washers.
- D. Provide 6 inch wide splice plates between sections of fascia flashing. Apply elastomeric sealant between splice plate and each section of fascia flashing. Secure each splice plate to the substrate using two approved fasteners.
- E. Unless otherwise shown on the detail drawings, fascia flashings shall overlap base flashings, wall panels, and the top of masonry walls a minimum of 3 inches and be secured at its upper end to the substrate using approved fasteners placed 12 inches on center.
- F. All corner pieces shall be welded or soldered. Corner pieces to be 24 inches long on each side.

3.8 FASTENING

- A. Secure metal as per detailed contract drawings and approved shop drawings.
- B. All clips and cleats are to be fastened a maximum of 12 inches on center with self-tapping screws and 6 inches on center with barbed roofing nails.
- C. For concealed fastening into wood, use hot dipped, double coated zinc ring shank roofing nails 1-3/4 inches x 11 gauge.
- D. For fastening into concrete, use masonry/concrete anchors with at least 3/4 inch diameter heads or washers. When fasteners will be exposed, use one EPDM and steel washer per fastener. Use all metal anchors only, plastic anchors shall not be permitted.
- E. Hidden fasteners shall be corrosion resistant coated.
- F. For exposed fastening into wood, use stainless steel screws with EPDM washers.

3.9 SOLDERING

- A. General: Thoroughly clean and tin all joint materials prior to soldering.
- B. Use heavy soldering copper of a blunt design, properly tinned for use.
- C. Perform all soldering slowly with well heated soldering copper in order to heat seams thoroughly and to completely fill them in.
- D. Make all exposed soldering of finished surfaces neat, full-flowing, and smooth.

- E. After soldering, thoroughly wash and flux with a soda solution.

3.10 CLEANUP

- A. Debris from sheet metal work shall be frequently removed from building site as it accumulates.
- B. Leave job site absolutely clean at completion of work and properly dispose of all construction debris.

3.11 VERIFICATION

- A. Upon completion of the installation in each area, visually inspect and verify that all sheet metal components are complete and properly installed. Verify that fasteners are properly located and securely anchored.

- END OF SECTION -

SECTION 079200 - JOINT SEALANTS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Urethane joint sealants.
3. Solvent-release-curing joint sealants.
4. Preformed joint sealants.

B. Related Sections:

1. Section 042000 "Unit Masonry" for masonry control and expansion joint fillers and gaskets.
2. Section 079500 "Expansion Control" for building expansion joints.

1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

1. Use manufacturer's standard test method to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
2. Submit not fewer than three pieces of each kind of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
5. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

- B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:

1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
2. Conduct field tests for each application indicated below:
 - a. Each kind of sealant and joint substrate indicated.
3. Notify Consultant seven days in advance of dates and times when test joints will be erected.

4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.
 - a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - 1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.4 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. LEED Submittals:
 1. Product Data for Credit IEQ 4.1: For sealants and sealant primers used inside the weatherproofing system, documentation including printed statement of VOC content.
 2. Laboratory Test Reports for Credit IEQ 4: For sealants and sealant primers used inside the weatherproofing system, documentation indicating that products comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- D. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch wide joints formed between two 6-inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- E. Joint-Sealant Schedule: Include the following information:
 1. Joint-sealant application, joint location, and designation.
 2. Joint-sealant manufacturer and product name.
 3. Joint-sealant formulation.
 4. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer and testing agency.
- B. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- C. Sealant, Waterproofing, and Restoration Institute (SWRI) Validation Certificate: For each sealant specified to be validated by SWRI's Sealant Validation Program.

- D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.
- E. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- F. Preconstruction Field-Adhesion Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.
- G. Field-Adhesion Test Reports: For each sealant application tested.
- H. Warranties: Sample of special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
- C. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
 - 2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.
- D. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.
- E. Pre-installation Conference: Conduct conference at Project site.

1.7 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: 10 years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 - 1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 - 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - 1. Architectural Sealants: 250 g/L.
 - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 - 3. Sealant Primers for Porous Substrates: 775 g/L.
- C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
 - 1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- D. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous Joint substrates indicated for Project.

- E. Colors of Exposed Joint Sealants: As selected by Owner or Owner's Representative from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Single-Component, Nonsag, Neutral-Curing Silicone Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Tremco Incorporated; Tremseal S - Basis of Design.
 - b. Dow Corning Corporation; 790.
 - c. Sika Corporation, Construction Products Division; SikaSil-C990.

2.3 URETHANE JOINT SEALANTS

- A. Single-Component, Nonsag, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 100/50, for Use NT.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Tremco Incorporated; Tremseal D - Basis of Design.
 - b. Sika Corporation, Construction Products Division; Sikaflex - 15LM.

