

**PROJECT MANUAL**

**FOR**

**TALLEY MIDDLE SCHOOL RE-ROOFING**

**1110 CYPRESS ROAD  
WILMINGTON DE 19810**

**BRANDYWINE SCHOOL DISTRICT**  
1311 BRANDYWINE BOULEVARD  
WILMINGTON, DELAWARE 19809

**OWNER**

**ABHA ARCHITECTS**  
1621 N. LINCOLN STREET  
WILMINGTON, DELAWARE 19806  
(302) 658-6426, FAX (302) 658-8431

**ARCHITECTS**

**CONTRACT NO BSD-1604-ROOF**

**ABHA PROJECT NUMBER: 1226.13**

**DATE: APRIL 27, 2016**



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**TABLE OF CONTENTS****DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS**

001150	ADVERTISEMENT FOR BIDS	1
002110	INSTRUCTIONS TO BIDDERS	10
	WAGE RATE CERTIFICATION	1
004113	BID FORM	6
005000	CONTRACTING FORMS AND SUPPLEMENTS	1
007310	SUPPLEMENTARY GENERAL CONDITIONS A201-2007	8
007313	SUPPLEMENTARY CONDITIONS	8
009000	DE STATE GENERAL REQUIREMENTS	13
009500	GENERAL AND SPECIAL INSTRUCTIONS	12

**DIVISION 01 - GENERAL REQUIREMENTS**

011000	SUMMARY	1
012000	PRICE AND PAYMENT PROCEDURES	3
012200	UNIT PRICES	1
013000	ADMINISTRATIVE REQUIREMENTS	1
015000	TEMPORARY FACILITIES AND CONTROLS	4
017800	CLOSEOUT SUBMITTALS	4

**DIVISION 02 - EXISTING CONDITIONS**

02 4100	DEMOLITION	2
---------	------------	---

**DIVISION 05 - METALS**

05 3100	STEEL DECKING	2
05 4000	COLD-FORMED METAL FRAMING	2
05 5000	METAL FABRICATIONS	2

**DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES**

06 1000	ROUGH CARPENTRY	3
---------	-----------------	---

**DIVISION 07 - THERMAL AND MOISTURE PROTECTION**

07 0150.19	PREPARATION FOR RE-ROOFING	2
07 2100	THERMAL INSULATION	2
07 2500	GYPSON BOARD WEATHER-RESISTANT BARRIER AND AIR BARRIER SYSTEM	6
07 4264	METAL COMPOSITE MATERIAL WALL PANELS	6
07 5216	STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS ROOFING (SBS)	7
07 5600	FLUID-APPLIED ROOFING	9
07 6200	SHEET METAL FLASHING AND TRIM	5
07 7200	ROOF ACCESSORIES	1
07 9200	JOINT SEALANTS	2

**DIVISION 09 - FINISHES**

09 2116	GYPSON BOARD ASSEMBLIES	3
09 2400	PORTLAND CEMENT PLASTERING	2
09 9000	PAINTING AND COATING	6

**SECTION 001150**  
**ADVERTISEMENT FOR BIDS**

Sealed bids for Talley Middle School Roof Upgrades, will be received by the Brandywine School District in The Cafeteria at Talley Middle School, 1110 Cypress Rd, Wilmington DE 19810 until 2:00PM local time on Thursday, June 2nd, 2016, at which time they will be publicly opened and read aloud. Bidder bears the risk of late delivery. Any bids received after the stated time will be returned unopened.

Project involves roof and parapet repairs and reroofing.

Attention is called to construction schedule as detailed in the Bid Documents.

A MANDATORY Pre-Bid Meeting will be held at 1:30 PM on Thursday May 5, 2016, in the Cafeteria (meet at the Lobby) at the Talley Middle School (address above) for the purpose of establishing the listing of subcontractors and to answer questions.

ATTENDANCE OF THIS MEETING IS A PREREQUISITE FOR BIDDING ON THIS CONTRACT. Representatives of each party to any Joint Venture must attend this meeting.

Sealed bids shall be addressed to James Conlon. The outer envelope should clearly indicate: "SEALED BID - DO NOT OPEN."

Bid documents will be available beginning [April 27], 2016 at <http://bids.delaware.gov>

Contract documents may also be reviewed at the office of ABHA Architects 1621 N Lincoln St Wilmington DE 19806. For questions email [dbarisa@abha.com](mailto:dbarisa@abha.com) or call David Barisa at 302-658-6426.

Each bid must be accompanied by a bid security equivalent to ten percent (10%) of the bid amount and all additive alternates. The successful bidder must post a performance bond and payment bond in a sum equal to 100 percent (100%) of the contract price upon execution of the contract.

The Owner reserves the right to reject any or all bids and to waive any informalities therein. The Owner may extend the time and place for the opening of the bids from that described in the advertisement, with not less than two calendar days notice by addendum posted at <http://bids.delaware.gov>

Pursuant to the Office of Management and Budget (OMB) "4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects" requires that Contractors and Subcontractors who work on Large Public Works Contracts funded all or in part with public funds implement a Mandatory Drug Testing Program. The regulation can be downloaded from the following website:

<http://regulations.delaware.gov/AdminCode/title19/4000/4100/index.shtml#TopOfPage>  
<<http://regulations.delaware.gov/AdminCode/title19/4000/4100/index.shtml>>

**END OF SECTION**

**SECTION 002110**  
**INSTRUCTIONS TO BIDDERS**

**TABLE OF ARTICLES**

1.01 ARTICLE 1:GENERAL

A. DEFINITIONS

1. Whenever the following terms are used, their intent and meaning shall be interpreted as follows:

STATE: The State of Delaware.

AGENCY: Contracting State Agency as noted on cover sheet.

DESIGNATED OFFICIAL: The agent authorized to act for the Agency.

ENGINEER:

CDA Engineering Inc.

6 Larch Ave Suite 401

Wilmington, DE 19804

BIDDING DOCUMENTS: Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement for Bid, Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the Bid Form (including the Non-collusion Statement), and other sample bidding and contract forms. The proposed Contract Documents consist of the form of Agreement between the Owner and Contractor, as well as the Drawings, Specifications (Project Manual) and all Addenda issued prior to execution of the Contract.

CONTRACT DOCUMENTS: The Contract Documents consist of the, Instructions to Bidders, Supplementary Instructions to Bidders (if any), General Conditions, Supplementary General Conditions, General Requirements, Special Provisions (if any), the form of agreement between the Owner and the Contractor, Drawings (if any), Specifications (Project Manual), and all addenda.

AGREEMENT: The form of the Agreement shall be AIA Document A101, Standard Form of Agreement between Owner and Contractor where the basis of payment is a STIPULATED SUM. In the case of conflict between the instructions contained therein and the General Requirements herein, these General Requirements shall prevail.

GENERAL REQUIREMENTS (or CONDITIONS): General Requirements (or conditions) are instructions pertaining to the Bidding Documents and to contracts in general. They contain, in summary, requirements of laws of the State; policies of the Agency and instructions to bidders.

SPECIAL PROVISIONS: Special Provisions are specific conditions or requirements peculiar to the bidding documents and to the contract under consideration and are supplemental to the General Requirements. Should the Special Provisions conflict with the General Requirements, the Special Provisions shall prevail.

ADDENDA: Written or graphic instruments issued by the Owner/Architect prior to the execution of the contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

**BIDDER OR VENDOR:** A person or entity who formally submits a Bid for the material or Work contemplated, acting directly or through a duly authorized representative who meets the requirements set forth in the Bidding Documents.

**SUB-BIDDER:** A person or entity who submits a Bid to a Bidder for materials or labor, or both for a portion of the Work.

**BID:** A complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

**BASE BID:** The sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids (if any are required to be stated in the bid).

**ALTERNATE BID (or ALTERNATE):** An amount stated in the Bid, where applicable, to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents is accepted.

**UNIT PRICE:** An amount stated in the Bid, where applicable, as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

**SURETY:** The corporate body which is bound with and for the Contract, or which is liable, and which engages to be responsible for the Contractor's payments of all debts pertaining to and for his acceptable performance of the Work for which he has contracted.

**BIDDER'S DEPOSIT:** The security designated in the Bid to be furnished by the Bidder as a guaranty of good faith to enter into a contract with the Agency if the Work to be performed or the material or equipment to be furnished is awarded to him.

**CONTRACT:** The written agreement covering the furnishing and delivery of material or work to be performed.

**CONTRACTOR:** Any individual, firm or corporation with whom a contract is made by the Agency.

**SUBCONTRACTOR:** An individual, partnership or corporation which has a direct contract with a contractor to furnish labor and materials at the job site, or to perform construction labor and furnish material in connection with such labor at the job site.

**CONTRACT BOND:** The approved form of security furnished by the contractor and his surety as a guaranty of good faith on the part of the contractor to execute the work in accordance with the terms of the contract.

## 1.02 ARTICLE 2: BIDDER'S REPRESENTATIONS

### A. PRE-BID MEETING

1. A pre-bid meeting for this project will be held at the time and place designated. Attendance at this meeting is a pre-requisite for submitting a Bid, unless this requirement is specifically waived elsewhere in the Bid Documents.
2. By submitting a Bid, the Bidder represents that:
3. The Bidder has read and understands the Bidding Documents and that the Bid is made in accordance therewith.
4. The Bidder has visited the site, become familiar with existing conditions under which the Work is to be performed, and has correlated the Bidder's his personal observations with the requirements of the proposed Contract Documents.

5. The Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception.

**B. JOINT VENTURE REQUIREMENTS**

1. For Public Works Contracts, each Joint Venturer shall be qualified and capable to complete the Work with their own forces.
2. Included with the Bid submission, and as a requirement to bid, a copy of the executed Joint Venture Agreement shall be submitted and signed by all Joint Venturers involved.
3. All required Bid Bonds, Performance Bonds, Material and Labor Payment Bonds must be executed by both Joint Venturers and be placed in both of their names.
4. All required insurance certificates shall name both Joint Venturers.
5. Both Joint Venturers shall sign the Bid Form and shall submit a copy of a valid Delaware Business License with their Bid.
6. Both Joint Venturers shall include their Federal E.I. Number with the Bid.
7. In the event of a mandatory Pre-bid Meeting, each Joint Venturer shall have a representative in attendance.
8. Due to exceptional circumstances and for good cause shown, one or more of these provisions may be waived at the discretion of the State.

**C. ASSIGNMENT OF ANTITRUST CLAIMS**

1. As consideration for the award and execution by the Owner of this contract, the Contractor hereby grants, conveys, sells, assigns and transfers to the State of Delaware all of its right, title and interests in and to all known or unknown causes of action it presently has or may now or hereafter acquire under the antitrust laws of the United States and the State of Delaware, relating to the particular goods or services purchased or acquired by the Owner pursuant to this contract.