2.4 JOINT SEALANT BACKING

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

2.5 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Masonry.
 - c. Exterior insulation and finish systems.
 - 3. Remove laitance and form-release agents from concrete.
 - 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
 - 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
 - 5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
 - a. Use masking tape to protect surfaces adjacent to recessed tooled joints.
- G. Installation of Preformed Silicone-Sealant System: Comply with the following requirements:
 - 1. Apply masking tape to each side of joint, outside of area to be covered by sealant system.
 - 2. Apply silicone sealant to each side of joint to produce a bead of size complying with preformed silicone-sealant system manufacturer's written instructions and covering a bonding area of not less than 3/8 inch. Hold edge of sealant bead 1/4 inch inside masking tape.
 - 3. Within 10 minutes of sealant application, press silicone extrusion into sealant to wet extrusion and substrate. Use a roller to apply consistent pressure and ensure uniform contact between sealant and both extrusion and substrate.
 - 4. Complete installation of sealant system in horizontal joints before installing in vertical joints. Lap vertical joints over horizontal joints. At ends of joints, cut silicone extrusion with a razor knife.
- H. Installation of Preformed Foam Sealants: Install each length of sealant immediately after removing protective wrapping. Do not pull or stretch material. Produce seal continuity at ends, turns, and intersections of joints. For applications at low ambient temperatures, apply heat to sealant in compliance with sealant manufacturer's written instructions.

- I. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
 1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 6 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate.
 - b. Perform 1 test for each 1000 feet of joint length thereafter or 1 test per each floor per elevation.
 2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 3. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
 4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
 5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

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

3.6 PROTECTION

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

3.7 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in exterior wall system, window & door openings.
 - 1. Joint Locations:
 - a. General: Install sealant in joints where shown on the contract drawings and where necessary to seal joints in the exterior wall system and window & door openings watertight.
 - 2. Silicone Joint Sealant: Single component, nonsag, traffic grade, neutral curing.
 - 3. Joint-Sealant Color: As selected by Owner or Owner's Representative from manufacturer's full range.

- END OF SECTION -

SECTION 099114 - PAINTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Exterior paints and coatings systems including; paints, stains, transparent coatings, and opaque finishes.

1.2 REFERENCES

- A. SSPC-SP 1 - Solvent Cleaning
- B. SSPC-SP 2 - Hand Tool Cleaning
- C. SSPC-SP 3 - Power Tool Cleaning
- D. SSPC-SP 13 / NACE No. 6 Surface Preparation for Concrete
- E. EPA-Method 24
- F. OTC-Regulation No. 41

1.3 SUBMITTALS

- A. Submit under provisions of Section 013300, Submittal Procedures.
- B. Product Data: Manufacturer's data sheets on each paint and coating product should include:
 - 1. Product characteristics
 - 2. Surface preparation instructions and recommendations
 - 3. Primer requirements and finish specification
 - 4. Storage and handling requirements and recommendations
 - 5. Application methods
 - 6. Cautions
- C. Selection Samples: Submit a complete set of color chips that represent the full range of manufacture's color samples available.
- D. Verification Samples: For each finish product specified, submit samples that represent actual product, color, and sheen.

1.3 QUALITY ASSURANCE

- A. Qualifications of Manufacturers: Products used in the specified masonry work shall be produced by manufacturers regularly engaged in the manufacturing of these products and with a five (5) year history of successful production and product installations.
- B. Qualifications of Installers:
 - 1. Installers shall be thoroughly trained and experienced in the necessary crafts.
 - 2. Installers shall be made familiar with any unique requirements specified for proper performance of the work in this section.

3. An employer of workers trained and certified by manufacturer, including a full-time on-site supervisor with a minimum of ten (10) years experience in commercial work installing products comparable to those specified, able to communicate verbally with Contractor, Consultant, and employees.
 4. Qualified by the manufacturer to install manufacturer's product and furnish warranty of type specified.
 5. Installer shall not have pending litigation or outstanding lien(s) on their business.
- C. Inspections: Cooperate and coordinate with inspectors, testing agencies and manufacturers, in order to facilitate inspection of the installation, to include allowance of field sampling.
- D. Rejection: In the acceptance or rejection of work under this section, no allowance will be made for lack of skill or specification understanding on the part of the workmen. It shall be incumbent upon the contractor to use adequate numbers of skilled installers and to instruct them in the requirements of the project specifications as well as maintaining a set of the project specifications and drawings on the roof at all times.
- E. Replacement: In the event inadequate or improper installation is determined, contractor shall make all repairs and replacements required to render the installation compliant with the project specifications. Replacements, due to improper performance, shall be at the sole cost of the contractor.
- F. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.5 MOCK-UP

- A. Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of painting on the project.
1. Finish surfaces for verification of products, colors, & sheens.
 2. Finish area designated by Consultant.
 3. Provide samples that designate prime & finish coats.
 4. Do not proceed with remaining work until the Consultant approves the mock-up samples.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver manufacturer's unopened containers to the work site. Packaging shall bear the manufacturer's name, label, and the following list of information:
1. Product name, type (description)
 2. Application & use instructions
 3. Surface preparation
 4. VOC content
 5. Environmental issues
 6. Batch date
 7. Color number

- B. Storage: Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1. Store materials in an area that is within the acceptable temperature range, per manufacturer's instructions. Protect from freezing.