**1.03 ARTICLE 3: BIDDING DOCUMENTS**

**A. COPIES OF BID DOCUMENTS**

1. Refer to Advertisement (or Invitation) for Bids for information concerning locations where Bidding Documents may be seen or obtained and under what conditions. Deposits for documents are non-refundable.
2. Bidders shall use complete sets of Bidding Documents for preparation of Bids. The issuing Agency nor the Architect assumes no responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
3. Any errors, inconsistencies or omissions discovered shall be reported to the Architect immediately.
4. The Agency and Architect may make copies of the Bidding Documents available on the above terms for the purpose of obtaining Bids on the Work. No license or grant of use is conferred by issuance of copies of the Bidding Documents.

**B. INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS**

1. The Bidder shall carefully study and compare the Bidding Documents with each other, and with other work being bid concurrently or presently under construction to the extent that it relates to the Work for which the Bid is submitted, shall examine the site and local conditions, and shall report any errors, inconsistencies, or ambiguities discovered to the Architect.
2. Bidders or Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Architect at least seven days prior to

- the date for receipt of Bids. Interpretations, corrections and changes to the Bidding Documents will be made by written Addendum. Interpretations, corrections, or changes to the Bidding Documents made in any other manner shall not be binding.
3. The apparent silence of the specifications as to any detail, or the apparent omission from it of detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and only material and workmanship of the first quality are to be used. Proof of specification compliance will be the responsibility of the Bidder.
  4. Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all permits, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work.
  5. The Owner will bear the costs for all impact and user fees associated with the project.

C. SUBSTITUTIONS

1. The materials, products and equipment described in the Bidding Documents establish a standard of quality, required function, dimension, and appearance to be met by any proposed substitution. The specification of a particular manufacturer or model number is not intended to be proprietary in any way. Substitutions of products for those named will be considered, providing that the Bidder certifies that the function, quality, and performance characteristics of the material offered is equal or superior to that specified. It shall be the Bidder's responsibility to assure that the proposed substitution will not affect the intent of the design, and to make any installation modifications required to accommodate the substitution.
2. Requests for substitutions shall be made in writing to the Architect at least ten days prior to the date of the Bid Opening. Such requests shall include a complete description of the proposed substitution, drawings, performance and test data, explanation of required installation modifications due the substitution, and any other information necessary for an evaluation. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval shall be final. The Architect is to notify Owner prior to any approvals.
3. If the Architect approves a substitution prior to the receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding.
4. The Architect shall have no obligation to consider any substitutions after the Contract award.
5. Bidders shall conform to requirements in Section 01600 MATERIAL AND EQUIPMENT.

D. ADDENDA

1. Addenda will be mailed or delivered to all who are known by the Architect to have received a complete set of the Bidding Documents.
2. Copies of Addenda will be made available for inspection wherever Bidding Documents are on file for that purpose.
3. No Addenda will be issued later than 4 days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which extends the time or changes the location for the opening of bids.

4. Each bidder shall ascertain prior to submitting his Bid that they have received all Addenda issued, and shall acknowledge their receipt in their Bid in the appropriate space. Not acknowledging an issued Addenda could be grounds for determining a bid to be non-responsive.

#### 1.04 ARTICLE 4: BIDDING PROCEDURES

##### A. PREPARATION OF BIDS

1. Submit the bids on the Bid Forms included with the Bidding Documents.
2. Submit the original Bid Form for each bid. Bid Forms may be removed from the project manual for this purpose.
3. Execute all blanks on the Bid Form in a non-erasable medium (typewriter or manually in ink).
4. Where so indicated by the makeup on the Bid Form, express sums in both words and figures, in case of discrepancy between the two, the written amount shall govern.
5. Interlineations, alterations or erasures must be initialed by the signer of the Bid.
6. BID ALL REQUESTED ALTERNATES AND UNIT PRICES, IF ANY. If there is no change in the Base Bid for an Alternate, enter "No Change". The Contractor is responsible for verifying that they have received all addenda issued during the bidding period. Work required by Addenda shall automatically become part of the Contract.
7. Make no additional stipulations on the Bid Form and do not qualify the Bid in any other manner.
8. Each copy of the Bid shall include the legal name of the Bidder and a statement whether the Bidder is a sole proprietor, a partnership, a corporation, or any legal entity, and each copy shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further give the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current Power of Attorney attached, certifying agent's authority to bind the Bidder.
9. Bidder shall complete the Non-Collusion Statement form included with the Bid Forms and include it with their Bid.
10. In the construction of all Public Works projects for the State of Delaware or any agency thereof, preference in employment of laborers, workers or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State.
11. Each bidder shall include in their bid a copy of a valid Delaware Business License.
12. Each bidder shall include signed Affidavit(s) for the Bidder and each listed Subcontractor certifying compliance with OMB Regulation 4104- "Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on "Large Public Works Projects." "Large Public Works" is based upon the current threshold required for bidding Public Works as set by the Purchasing and Contracting Advisory Council.

##### B. BID SECURITY

1. All bids shall be accompanied by a deposit of either a good and sufficient bond to the agency for the benefit of the agency, with corporate surety authorized to do business in this State, the form of the bond and the surety to be approved by the agency, or a security of the bidder assigned to the agency, for a sum equal to at least 10% of the

bid plus all add alternates, or in lieu of the bid bond a security deposit in the form of a certified check, bank treasurer's check, cashier's check, money order, or other prior approved secured deposit assigned to the State. The bid bond need not be for a specific sum, but may be stated to be for a sum equal to 10% of the bid plus all add alternates to which it relates and not to exceed a certain stated sum, if said sum is equal to at least 10% of the bid. The Bid Bond form used shall be the standard OMB form (attached).

2. The Agency has the right to retain the bid security of Bidders to whom an award is being considered until either a formal contract has been executed and bonds have been furnished or the specified time has elapsed so the Bids may be withdrawn or all Bids have been rejected.
3. In the event of any successful Bidder refusing or neglecting to execute a formal contract and bond within 20 days of the awarding of the contract, the bid bond or security deposited by the successful bidder shall be forfeited.

C. SUBCONTRACTOR LIST

1. As required by Delaware Code, Title 29, section 6962(d)(10)b, each Bidder shall submit with their Bid a completed List of Sub-Contractors included with the Bid Form. NAME ONLY ONE SUBCONTRACTOR FOR EACH TRADE. A Bid will be considered non-responsive unless the completed list is included.
2. Provide the Name and Address for each listed subcontractor. Addresses by City, Town or Locality, plus State, will be acceptable.
3. It is the responsibility of the Contractor to ensure that their Subcontractors are in compliance with the provisions of this law. Also, if a Contractor elects to list themselves as a Subcontractor for any category, they must specifically name themselves on the Bid Form and be able to document their capability to act as Subcontractor in that category in accordance with this law.

D. EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS

1. During the performance of this contract, the contractor agrees as follows:
  - a. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, sexual orientation, gender identity or national origin. The Contractor will take affirmative action to ensure the applicants are employed, and that employees are treated during employment, without regard to their race, creed, sex, color, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.
  - b. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, sex, color, sexual orientation, gender identity or national origin.

E. PREVAILING WAGE REQUIREMENT

1. Wage Provisions: For renovation and new construction projects whose costs exceed the thresholds contained in Delaware Code, Title 29, Section 6960, the minimum

wage rates for various classes of laborers and mechanics shall be as determined by the Department of Labor, Division of Industrial Affairs of the State of Delaware

2. The employer shall pay all mechanics and labors employed directly upon the site of work, unconditionally and not less often than once a week and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the specifications, regardless of any contractual relationship which may be alleged to exist between the employer and such laborers and mechanics.
3. The scale of the wages to be paid shall be posted by the employer in a prominent and easily accessible place at the site of the work.
4. Every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.
5. Wage Rates applicable to this project are attached at the end of this section.

F. SUBMISSION OF BIDS

1. Enclose the Bid, the Bid Security, and any other documents required to be submitted with the Bid in a sealed opaque envelope. Address the envelope to the party receiving the Bids. Identify with the project name, project number, and the Bidder's name and address. If the Bid is sent by mail, enclose the sealed envelope in a separate mailing envelope with the notation "BID ENCLOSED" on the face thereof. The State is not responsible for the opening of bids prior to bid opening date and time that are not properly marked.
2. Deposit Bids at the designated location prior to the time and date for receipt of bids indicated in the Advertisement for Bids. Bids received after the time and date for receipt of bids will be marked "LATE BID" and returned.
3. Bidder assumes full responsibility for timely delivery at location designated for receipt of bids.
4. Oral, telephonic or telegraphic bids are invalid and will not receive consideration.
5. Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids, provided that they are then fully in compliance with these Instructions to Bidders.

G. MODIFICATION OR WITHDRAW OF BIDS

1. Prior to the closing date for receipt of Bids, a Bidder may withdraw a Bid by personal request and by showing proper identification to the Architect. A request for withdraw by letter or fax, if the Architect is notified in writing prior to receipt of fax, is acceptable. A fax directing a modification in the bid price will render the Bid informal, causing it to be ineligible for consideration of award. Telephone directives for modification of the bid price shall not be permitted and will have no bearing on the submitted proposal in any manner.
2. Bidders submitting Bids that are late shall be notified as soon as practicable and the bid shall be returned.
3. A Bid may not be modified, withdrawn or canceled by the Bidder during a thirty (30) day period following the time and date designated for the receipt and opening of Bids, and Bidder so agrees in submitting their Bid. Bids shall be binding for 30 days after the date of the Bid opening.

## 1.05 ARTICLE 5: CONSIDERATION OF BIDS

### A. OPENING/REJECTION OF BIDS

1. Unless otherwise stated, Bids received on time will be publicly opened and will be read aloud. An abstract of the Bids will be made available to Bidders.
2. The Agency shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid Security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.
3. If the Bids are rejected, it will be done within thirty (30) calendar day of the Bid opening.

### B. COMPARISON OF BIDS

1. After the Bids have been opened and read, the bid prices will be compared and the result of such comparisons will be made available to the public. Comparisons of the Bids may be based on the Base Bid plus desired Alternates. The Agency shall have the right to accept Alternates in any order or combination.
2. The Agency reserves the right to waive technicalities, to reject any or all Bids, or any portion thereof, to advertise for new Bids, to proceed to do the Work otherwise, or to abandon the Work, if in the judgment of the Agency or its agent(s), it is in the best interest of the State.
3. An increase or decrease in the quantity for any item is not sufficient grounds for an increase or decrease in the Unit Price.
4. The prices quoted are to be those for which the material will be furnished F.O.B. Job Site and include all charges that may be imposed during the period of the Contract.
5. No qualifying letter or statements in or attached to the Bid, or separate discounts will be considered in determining the low Bid except as may be otherwise herein noted. Cash or separate discounts should be computed and incorporated into Unit Bid Price(s).

### C. DISQUALIFICATION OF BIDDERS

1. An agency shall determine that each Bidder on any Public Works Contract is responsible before awarding the Contract. Factors to be considered in determining the responsibility of a Bidder include:
  - a. The Bidder's financial, physical, personnel or other resources including Subcontracts;
  - b. The Bidder's record of performance on past public or private construction projects, including, but not limited to, defaults and/or final adjudication or admission of violations of the Prevailing Wage Laws in Delaware or any other state;
  - c. The Bidder's written safety plan;
  - d. Whether the Bidder is qualified legally to contract with the State;
  - e. Whether the Bidder supplied all necessary information concerning its responsibility; and,
  - f. Any other specific criteria for a particular procurement, which an agency may establish; provided however, that, the criteria be set forth in the Invitation to Bid and is otherwise in conformity with State and/or Federal law.
2. If an agency determines that a Bidder is nonresponsive and/or nonresponsible, the determination shall be in writing and set forth the basis for the determination. A

copy of the determination shall be sent to the affected Bidder within five (5) working days of said determination.

3. In addition, any one or more of the following causes may be considered as sufficient for the disqualification of a Bidder and the rejection of their Bid or Bids.
  - a. More than one Bid for the same Contract from an individual, firm or corporation under the same or different names.
  - b. Evidence of collusion among Bidders.
  - c. Unsatisfactory performance record as evidenced by past experience.
  - d. If the Unit Prices are obviously unbalanced either in excess or below reasonable cost analysis values.
  - e. If there are any unauthorized additions, interlineation, conditional or alternate bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite or ambiguous as to its meaning.
  - f. If the Bid is not accompanied by the required Bid Security and other data required by the Bidding Documents.
  - g. If any exceptions or qualifications of the Bid are noted on the Bid Form.

D. ACCEPTANCE OF BID AND AWARD OF CONTRACT

1. A formal Contract shall be executed with the successful Bidder within twenty (20) calendar days after the award of the Contract.
2. Per Section 6962(d)(13) a., Title 29, Delaware Code, "The contracting agency shall award any public works contract within thirty (30) days of the bid opening to the lowest responsive and responsible Bidder, unless the Agency elects to award on the basis of best value, in which case the election to award on the basis of best value shall be stated in the Invitation To Bid."
3. Each Bid on any Public Works Contract must be deemed responsive by the Agency to be considered for award. A responsive Bid shall conform in all material respects to the requirements and criteria set forth in the Contract Documents and specifications.
4. The Agency shall have the right to accept Alternates in any order or combination, and to determine the low Bidder on the basis of the sum of the Base Bid, plus accepted Alternates.
5. The successful Bidder shall execute a formal contract, submit the required Insurance Certificate, and furnish good and sufficient bonds, unless specifically waived in the General Requirements, in accordance with the General Requirement, within twenty (20) days of official notice of contract award. The successful Bidder shall provide two business days prior to contract execution, copies of the Employee Drug Testing Program for the Bidder and all listed Subcontractors. Bonds shall be for the benefit of the Agency with surety in the amount of 100% of the total contract award. Said Bonds shall be conditioned upon the faithful performance of the contract. Bonds shall remain in affect for period of one year after the date of substantial completion.
6. If the successful Bidder fails to execute the required Contract, Bond, and all required information as aforesaid, within twenty (20) calendar days after the date of official Notice of the Award of the Contract, their Bid guaranty shall immediately be taken and become the property of the State for the benefit of the Agency as liquidated damages, and not as a forfeiture or as a penalty. Award will then be made to the next lowest qualified Bidder of the Work or readvertised, as the Agency may decide.

7. Each bidder shall supply with its bid its taxpayer identification number (i.e., federal employer identification number or social security number) and a copy of its Delaware business license, and should the vendor be awarded a contract, such vendor shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract, copies of all Delaware Business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.
8. The Bid Security shall be returned to the successful Bidder upon the execution of the formal contract. The Bid Securities of unsuccessful bidders shall be returned within thirty (30) calendar days after the opening of the Bids.

#### 1.06 ARTICLE 6: POST-BID INFORMATION

##### A. CONTRACTOR'S QUALIFICATION STATEMENT

1. Bidders to whom award of a Contract is under consideration shall, if requested by the Agency, submit a properly executed AIA Document A305, Contractor's Qualification Statement, unless such a statement has been previously required and submitted.

##### B. BUSINESS DESIGNATION FORM

1. Successful bidder shall be required to accurately complete an Office of Management and Budget Business Designation Form for Subcontractors.

#### 1.07 ARTICLE 7: PERFORMANCE BOND AND PAYMENT BOND

##### A. BOND REQUIREMENTS

1. The cost of furnishing the required Bonds, that are stipulated in the Bidding Documents, shall be included in the Bid.
2. If the Bidder is required by the Agency to secure a bond from other than the Bidder's usual sources, changes in cost will be adjusted as provide in the Contract Documents.
3. The Performance and Payment Bond forms used shall be the standard OMB forms (attached).

##### B. TIME OF DELIVERY AND FORM OF BONDS

1. The bonds shall be dated on or after the date of the Contract.
2. The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix a certified and current copy of the power of attorney.

#### 1.08 ARTICLE 8: FORM OF AGREEMENT BETWEEN AGENCY AND CONTRACTOR

- A. Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment is a Stipulated Sum.

### **END OF INSTRUCTION TO BIDDERS**

STATE OF DELAWARE  
DEPARTMENT OF LABOR  
DIVISION OF INDUSTRIAL AFFAIRS  
OFFICE OF LABOR LAW ENFORCEMENT  
PHONE: (302) 451-3423

Mailing Address:  
225 CORPORATE BOULEVARD  
SUITE 104  
NEWARK, DE 19702

Located at:  
225 CORPORATE BOULEVARD  
SUITE 104  
NEWARK, DE 19702

PREVAILING WAGES FOR BUILDING CONSTRUCTION EFFECTIVE MARCH 15, 2016

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
ASBESTOS WORKERS	22.58	27.81	40.47
BOILERMAKERS	67.59	34.29	50.41
BRICKLAYERS	50.49	50.49	50.49
CARPENTERS	52.81	52.81	41.97
CEMENT FINISHERS	70.82	30.05	21.89
ELECTRICAL LINE WORKERS	44.90	38.50	29.36
ELECTRICIANS	65.10	65.10	65.10
ELEVATOR CONSTRUCTORS	83.06	63.69	31.54
GLAZIERS	69.30	69.30	55.95
INSULATORS	54.38	54.38	54.38
IRON WORKERS	61.20	61.20	61.20
LABORERS	43.60	43.60	43.60
MILLWRIGHTS	66.83	66.83	53.40
PAINTERS	46.72	46.72	46.72
PILEDRIVERS	72.97	38.86	31.43
PLASTERERS	29.47	29.47	21.84
PLUMBERS/PIPEFITTERS/STEAMFITTERS	65.95	50.85	55.34
POWER EQUIPMENT OPERATORS	61.36	61.36	43.28
ROOFERS-COMPOSITION	23.49	23.40	20.87
ROOFERS-SHINGLE/SLATE/TILE	18.16	18.07	16.98
SHEET METAL WORKERS	65.14	65.14	65.14
SOFT FLOOR LAYERS	49.77	49.77	49.77
SPRINKLER FITTERS	54.57	54.57	54.57
TERRAZZO/MARBLE/TILE FNRS	55.72	55.72	46.92
TERRAZZO/MARBLE/TILE STRS	63.98	63.98	54.33
TRUCK DRIVERS	28.39	27.10	20.68

CERTIFIED: 3/14/16

BY:   
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

**NOTE:** THESE RATES ARE PROMULGATED AND ENFORCED PURSUANT TO THE PREVAILING WAGE REGULATIONS ADOPTED BY THE DEPARTMENT OF LABOR ON APRIL 3, 1992.

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE (302) 451-3423.

NON-REGISTERED APPRENTICES MUST BE PAID THE MECHANIC'S RATE.

**PROJECT:** Talley Middle School Re-roofing and Parapet Upgrades , New Castle County

**SECTION 00 4113**  
**BID FORM**

FOR BIDS DUE: \_\_\_\_\_

<p>TO: BRANDYWINE SCHOOL DISTRICT</p> <p>1311 BRANDYWINE BLVD. WILMINGTON, DE. 19809</p>	<p>FOR: TALLEY MIDDLE SCHOOL ROOF UPGRADES</p> <p>110 CYPRESS ROAD WILMINGTON, DE. 19810</p>
--	--

FOR CONTRACT: GENERAL CONSTRUCTION

NAME OF BIDDER: \_\_\_\_\_

DELAWARE BUSINESS LICENSE NO.: \_\_\_\_\_

(A copy of Bidder's Delaware Business License must be attached to this form.)

TAXPAYER ID NO.: \_\_\_\_\_

(OTHER LICENSE NOS.): \_\_\_\_\_

PHONE NO.: (     ) \_\_\_\_\_ FAX NO.: (     ) \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_

The undersigned, representing that he has read and understands the Bidding Documents, including the complete Project Manual and the Drawings as listed in the Table of Contents, all dated April 27, 2016, and that this bid is made in accordance therewith, that he has visited the site and has familiarized himself with the local conditions under which the Work is to be performed, and that his bid is based upon the materials, systems and equipment described in the Bidding Documents without exception, hereby proposes and agrees to provide all labor, materials, plant, equipment, supplies, transport and other facilities required to execute the work described by the aforesaid documents for the lump sum itemized below:

BASE BID:

\_\_\_\_\_

(expressed in words)

(\$ \_\_\_\_\_)

(expressed in figures)

**BID FORM**

UNIT PRICES

Unit prices conform to applicable project specification project. The difference between Add or Deduct Unit Prices of the same item may not exceed 15%. Refer to the specifications for a complete description of the following Unit Prices:

UNIT PRICE NO. 1: METAL DECK REPLACEMENT

Price per square foot of deck replaced.

Add: \_\_\_\_\_

Deduct: \_\_\_\_\_

UNIT PRICE NO. 2: ROOF INSULATION BOARD REPLACEMENT

Price per square foot of insulation board replaced per inch thickness.

Add: \_\_\_\_\_

Deduct: \_\_\_\_\_

**BID FORM**

**SIGNATURE FORM**

I / We acknowledge Addendas Numbered \_\_\_\_\_ and the price(s) submitted include any cost / schedule impact they may have.