- C. Handling: Maintain a clean, dry storage area, to prevent contamination or damage to the coatings.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not apply coatings under environmental conditions outside manufacturer's absolute limits.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer:

1. Benjamin Moore & Company
51 Chestnut Ridge Road
Montvale, New Jersey 07845
Phone: 201-573-9800
Fax: 201-573-9046
Website: www.benjaminmoore.com

- B. Substitutions: Requests for substitutions will be considered in accordance with provisions of Section 016000 Product Requirements.

1. When submitting request for substitution, provide complete product data specified above under Submittals, for each substitute product.

2.2 APPLICATIONS - SCOPE

- A. Surfaces To Be Coated:

1. Steel Lintels

2.3 SCHEDULE INDEX - EXTERIOR SURFACES

- A. METAL - Steel

1. Acrylic Primer Coating System
a. Flat Finish
1st Coat: M04 Acrylic Metal Primer
2nd Coat: M04 Acrylic Metal Primer

2.4 MATERIALS - GENERAL REQUIREMENTS

- A. Paints and Coatings - General:

1. Unless otherwise indicated, provide factory-mixed coatings. When required, mix coatings to correct consistency in accordance with manufacturer's instructions before application.

2. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.

B. Primers:

1. Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

2.5 ACCESSORIES:

A. Coating Application Accessories:

1. Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required per manufacturer's specifications.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin application of coatings until substrates have been properly prepared. Notify Consultant of unsatisfactory conditions before proceeding
- B. If substrate preparation is the responsibility of another installer, notify Consultant of unsatisfactory preparation before proceeding.
- C. Proceed with work only after conditions have been corrected, and approved by all parties, otherwise application of coatings will be considered as an acceptance of surface conditions.

3.2 SURFACE PREPARATION:

- A. Proper product selection, surface preparation, and application affect coating performance. Coating integrity and service life will be reduced because of improperly prepared surfaces. Selection and implementation of proper surface preparation ensures coating adhesion to the substrate and prolongs the service life of the coating system.
- B. Selection of the proper method of surface preparation depends on the substrate, the environment, and the expected service life of the coating system. Economics, surface contamination, and the effect on the substrate will also influence the selection of surface preparation methods.
- C. The surface must be dry and in sound condition. Remove oil, dust, dirt, loose rust, peeling paint or other contamination to ensure good adhesion.
- D. Remove mildew before painting by washing with a solution of 1 part liquid household bleach and 3 parts of warm water. Apply the solution and scrub the mildewed area. Allow the solution to remain on the surface for 10 minutes. Rinse thoroughly with clean water and allow the surface to dry 48 hours before painting. Wear protective glasses or goggles, waterproof gloves, and protective clothing. Quickly wash off any of the mixture that comes in contact with your skin. Do not add detergents or ammonia to the bleach/water solution.

- E. No exterior painting should be done immediately after a rain, during foggy weather, when rain is predicted, or when the temperature is below 50°F, unless products are designed specifically for these conditions. On large expanses of metal siding, the air, surface and material temperatures must be 50°F or higher to use low temperature products.
- F. Methods:
 - 1. Steel
 - a. Remove all oil, grease, dirt, oxide and other foreign material by cleaning using All Purpose Degreaser. Change rags and cleaning solution frequently so that deposits of oil and grease are not spread over additional areas in the cleaning process. Be sure to allow adequate ventilation.
 - b. Prime cleaned surfaces using DTM Wash Primer as required by manufacturer.

3.3 INSTALLATION

- A. Apply all coatings and materials with manufacture specifications in mind. Mix and thin coatings according to manufacturer recommendations.
- B. Do not apply to wet or damp surfaces.
 - 1. Wait at least 30 days before applying to new concrete or masonry or follow manufacturer's procedures to apply appropriate coatings prior to 30 days.
 - 2. Test new concrete for moisture content.
 - 3. Wait until wood is fully dry after rain or morning fog or dew.
- C. Apply two coats of coatings using methods recommended by manufacturer.
- D. Uniformly apply coatings without runs, drips, or sags, without brush marks, and with consistent sheen.
- E. Apply coatings at spreading rate required to achieve the manufacturer's recommended dry film thickness.
- F. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- G. Inspection: The coated surface must be inspected and approved by the Consultant just prior to each coat.

3.4 PROTECTION

- A. Protect finished coatings from damage until completion of project.
- B. Touch-up damaged coatings after substantial completion, following manufacturer's recommendation for touch up or repair of damaged coatings. Repair any defects that will hinder the performance of the coatings.

3.5 SCHEDULES

A. METAL

1. Acrylic Rust Inhibitor Coating

- a. Roof deck rust inhibitor coating shall be a water thinned, acrylic primer specifically formulated as a rust inhibitor paint that meets the following physical properties:

<u>Property</u>	<u>Typical Value</u>
Volume Solids	40%
Dry Heat Resistance	260 degrees F.
Viscosity	85 +/- 5 KU
Weight per Gallon	10.7 lb.
Flash Point	None

- END OF SECTION -