This bid shall remain valid and cannot be withdrawn for 30 days from the date of opening of bids (60 days for School Districts and Department of Education), and the undersigned shall abide by the Bid Security forfeiture provisions. Bid Security is attached to this Bid.

The Owner shall have the right to reject any or all bids, and to waive any informality or irregularity in any bid received.

This bid is based upon work being accomplished by the Sub-Contractors named on the list attached to this bid.

Should I/We be awarded this contract, I/We pledge to achieve substantial completion of all the work within \_\_\_\_\_ calendar days of the Notice to Proceed.

The undersigned represents and warrants that he has complied and shall comply with all requirements of local, state, and national laws; that no legal requirement has been or shall be violated in making or accepting this bid, in awarding the contract to him or in the prosecution of the work required; that the bid is legal and firm; that he has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding.

Upon receipt of written notice of the acceptance of this Bid, the Bidder shall, within twenty (20) calendar days, execute the agreement in the required form and deliver the Contract Bonds, and Insurance Certificates, required by the Contract Documents.

I am / We are an Individual / a Partnership / a Corporation

By: \_\_\_\_\_ Trading as: \_\_\_\_\_

(Individual's / General Partner's / Corporate Name)

\_\_\_\_\_  
(State of Corporation)

Business Address: \_\_\_\_\_

\_\_\_\_\_

Witness: \_\_\_\_\_ By: \_\_\_\_\_

(Authorized Signature )

( SEAL )

\_\_\_\_\_  
(Title)

Date: \_\_\_\_\_

Attachments:

- Sub-Contractor List.
- Non-Collusion Statement.
- Affidavit(s) of Employee Drug Testing Program
- Bid Security.

**BID FORM**  
**SUBCONTRACTOR LIST**

In accordance with Title 29, Chapter 6962 (d)(10)b Delaware Code, the following sub-contractor listing must accompany the bid submittal. The name and address of the sub-contractor must be listed for each category where the bidder intends to use a sub-contractor to perform that category of work. In order to provide full disclosure and acceptance of the bid by the Owner, it is required that bidders list themselves as being the sub-contractor for all categories where he/she is qualified and intends to perform such work. This form must be filled out completely with no additions or deletions. Note that all subcontractors listed below must have a signed Affidavit of Employee Drug Testing Program included with this bid.

SUBCONTRACTOR CATEGORY	SUBCONTRACTOR	ADDRESS (City & State)	SUBCONTRACTOR Taxpayer ID # or DE Business License #
Masonry			
Miscellaneous Steel			
Gypsum Board / Steel Studs			
Carpentry			
Roofing			
Painting			
Plumbing			
Mechanical			
Electrical			

**BID FORM**  
NON-COLLUSION STATEMENT

This is to certify that the undersigned bidder has neither directly nor indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this proposal submitted this date.

All the terms and conditions of this Contract have been thoroughly examined and are understood.

NAME OF BIDDER: \_\_\_\_\_

AUTHORIZED REPRESENTATIVE  
(TYPED): \_\_\_\_\_

AUTHORIZED REPRESENTATIVE  
(SIGNATURE): \_\_\_\_\_

TITLE: \_\_\_\_\_

ADDRESS OF BIDDER: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

PHONE NUMBER: \_\_\_\_\_

Sworn to and Subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

My Commission expires : \_\_\_\_\_ NOTARY PUBLIC \_\_\_\_\_

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

**BID FORM**  
**EMPLOYEE DRUG TESTING PROGRAM**

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite that complies with this regulation:

CONTRACTOR/SUBCONTRACTOR

NAME: \_\_\_\_\_

CONTRACTOR/SUBCONTRACTOR

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

AUTHORIZED REPRESENTATIVE

(TYPED): \_\_\_\_\_

AUTHORIZED REPRESENTATIVE

(SIGNATURE): \_\_\_\_\_

Sworn to and Subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

My Commission expires : \_\_\_\_\_ NOTARY PUBLIC \_\_\_\_\_

END OF DOCUMENT

**SECTION 005000**

**CONTRACTING FORMS AND SUPPLEMENTS**

**PART 1 GENERAL**

1.01 LICENSES

- A. Contractor is responsible for obtaining a valid license to use all copyrighted documents specified but not included in the Project Manual.

1.02 AGREEMENT AND CONDITIONS OF THE CONTRACT

- A. See Section 007200 - General Conditions for the General Conditions.
- B. See Section 007300 - Supplementary Conditions for the Supplementary Conditions.
- C. The Agreement form is AIA A101.
- D. The General Conditions are based on AIA A201.

1.03 FORMS

- A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the Contract Documents.
- B. Bond Forms:
  - 1. Performance and Payment Bond Form: Conform to those approved by the State of Delaware Office of Management and Budget.
- C. Post-Award Certificates and Other Forms:
  - 1. Application for Payment Form: AIA G702 and G703.
- D. Clarification and Modification Forms:
  - 1. Change Order Form: AIA G701.
- E. Closeout Forms:
  - 1. Certificate of Substantial Completion Form: AIA G704.
  - 2. Affidavit of Payment of Debts and Claims Form: AIA G706.
  - 3. Affidavit of Release of Liens Form: AIA G706a.
  - 4. Consent of Surety to Final Payment Form: AIA G707.

1.04 REFERENCE STANDARDS

- A. AIA A101 - Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum; 2007.
- B. AIA G701 - Change Order; 2001.
- C. AIA G702 - Application and Certificate for Payment; 1992.
- D. AIA G703 - Continuation Sheet; 1992.
- E. AIA G704 - Certificate of Substantial Completion; 2000.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 007310**  
**SUPPLEMENTARY GENERAL CONDITIONS A201-2007**

THE FOLLOWING SUPPLEMENTS MODIFY THE AIA DOCUMENT A201-2007, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION. WHERE A PORTION OF THE GENERAL CONDITIONS IS MODIFIED OR DELETED BY THE SUPPLEMENTARY CONDITIONS, THE UNALTERED PORTIONS OF THE GENERAL CONDITIONS SHALL REMAIN IN EFFECT.

**ARTICLE 1: GENERAL PROVISIONS**

**1.1 BASIC DEFINITIONS**

**1.1.1 THE CONTRACT DOCUMENTS**

Delete the last sentence in its entirety and replace with the following:

"The Contract Documents also include Advertisement for Bid, Instructions to Bidder, sample forms, the Bid Form, the Contractor's completed Bid and the Award Letter."

Add the following Paragraph:

1.1.2 In the event of conflict or discrepancies among the Contract Documents, the Documents prepared by the State of Delaware, Division of Facilities Management shall take precedence over all other documents.

**1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS**

Add the following Paragraphs:

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

1.2.5 The word "PROVIDE" as used in the Contract Documents shall mean "FURNISH AND INSTALL" and shall include, without limitation, all labor, materials, equipment, transportation, services and other items required to complete the Work.

1.2.6 The word "PRODUCT" as used in the Contract Documents means all materials, systems and equipment.

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

Delete Paragraph 1.5.1 in its entirety and replace with the following:

"All pre-design studies, drawings, specifications and other documents, including those in electronic form, prepared by the Architect under this Agreement are, and shall remain, the property of the Owner whether the Project for which they are made is executed or not. Such documents may be used by the Owner to construct one or more like Projects without the approval of, or additional compensation to, the Architect. The Contractor, Subcontractors, Sub-subcontractors and Material or Equipment Suppliers are authorized to use and reproduce applicable portions of the Drawings, Specifications and other documents prepared by the Architect and the Architect's consultants appropriate to and for use in the execution of their Work under the Contract Documents. They are not to be used by the Contractor or any Subcontractor, Sub-subcontractor or Material and Equipment Supplier 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 Architect's consultants.

The Architect shall not be liable for injury or damage resulting from the re-use of drawings and specifications if the Architect is not involved in the re-use Project.

Prior to re-use of construction documents for a Project in which the Architect is not also involved, the Owner will remove from such documents all identification of the original Architect, including name, address and professional seal or stamp."

Delete Paragraph 1.5.2 in its entirety.

## **ARTICLE 2: OWNER**

### **2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER**

To Subparagraph 2.2.3 - Add the following sentence:

"The Contractor, at their expense shall bear the costs to accurately identify the location of all underground utilities in the area of their excavation and shall bear all cost for any repairs required, out of failure to accurately identify said utilities."

Delete Subparagraph 2.2.5 in its entirety and substitute the following:

2.2.5 The Contractor shall be furnished free of charge up to five (5) sets of the Drawings and Project Manuals. Additional sets will be furnished at the cost of reproduction, postage and handling.

## **ARTICLE 3: CONTRACTOR**

### **3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR**

Amend Paragraph 3.2.2 to state that any errors, inconsistencies or omissions discovered shall be reported to the Architect and Owner immediately.

Delete the third sentence in Paragraph 3.2.4.

### **3.3 SUPERVISION AND CONSTRUCTION PROCEDURES**

Add the following Paragraphs:

3.3.2.1 The Contractor shall immediately remove from the Work, whenever requested to do so by the Owner, any person who is considered by the Owner or Architect to be incompetent or disposed to be so disorderly, or who for any reason is not satisfactory to the Owner, and that person shall not again be employed on the Work without the consent of the Owner or the Architect.

3.3.4 The Contractor must provide suitable storage facilities at the Site for the proper protection and safe storage of their materials. Consult the Owner and the Architect before storing any materials.

3.3.5 When any room is used as a shop, storeroom, office, etc., by the Contractor or Subcontractor(s) during the construction of the Work, the Contractor making use of these areas will be held responsible for any repairs, patching or cleaning arising from such use.

### **3.4 LABOR AND MATERIALS**

Add the Following Paragraphs:

3.4.4 Before starting the Work, each Contractor shall carefully examine all preparatory Work that has been executed to receive their Work. Check carefully, by whatever means are required, to insure that its Work and adjacent, related Work, will finish to proper contours, planes and levels. Promptly notify the General

Contractor/Construction Manager of any defects or imperfections in preparatory Work which will in any way affect satisfactory completion of its Work. Absence of such notification will be construed as an acceptance of preparatory Work and later claims of defects will not be recognized.

3.4.5 Under no circumstances shall the Contractor's Work proceed prior to preparatory Work proceeding prior to preparatory Work having been completely cured, dried and/or otherwise made satisfactory to receive this Work. Responsibility for timely installation of all materials rests solely with the Contractor responsible for that Work, who shall maintain coordination at all times.

### 3.5 WARRANTY

Add the following Paragraphs:

3.5.1 The Contractor will guarantee all materials and workmanship against original defects, except injury from proper and usual wear when used for the purpose intended, for two years after Acceptance by the Owner, and will maintain all items in perfect condition during the period of guarantee.

3.5.2 Defects appearing during the period of guarantee will be made good by the Contractor at his expense upon demand of the Owner, it being required that all work will be in perfect condition when the period of guarantee will have elapsed.

3.5.3 In addition to the General Guarantee there are other guarantees required for certain items for different periods of time than the two years as above, and are particularly so stated in that part of the specifications referring to same. The said guarantees will commence at the same time as the General Guarantee.

3.5.4 If the Contractor fails to remedy any failure, defect or damage within a reasonable time after receipt of notice, the Owner will have the right to replace, repair, or otherwise remedy the failure, defect or damage at the Contractor's expense.

### 3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following Paragraphs:

3.11.1 During the course of the Work, the Contractor shall maintain a record set of drawings on which the Contractor shall mark the actual physical location of all piping, valves, equipment, conduit, outlets, access panels, controls, actuators, including all appurtenances that will be concealed once construction is complete, etc., including all invert elevations.

3.11.2 At the completion of the project, the Contractor shall obtain a set of reproducible drawings from the Architect, and neatly transfer all information outlined in 3.11.1 to provide a complete record of the as-built conditions.

3.11.3 The Contractor shall provide two (2) prints of the as-built conditions, along with the reproducible drawings themselves, to the Owner and one (1) set to the Architect. In addition, attach one complete set to each of the Operating and Maintenance Instructions/Manuals.

### 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

In the second sentence of the paragraph, insert "indemnify and" between "shall" and "hold".

## **ARTICLE 4: ADMINISTRATION OF THE CONTRACT**

### 4.2 ADMINISTRATION OF THE CONTRACT

Delete the first sentence of Paragraph 4.2.7 and replace with the following:

The Architect will review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples for the purpose of checking for conformance with the Contract Documents.

Delete the second sentence of Paragraph 4.2.7 and replace with the following:

The Architect's action will be taken with such reasonable promptness as to cause no delay in the Work in the activities of the Owner, Contractor or separate Contractors, while allowing sufficient time in the Owner's professional judgment to permit adequate review.

Add the following Subparagraph:

4.2.10.1 There will be no full-time project representative provided by the Owner or Architect on this project.

Add the following to the end of Paragraph 4.2.13:

“and in compliance with all local requirements.”

#### **ARTICLE 5: SUBCONTRACTORS**

##### **5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK**

Delete Paragraph 5.2.3 in its entirety and replace with the following:

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, subject to the statutory requirements of 29 Delaware Code § 6962(d)(10)b.3 and 4.

#### **ARTICLE 6: CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS**

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

Delete Paragraph 6.1.4 in its entirety.

##### **6.2 MUTUAL RESPONSIBILITY**

6.2.3 In the second sentence, strike the word “shall” and insert the word “may”.

#### **ARTICLE 7: CHANGES IN THE WORK**

(SEE ARTICLE 7: CHANGES IN WORK IN THE GENERAL REQUIREMENTS)

#### **ARTICLE 8: TIME**

##### **8.2 PROGRESS AND COMPLETION**

Add the following Paragraphs:

8.2.1.1 Refer to Specification Section SUMMARY OF WORK for Contract time requirements.

8.2.4 If the Work falls behind the Progress Schedule as submitted by the Contractor, the Contractor shall employ additional labor and/or equipment necessary to bring the Work into compliance with the Progress Schedule at no additional cost to the Owner.

##### **8.3 DELAYS AND EXTENSION OF TIME**

8.3.1 Strike “arbitration” and insert “remedies at law or in equity”.

Add the following Paragraph:

8.3.2.1 The Contractor shall update the status of the suspension, delay, or interruption of the Work with each Application for Payment. (The Contractor shall

report the termination of such cause immediately upon the termination thereof.) Failure to comply with this procedure shall constitute a waiver for any claim for adjustment of time or price based upon said cause.

Delete Paragraph 8.3.3 in its entirety and replace with the following:

8.3.3 Except in the case of a suspension of the Work directed by the Owner, an extension of time under the provisions of Paragraph 8.3.1 shall be the Contractor's sole remedy in the progress of the Work and there shall be no payment or compensation to the Contractor for any expense or damage resulting from the delay.

Add the following Paragraph:

8.3.4 By permitting the Contractor to work after the expired time for completion of the project, the Owner does not waive their rights under the Contract.

## **ARTICLE 9: PAYMENTS AND COMPLETION**

### **9.2 SCHEDULE OF VALUES**

Add the following Paragraphs:

9.2.1 The Schedule of Values shall be submitted using AIA Document G702, Continuation Sheet to G703.

9.2.2 The Schedule of Values is to include a line item for Project Closeout Document Submittal. The value of this item is to be no less than 1% of the initial contract amount.

### **9.3 APPLICATIONS FOR PAYMENT**

Add the following Paragraph:

9.3.1.3 Application for Payment shall be submitted on AIA Document G702 "Application and Certificate for Payment", supported by AIA Document G703 "Continuation Sheet". Said Applications shall be fully executed and notarized.

Add the following Paragraphs:

9.3.4 Until Closeout Documents have been received and outstanding items completed the Owner will pay 95% (ninety-five percent) of the amount due the Contractor on account of progress payments.

9.3.5 The Contractor shall provide a current and updated Progress Schedule to the Architect with each Application for Payment. Failure to provide Schedule will be just cause for rejection of Application for Payment.

### **9.5 DECISIONS TO WITHHOLD CERTIFICATION**

Add the following to 9.5.1:

.8failure to provide a current Progress Schedule;

.9a lien or attachment is filed;

.10failure to comply with mandatory requirements for maintaining Record Documents.

### **9.6 PROGRESS PAYMENTS**

Delete Paragraph 9.6.1 in its entirety and replace with the following:

9.6.1 After the Architect has approved and issued a Certificate for Payment, payment shall be made by the Owner within 30 days after Owner's receipt of the Certificate for Payment.

### **9.7 FAILURE OF PAYMENT**

F.In first sentence, strike "seven" and insert "thirty (30)".

Also strike "binding dispute resolution" and insert "remedies at law or in equity".

#### 9.8 SUBSTANTIAL COMPLETION

To Subparagraph 9.8.3- Add the following sentence:

"If the Architect is required to make more than 2 inspections of the same portion of work, the Contractor shall be responsible for all costs associated with subsequent inspections, including but not limited to any Architect's fees."

9.8.5 In the second sentence, strike "shall" and insert "may".

### **ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY**

#### 10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following Paragraphs:

10.1.1 Each Contractor shall develop a safety program in accordance with the Occupational Safety and Health Act of 1970. A copy of said plan shall be furnished to the Owner and Architect prior to the commencement of that Contractor's Work.

10.1.2 Each Contractor shall appoint a Safety Representative. Safety Representatives shall be someone who is on site on a full time basis. If deemed necessary by the Owner or Architect, Contractor Safety meetings will be scheduled. The attendance of all Safety Representatives will be required. Minutes will be recorded of said meetings by the Contractor and will be distributed to all parties as well as posted in all job offices/trailers etc.

#### 10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Paragraph:

10.2.4.1 As required in the Hazardous Chemical Act of June 1984, all vendors supplying any material that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a caution warning on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in foreseeable emergency situations. Material Safety Data Sheets shall be provided directly to the Owner, along with the shipping slips that include those products.

#### 10.3 HAZARDOUS MATERIALS

Delete Paragraph 10.3.3 in its entirety.

Delete Paragraphs 10.3.6 in its entirety.

### **ARTICLE 11: INSURANCE AND BONDS**

#### 11.1 CONTRACTOR'S LIABILITY INSURANCE

11.1.4 Strike "the Owner" immediately following "(1)" and strike "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

Delete Paragraph 11.2 in its entirety.

#### 11.3 PROPERTY INSURANCE

Delete Paragraph 11.3 in its entirety and replace with the following:

11.3 The State will not provide Builder's All Risk Insurance for the Project. The Contractor and all Subcontractors shall provide property coverage for their tools and equipment, as necessary. Any mandatory deductible required by the Contractor's Insurance shall be the responsibility of the Contractor.

11.4 PERFORMANCE BOND AND PAYMENT BOND

Add the following sentence: "The bonds will conform to those forms approved by the Office of Management and Budget."

**ARTICLE 12: UNCOVERING AND CORRECTION OF WORK**

12.2.2 AFTER SUBSTANTIAL COMPLETION

Add the following Paragraph:

12.2.2.1.1 At any time during the progress of the Work, or in any case where the nature of the defects will be such that it is not expedient to have corrected, the Owner, at its option, will have the right to deduct such sum, or sums, of money from the amount of the Contract as it considers justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

12.2.2.1 Strike "one" and insert "two".

12.2.2.2 Strike "one" and insert "two".

12.2.2.3 Strike "one" and insert "two".

12.2.5 In second sentence, strike "one" and insert "two".

**ARTICLE 13: MISCELLANEOUS PROVISIONS**

13.1 GOVERNING LAW

Strike "except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4" .

13.6 INTEREST

Strike "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." Insert "30 days of presentment of the authorized Certificate of Payment at the annual rate of 12% or 1% per month.

13.7 TIME LIMITS ON CLAIMS

Strike the last sentence.

ADD THE FOLLOWING PARAGRAPH:

13.8 CONFLICTS WITH FEDERAL STATUTES OR REGULATIONS

13.8.1 If any provision, specifications or requirement of the Contract Documents conflict or is inconsistent with any statute, law or regulation of the government of the United State of America, the Contractor shall notify the Architect and Owner immediately upon discovery.

**ARTICLE 14: TERMINATION OR SUSPENSION OF THE CONTRACT**

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete Paragraph 14.4.3 in its entirety and replace with the following:

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 cost incurred by reason of such termination along with reasonable overhead.

**ARTICLE 15: CLAIMS AND DISPUTES**

15.1.2 THROUGHOUT THE PARAGRAPH STRIKE "21" AND INSERT "45."

15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

Delete Paragraph 15.1.6 in its entirety.

15.2 INITIAL DECISION

Delete Paragraph 15.2.5 in its entirety and replace with the following:

15.2.5 The Architect will approve or reject Claims by written decision, which shall state the reasons therefore and shall notify the parties of any change in the Contract Sum or Contract Time or both. The approval or rejection of a Claim by the Architect shall be subject to mediation and other remedies at law or in equity.

Delete Paragraph 15.2.6 and its subparagraphs in their entirety.

15.3 MEDIATION

15.3.1 Strike "binding dispute resolution" and insert "any or all remedies at law or in equity."

15.3.2 In the first sentence, delete "administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedure in effect on the date of the Agreement," Strike "binding dispute resolution" and insert "remedies at law and in equity".

15.4 ARBITRATION

Delete Paragraph 15.4 and its sub-sections in its entirety.

**END OF SUPPLEMENTARY GENERAL CONDITIONS**

**SECTION 007313**  
**SUPPLEMENTARY CONDITIONS**

**PART 1 - GENERAL**

1.01 GENERAL CONDITIONS

- A. The General Conditions of the Contract for Construction, AIA Document A201, 2007 edition, Articles 1 through 15 inclusive, is a part of this contract and is bound herewith.
- B. References to Articles herein are to Articles in A201.

1.02 SUPPLEMENTARY CONDITIONS

- A. The following provisions modify, change, delete from or add to AIA Document A201. Where any article of the General Conditions is modified or any paragraph, subparagraph or clause thereof is modified or deleted by these provisions, the unaltered provisions of that article, paragraph, sub-paragraph or clause shall remain in effect.

1.03 REFERENCE TO DIVISION 1 - GENERAL REQUIREMENTS

- A. Certain provisions of Division 1 GENERAL REQUIREMENTS supplement the administrative and work-related provisions of the GENERAL CONDITIONS.
- B. Articles affected are cross referenced in the various Sections of Division 1.

**ARTICLE 1 - GENERAL PROVISIONS**

1.1 BASIC DEFINITIONS

Delete last paragraph of 1.1.1. Add to 1.1.1 the following clause:

1.1.1.1 The Invitation to Bid, the bid forms, the contractor's completed bid and all addenda related to bidding requirements are expressly enumerated as contract documents.

Add to 1.1 the following Subparagraphs:

1.1.9 PROVIDE

1.1.9.1 The term "Provide" as used in the Contract Documents shall mean "FURNISH AND INSTALL" and shall include, without limitation, all labor, materials, equipment, transportation, services and other items required to complete the Work.

1.1.10 PRODUCT

1.1.10.1 The term "PRODUCT" as used in the Contract Documents means all materials, systems and equipment.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

Add to 1.2.4. the following Subparagraph:

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

**ARTICLE 2 - OWNER**

2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

To Subparagraph 2.2.3 - Add the following sentence:

"The Contractor, at their expense shall bear the costs to accurately identify the location of all underground utilities in the area of their excavation and shall bear all cost for any repairs required, out of failure to accurately identify said utilities."

Delete Subparagraph 2.2.5 in its entirety and substitute the following:

2.2.5 The Contractor will obtain Drawings and Project Manuals as described in the Invitation to Bid.

#### ARTICLE 3 - CONTRACTOR

##### 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

Amend Paragraph 3.2.2 to state that any errors, inconsistencies or omissions discovered shall be reported to the Architect and Owner immediately.

Delete the third sentence in Paragraph 3.2.4.

#### ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

##### 4.2 ADMINISTRATION OF THE CONTRACT

Add the following clause:

4.2.10.1 There will be no full-time project representative provided by the Owner or Architect on this project.

#### ARTICLE 6 - CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

Delete Paragraph 6.1.4 in its entirety.

##### 6.2 MUTUAL RESPONSIBILITY

6.2.3 In the second sentence, strike the word "shall" and insert the word "may".

#### ARTICLE 7 - CHANGES IN THE WORK

Add a new Subparagraph 7.1.4 to read as follows:

7.1.4 The additional cost, or credit to the Owner resulting from a change in the work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the 'DPE' wages required and the "invoice price" of the materials/equipment needed.

7.1.4.1 "DPE" shall be defined to mean "direct personnel expense". Direct payroll expense includes direct salary plus customary fringe benefits (prevailing wage rates) and documented statutory costs such as workman's compensation insurance, Social Security/Medicare, and unemployment insurance (a maximum multiplier of 1.27 times DPE).

7.1.4.2 "Invoice price" of materials/equipment shall be defined to mean the actual cost of materials and/or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the "Means Building Construction Cost Data" publication.

7.1.4.3 In addition to the above, the General Contractor is allowed a fifteen percent (15%) markup for overhead and profit for additional work performed by the General Contractor's own forces. For additional subcontractor work, the Subcontractor is

allowed a fifteen percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding five percent (5%) on the subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, supervision, etc. There will be no other costs associated with the change order."

## ARTICLE 8 - TIME

### 8.2 PROGRESS AND COMPLETION

Add the following subparagraph:

8.2.1.1 Refer to Section 011000 Summary of Work for contract time requirements.

Add the following subparagraph:

8.2.4 If the Work falls behind the Progress Schedule as submitted by the Contractor, the Contractor shall employ additional labor and/or equipment necessary to bring the Work into compliance with the Progress Schedule at no additional cost to the Owner.

## ARTICLE 9 - PAYMENTS AND COMPLETION

### 9.2 SCHEDULE OF VALUES

Add the following Paragraphs:

9.2.1 The Schedule of Values shall be submitted using AIA Document G702, Continuation Sheet to G703.

9.2.2 The Schedule of Values is to include a line item for Project Closeout Document Submittal. The value of this item is to be no less than 1% of the initial contract amount.

### 9.3 APPLICATIONS FOR PAYMENT

Add the following Paragraph:

9.3.1.3 Application for Payment shall be submitted on AIA Document G702 "Application and Certificate for Payment", supported by AIA Document G703 "Continuation Sheet". Said Applications shall be fully executed and notarized.

Add the following Paragraphs:

9.3.4 Until Closeout Documents have been received and outstanding items completed the Owner will pay 95% (ninety-five percent) of the amount due the Contractor on account of progress payments.

### 9.5 DECISIONS TO WITHHOLD CERTIFICATION

Add the following to 9.5.1:

.8 a lien or attachment is filed;

.9 failure to comply with mandatory requirements for maintaining Record Documents.

Add the following subparagraphs:

9.5.4 The Contractor shall have the obligation to remove any liens filed against the Project or any part thereof, and shall bear all costs connected with said removal prior to the Owner being obligated to make the next monthly progress payment.

9.5.5 No payment of monies nor any partial or entire use of occupancy of the Project by the Owner shall constitute an acceptance of any Work not in accordance with the Contract Documents.

#### 9.6 PROGRESS PAYMENTS

Delete Paragraph 9.6.1 in its entirety and replace with the following:

9.6.1 After the Architect has approved and issued a Certificate for Payment, payment shall be made by the Owner within 30 days after Owner's receipt of the Certificate for Payment.

#### 9.8 SUBSTANTIAL COMPLETION

To Subparagraph 9.8.3- Add the following sentence:

"If the Architect is required to make more than 2 inspections of the same portion of work, the Contractor shall be responsible for all costs associated with subsequent inspections, including but not limited to any Architect's fees."

9.8.5 In the second sentence, strike "shall" and insert "may".

### ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

#### 10.1 SAFETY PRECAUTIONS AND PROGRAMS

Add the following Paragraphs:

10.1.1 Each Contractor shall develop a safety program in accordance with the Occupational Safety and Health Act of 1970. A copy of said plan shall be furnished to the Owner and Architect prior to the commencement of that Contractor's Work.

10.1.2 Each Contractor shall appoint a Safety Representative. Safety Representatives shall be someone who is on site on a full time basis. If deemed necessary by the Owner or Architect, Contractor Safety meetings will be scheduled. The attendance of all Safety Representatives will be required. Minutes will be recorded of said meetings by the Contractor and will be distributed to all parties as well as posted in all job offices/trailers etc.

#### 10.2 SAFETY OF PERSONS AND PROPERTY

Add the following Paragraph:

10.2.4.1 As required in the Hazardous Chemical Act of June 1984, all vendors supplying any material that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a caution warning on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in foreseeable emergency situations. Material Safety Data Sheets shall be provided directly to the Owner, along with the shipping slips that include those products.

Add the following subparagraph:

10.2.8 The Contractor shall certify to the Owner that materials incorporated into the work are free of all asbestos. This certification may be in the form of Material Safety Data Sheets (MSDS) provided by the product manufacturer for the materials used in construction by the Contractor.

#### 10.3 HAZARDOUS MATERIALS

Delete Paragraph 10.3.3 in its entirety.

Delete Paragraphs 10.3.6 in its entirety.

ARTICLE 11 - INSURANCE

11.1 CONTRACTOR'S LIABILITY INSURANCE

Add the following Clause 11.1.2.1 to 11.1.2:

11.1.2.1 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law:

Workmen's Compensation:

State: Statutory

Applicable Federal (e.g., Longshoremen's): Statutory

Employer's Liability

\$ 100,000

Comprehensive General Liability (including Premises Operations; Independent Contractors' Protective; Products and Completed Operations; Broad Form Property Damage):

Bodily Injury

\$ 500,000 Each Person

\$ 1,000,000 Each Occurrence

\$ 1,000,000 Annual Aggregate

Property Damage

\$ 500,000 Each Occurrence

\$ 500,000 Annual Aggregate

Products and Completed Operations to be maintained for 2 years after final payment.

Property Damage Liability Insurance will provide X, C, or U coverage as applicable.

Contractual Liability:

Bodily Injury

\$ 500,000 Each Person

\$1,000,000 Each Occurrence

\$1,000,000 Annual Aggregate

Property Damage:

\$ 500,000 Each Occurrence

\$1,000,000 Annual Aggregate

Personal Injury, with Employment Exclusion deleted:

\$ 500,000 Each Occurrence

Comprehensive Automobile Liability:

Bodily Injury:

\$1,000,000 Each Person

\$1,000,000 Each Occurrence

Property Damage:

\$ 500,000 Each Occurrence

Subcontractor's policies shall include contingent and contractual liability coverage in the same minimum amounts as 3, above.

Add the following Clauses 11.1.3.1 and 11.1.3.2 to 11.1.3:

11.1.3.1 The Contractor shall furnish one copy each of Certificates of Insurance herein required for each copy of the Agreement which shall specifically set forth

evidence of all coverage required by Subparagraph 11.1.2. The form of the Certificate shall be AIA Document G705 or insurance carrier's standard form, which presents required information. The Contractor shall furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits.

11.1.3.2 Certificates of insurance filed with the Owner shall guarantee fifteen (15) days prior notice of cancellation, non-renewal or any change in coverage and limits of liability shown as included on certificates.

Add the following Subparagraphs 11.1.5 through 11.1.8:

11.1.5 The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. He shall carry such insurance coverage as he desires on his own property such as his field office, storage sheds or other structures erected upon the project site that belong to him and for his own use. The Subcontractors involved with this project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.

11.1.6 Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverage shall be filed with and approved by the Owner.

11.1.7 The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and control damaged in any way by him or his Subcontractors during the entire construction period on this project.

11.1.8 Builders Risk (including Standard Extended Coverage Insurance) on the existing building during the entire construction period, shall not be provided by the Contractor under this contract. The Owner shall insure the existing building and all of its contents and all this new alteration work under this contract during entire construction period for the full insurable value of the entire work at the site. Note, however, that the Contractor and his Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.

#### 11.2 OWNER'S LIABILITY INSURANCE

Delete Paragraph 11.2 and its subparagraphs in their entirety.

Delete Paragraph 11.3 and its subparagraphs in their entirety and replace with the following:

#### 11.3 PROPERTY INSURANCE

11.3.1 The Owner will not provide Builder's All Risk Insurance for the Project. The Contractor and all Subcontractors shall provide property coverage for their tools and equipment, as necessary.

#### 11.4 PERFORMANCE BOND AND PAYMENT BOND

Add the following subparagraphs:

11.4.3 Performance and Payment Bond: Simultaneously with delivery of the executed contract, the contractor must deliver to the Owner an executed performance bond in the amount of 100% of the accepted bid as security for the faithful performance of his contract including the required Warranty and Guaranties; and an executed labor

and material payment bond in the amount of 100% of the accepted bid as security for the payment of all persons performing labor or furnishing materials in connection therewith and conditioned that the contractor shall well and faithfully pay all daily labor employed by him for this contract in full once each week. Performance and payment bond may be in a combined form. The bonding company's standard forms are acceptable provided all coverage requirements are included. The bonds shall be maintained in full force for a period of not less than twelve (12) months after the date of the Certificate for Substantial Completion.

11.4.4 Bonds are to be in favor of the Owner and shall be paid for by the contractor and furnished by a surety company licensed in the State that the project is located. The Owner has the right to demand proof that the parties signing the bonds are duly authorized to do so.

#### ARTICLE 13: MISCELLANEOUS PROVISIONS

##### 13.6 INTEREST

Strike “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.” Insert “30 days of presentment of the authorized Certificate of Payment at the annual rate of 6% or 0.5% per month.

#### ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

##### 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

Delete Subparagraph 14.4.3 in its entirety and replace with the following:

14.4.3 In case of such termination for Owner’s convenience, the Contractor shall be entitled to receive payment for work executed, materials purchased and reasonable overhead.

#### ADD ARTICLE 16- CONTRACTOR RESPONSIBILITIES

16.1 The Contractor shall enforce strict discipline and good order among the Contractor’s employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

16.2 The Contractor warrants to the Owner that materials and equipment furnished will be new and of good quality, unless otherwise permitted, and that the work will be free from defects and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved, may be considered defective. If required by the Owner, the Contractor shall furnish evidence as to the kind and quality of materials and equipment provided.

16.3 Unless otherwise provided, the Contractor shall pay all sales, consumer, use and other similar taxes, and shall secure and pay for required permits, fees, licenses, and inspections necessary for proper execution of the Work.

16.4 The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the work. The Contractor shall promptly notify the Owner if the Drawings and Specifications are observed to be at variance therewith.

16.5 The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor’s employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under contract with the Contractor.

16.6 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract.

16.6.1 At completion of the Work the Contractor shall remove from and about the Project all waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. The Contractor shall be responsible for returning all damaged areas to their original conditions.

16.7 To the fullest extent permitted by law, the Contractor shall indemnify and otherwise hold harmless the Owner, its agents and employees, and the Architect, his agents and employees, from any and all liability, suits, actions or claims, together with all costs, expenses or attorneys' fees, arising out of their performance of work or supplying materials and services in connection with this contract. This agreement to indemnify and hold harmless shall cover all suits, actions, claims or liabilities asserted against the Owner, its agents and employees, and the Architect, his agents and employees, to the extent caused in whole or part by 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 or abridge other rights or obligations of indemnity which would otherwise exist.

**PART 2 - PRODUCTS - NOT USED**

**PART 3 - EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 009000**

**DE STATE GENERAL REQUIREMENTS**

**ARTICLE 1: GENERAL**

**1.01 CONTRACT DOCUMENTS**

- A. 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 to an extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.
- B. Work including material purchases shall not begin until the Contractor is in receipt of a bonafide State of Delaware Purchase Order. Any work performed or material purchases prior to the issuance of the Purchase Order is done at the Contractor's own risk and cost.

**1.02 EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS**

- A. For Public Works Projects financed in whole or in part by state appropriation the Contractor agrees that during the performance of this contract:
  - 1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, sex, color, sexual orientation, gender identity or national origin. The Contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, sex, color, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.
  - 2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, sex, color, sexual orientation, gender identity or national origin.”

**ARTICLE 2: OWNER**

(NO ADDITIONAL GENERAL REQUIREMENTS - SEE SUPPLEMENTARY GENERAL CONDITIONS)

**ARTICLE 3: CONTRACTOR**

**3.01 SCHEDULE OF VALUES**

- A. The successful Bidder shall within twenty (20) days after receiving notice to proceed with the work, furnish to the Owner a complete schedule of values on the various items comprising the work.

**3.02 SUBCONTRACTS**

- A. Upon approval of Subcontractors, the Contractor shall award their Subcontracts as soon as possible after the signing of their own contract and see that all material, their own and

- those of their Subcontractors, are promptly ordered so that the work will not be delayed by failure of materials to arrive on time.
- B. Before commencing any work or construction, the General Contractor is to consult with the Owner as to matters in connection with access to the site and the allocation of Ground Areas for the various features of hauling, storage, etc.
  - C. 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.
  - D. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.
  - E. The Contractor warrants to the Owner that materials and equipment furnished will be new and of good quality, unless otherwise permitted, and that the work will be free from defects and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved, may be considered defective. If required by the Owner, the Contractor shall furnish evidence as to the kind and quality of materials and equipment provided.
  - F. Unless otherwise provided, the Contractor shall pay all sales, consumer, use and other similar taxes, and shall secure and pay for required permits, fees, licenses, and inspections necessary for proper execution of the Work.
  - G. The Contractor shall comply with and give notices required by laws, ordinances, rules, regulations, and lawful orders of public authorities bearing on performance of the Work. The Contractor shall promptly notify the Owner if the Drawings and Specifications are observed to be at variance therewith.
  - H. The Contractor shall be responsible to the Owner for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work under contract with the Contractor.
  - I. 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 from and about the Project all waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials. The Contractor shall be responsible for returning all damaged areas to their original conditions.

### 3.03 STATE LICENSE AND TAX REQUIREMENTS

- A. Each Contractor and Subcontractor shall be licensed to do business in the State of Delaware and shall pay all fees and taxes due under State laws. In conformance with Section 2503, Chapter 25, Title 30, Delaware Code, "the Contractor shall furnish the State Tax Department within ten (10) days after award of the Contract, a statement of the total values of each contract and Subcontract, together with the names and addresses of the contracting parties .... "

### 3.04 LARGE PUBLIC WORKS CONTRACT PROCEDURES

- A. The Contractor shall comply with all requirements set forth in Section 6962, Chapter 69, Title 29 of the Delaware Code.
- B. During the contract Work, the Contractor and each listed Subcontractor, shall implement an Employee Drug Testing Program in accordance with OMB Regulation 4104-“Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on “Large Public Works Projects”. “Large Public Works” is based upon the current threshold required for bidding Public Works as set by the Purchasing and Contracting Advisory Council.

## **ARTICLE 4: ADMINISTRATION OF THE CONTRACT**

### 4.01 CONTRACT SURETY

- A. Performance Bond And Labor And Material Payment Bond
  - 1. All bonds will be required as follows unless specifically waived elsewhere in the Bidding Documents.
  - 2. Contents of Performance Bonds - The bond shall be conditioned upon the faithful compliance and performance by the successful bidder of each and every term and condition of the contract and the proposal, plans, specifications, and bid documents thereof. Each term and condition shall be met at the time and in the manner prescribed by the Contract, Bid documents and the specifications, including the payment in full to every person furnishing materiel or performing labor in the performance of the Contract, of all sums of money due the person for such labor and materiel. (The bond shall also contain the successful bidder's guarantee to indemnify and save harmless the State and the agency from all costs, damages and expenses growing out of or by reason of the Contract in accordance with the Contract.)
  - 3. Invoking a Performance Bond - The agency may, when it considers that the interest of the State so require, cause judgement to be confessed upon the bond.
  - 4. Within twenty (20) days after the date of notice of award of contract, the Bidder to whom the award is made shall furnish a Performance Bond and Labor and Material Payment Bond, each equal to the full amount of the Contract price to guarantee the faithful performance of all terms, covenants and conditions of the same. The bonds are to be issued by an acceptable Bonding Company licensed to do business in the State of Delaware and shall be issued in duplicate.
  - 5. Performance and Payment Bonds shall be maintained in full force (warranty bond) for a period of two (2) years after the date of the Certificate for Final Payment. The Performance Bond shall guarantee the satisfactory completion of the Project and that the Contractor will make good any faults or defects in his work which may develop during the period of said guarantees as a result of improper or defective workmanship, material or apparatus, whether furnished by themselves or their Sub-Contractors. The Payment Bond shall guarantee that the Contractor shall pay in full all persons, firms or corporations who furnish labor or material or both labor and material for, or on account of, the work included herein. The bonds shall be paid for by this Contractor. The Owner shall have the right to demand that the proof parties signing the bonds are duly authorized to do so.

#### 4.02 FAILURE TO COMPLY WITH CONTRACT

- A. If any firm entering into a contract with the State, or Agency that neglects or refuses to perform or fails to comply with the terms thereof, the Agency which signed the Contract may terminate the Contract and proceed to award a new contract in accordance with this Chapter 69, Title 29 of the Delaware Code or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the Performance Bond. Nothing herein shall preclude the Agency from pursuing additional remedies as otherwise provided by law.

#### 4.03 CONTRACT INSURANCE AND CONTRACT LIABILITY

- A. In addition to the bond requirements stated in the Bid Documents, each successful Bidder shall purchase adequate insurance for the performance of the Contract and, by submission of a Bid, agrees to indemnify and save harmless and to defend all legal or equitable actions brought against the State, any Agency, officer and/or employee of the State, for and from all claims of liability which is or may be the result of the successful Bidder's actions during the performance of the Contract.
- B. The purchase or nonpurchase of such insurance or the involvement of the successful Bidder in any legal or equitable defense of any action brought against the successful Bidder based upon work performed pursuant to the Contract will not waive any defense which the State, its agencies and their respective officers, employees and agents might otherwise have against such claims, specifically including the defense of sovereign immunity, where applicable, and by the terms of this section, the State and all agencies, officers and employees thereof shall not be financially responsible for the consequences of work performed, pursuant to said contract.

#### 4.04 RIGHT TO AUDIT RECORDS

- A. The Owner shall have the right to audit the books and records of a Contractor or any Subcontractor under any Contract or Subcontract to the extent that the books and records relate to the performance of the Contract or Subcontract.
- B. Said books and records shall be maintained by the Contractor for a period of seven (7) years from the date of final payment under the Prime Contract and by the Subcontractor for a period of seven (7) years from the date of final payment under the Subcontract.

### **ARTICLE 5: SUBCONTRACTORS**

#### 5.01 SUBCONTRACTING REQUIREMENTS

- A. All contracts for the construction, reconstruction, alteration or repair of any public building (not a road, street or highway) shall be subject to the following provisions:
  - 1. A contract shall be awarded only to a Bidder whose Bid is accompanied by a statement containing, for each Subcontractor category, the name and address (city or town and State only - street number and P.O. Box addresses not required) of the subcontractor whose services the Bidder intends to use in performing the Work and providing the material for such Subcontractor category.
  - 2. A Bid will not be accepted nor will an award of any Contract be made to any Bidder which, as the Prime Contractor, has listed itself as the Subcontractor for any Subcontractor unless:

- a. It has been established to the satisfaction of the awarding Agency that the Bidder has customarily performed the specialty work of such Subcontractor category by artisans regularly employed by the Bidder's firm;
  - b. That the Bidder is duly licensed by the State to engage in such specialty work, if the State requires licenses; and
  - c. That the Bidder is recognized in the industry as a bona fide Subcontractor or Contractor in such specialty work and Subcontractor category.
- B. The decision of the awarding Agency as to whether a Bidder who list itself as the Subcontractor for a Subcontractor category shall be final and binding upon all Bidders, and no action of any nature shall lie against any awarding agency or its employees or officers because of its decision in this regard.
- C. After such a Contract has been awarded, the successful Bidder shall not substitute another Subcontractor for any Subcontractor whose name was set forth in the statement which accompanied the Bid without the written consent of the awarding Agency.
- D. No Agency shall consent to any substitution of Subcontractors unless the Agency is satisfied that the Subcontractor whose name is on the Bidders accompanying statement:
1. Is unqualified to perform the work required;
  2. Has failed to execute a timely reasonable Subcontract;
  3. Has defaulted in the performance on the portion of the work covered by the Subcontract; or
  4. Is no longer engaged in such business.
- E. Should a Bidder be awarded a contract, such successful Bidder shall provide to the agency the taxpayer identification license numbers of such subcontractors. Such numbers shall be provided on the later of the date on which such subcontractor is required to be identified or the time the contract is executed. The successful Bidder shall provide to the agency to which it is contracting, within 30 days of entering into such public works contract, copies of all Delaware Business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the Bidder entered the public works contract the Delaware Business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

#### 5.02 PENALTY FOR SUBSTITUTION OF SUBCONTRACTORS

- A. Should the Contractor fail to utilize any or all of the Subcontractors in the Contractor's Bid statement in the performance of the Work on the public bidding, the Contractor shall be penalized in the amount of one (1) percent of Contract amount not to exceed \$10,000. The Agency may determine to deduct payments of the penalty from the Contractor or have the amount paid directly to the Agency. Any penalty amount assessed against the Contractor may be remitted or refunded, in whole or in part, by the Agency awarding the Contract, only if it is established to the satisfaction of the Agency that the Subcontractor in question has defaulted or is no longer engaged in such business. No claim for the remission or refund of any penalty shall be granted unless an application is filed within one year after the liability of the successful Bidder accrues. All penalty amounts assessed and not refunded or remitted to the contractor shall be reverted to the State.

5.03 ASBESTOS ABATEMENT

- A. The selection of any Contractor to perform asbestos abatement for State-funded projects shall be approved by the Office of Management and Budget/Division of Facilities Management pursuant to Chapter 78 of Title 16.

5.04 STANDARDS OF CONSTRUCTION FOR THE PROTECTION OF THE PHYSICALLY HANDICAPPED

- A. All Contracts shall conform with the standard established by the Delaware Architectural Accessibility Board unless otherwise exempted by the Board.

5.05 CONTRACT PERFORMANCE

- A. Any firm entering into a Public Works Contract that neglects or refuses to perform or fails to comply with its terms, the Agency may terminate the Contract and proceed to award a new Contract or may require the Surety on the Performance Bond to complete the Contract in accordance with the terms of the performance Bond.

**ARTICLE 6: CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS**

6.01 CONSTRUCTION BY OWNER OR SEPARATE CONTRACTORS

- A. The Owner reserves the right to simultaneously perform other 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 Projects at the same site.
- B. The Contractor shall afford the Owner and other Contractors reasonable opportunity for access and storage of materials and equipment, and for the performance of their activities, and shall connect and coordinate their activities with other forces as required by the Contract Documents.

**ARTICLE 7: CHANGES IN THE WORK**

7.01 CHANGES IN THE WORK

- A. The Owner, without invalidating the Contract, may order changes in the Work consisting of Additions, Deletions, Modifications or Substitutions, with the Contract Sum and Contract completion date being adjusted accordingly. Such changes in the Work shall be authorized by written Change Order signed by the Professional, as the duly authorized agent, the Contractor and the Owner.
- B. The Contract Sum and Contract Completion Date shall be adjusted only by a fully executed Change Order.
- C. The additional cost, or credit to the Owner resulting from a change in the Work shall be by mutual agreement of the Owner, Contractor and the Architect. In all cases, this cost or credit shall be based on the 'DPE' wages required and the "invoice price" of the materials/equipment needed.
  - 1. "DPE" shall be defined to mean "direct personnel expense". Direct payroll expense includes direct salary plus customary fringe benefits (prevailing wage rates) and documented statutory costs such as workman's compensation insurance, Social Security/Medicare, and unemployment insurance (a maximum multiplier of 1.35 times DPE).
  - 2. "Invoice price" of materials/equipment shall be defined to mean the actual cost of materials and/or equipment that is paid by the Contractor, (or subcontractor), to a material distributor, direct factory vendor, store, material provider, or equipment

- leasing entity. Rates for equipment that is leased and/or owned by the Contractor or subcontractor(s) shall not exceed those listed in the latest version of the "Means Building Construction Cost Data" publication.
3. In addition to the above, the General Contractor is allowed a fifteen percent (15%) markup for overhead and profit for additional work performed by the General Contractor's own forces. For additional subcontractor work, the Subcontractor is allowed a fifteen percent overhead and profit on change order work above and beyond the direct costs stated previously. To this amount, the General Contractor will be allowed a mark-up not exceeding seven point five percent (7.5%) on the subcontractors work. These mark-ups shall include all costs including, but not limited to: overhead, profit, bonds, insurance, supervision, etc. No markup is permitted on the work of a Sub-subcontractor. No additional costs shall be allowed for changes related to the Contractor's onsite superintendent/staff, or project manager, unless a change in the work changes the project duration and is identified by the CPM schedule. There will be no other costs associated with the change order.

## **ARTICLE 8: TIME**

### 8.01 TIME

- A. Time limits, if any, are as stated in the Project Manual. By executing the Agreement, the Contractor confirms that the stipulated limits are reasonable, and that the Work will be completed within the anticipated time frame.
- B. If progress of the Work is delayed at any time by changes ordered by the Owner, by labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions, unavoidable casualties or other causes beyond the Contractor's control, the Contract Time shall be extended for such reasonable time as the Owner may determine.
- C. Any extension of time beyond the date fixed for completion of the construction and acceptance of any part of the Work called for by the Contract, or the occupancy of the building by the Owner, in whole or in part, previous to the completion shall not be deemed a waiver by the Owner of his right to annul or terminate the Contract for abandonment or delay in the matter provided for, nor relieve the Contractor of full responsibility.

### 8.02 SUSPENSION AND DEBARMENT

- A. Per Section 6962(d)(14), Title 29, Delaware Code, "Any Contractor who fails to perform a public works contract or complete a public works project within the time schedule established by the Agency in the Invitation To Bid, may be subject to Suspension or Debarment for one or more of the following reasons: 1) failure to supply the adequate labor supply ratio for the project; 2) inadequate financial resources; or, 3) poor performance on the Project."
- B. "Upon such failure for any of the above stated reasons, the Agency that contracted for the public works project may petition the Director of the Office of Management and Budget for Suspension or Debarment of the Contractor. The Agency shall send a copy of the petition to the Contractor within three (3) working days of filing with the Director. If the Director concludes that the petition has merit, the Director shall schedule and hold a hearing to determine whether to suspend the Contractor, debar the Contractor or deny the petition. The Agency shall have the burden of proving, by a preponderance of the evidence, that the Contractor failed to perform or complete the public works project

within the time schedule established by the Agency and failed to do so for one or more of the following reasons: 1) failure to supply the adequate labor supply ratio for the project; 2) inadequate financial resources; or, 3) poor performance on the project. Upon a finding in favor of the Agency, the Director may suspend a Contractor from Bidding on any project funded, in whole or in part, with public funds for up to 1 year for a first offense, up to 3 years for a second offense and permanently debar the Contractor for a third offense. The Director shall issue a written decision and shall send a copy to the Contractor and the Agency. Such decision may be appealed to the Superior Court within thirty (30) days for a review on the record."

### 8.03 RETAINAGE

- A. Per Section 6962(d)(5) a., Title 29, Delaware Code: The Agency may at the beginning of each public works project establish a time schedule for the completion of the project. If the project is delayed beyond the completion date due to the Contractor's failure to meet their responsibilities, the Agency may hold permanently, at its discretion, all or part of the Contractor's retainage.
- B. This forfeiture of retainage also applies to the timely completion of the punchlist. A punchlist will only be prepared upon the mutual agreement of the Owner, Architect and Contractor. Once the punchlist is prepared, all three parties will by mutual agreement, establish a schedule for its completion. Should completion of the punchlist be delayed beyond the established date due to the Contractor's failure to meet their responsibilities, the Agency may hold permanently, at its discretion, all or part of the Contractor's retainage.

## ARTICLE 9: PAYMENTS AND COMPLETION

### 9.01 APPLICATION FOR PAYMENT

- A. Applications for payment shall be made upon AIA Document G702. There will be a five percent (5%) retainage on all Contractor's monthly invoices until completion of the project. This retainage will become payable upon receipt of all required closeout documentation, provided all other requirements of the Contract Documents have been met.
- B. A date will be fixed for the taking of the monthly account of work done. Upon receipt of Contractor's itemized application for payment, such application will be audited, modified, if found necessary, and approved for the amount. Statement shall be submitted to the Owner.
- C. Article 6516, Chapter 65, Title 29 of the Delaware Code stipulates annualized interest not to exceed 12% per annum beginning thirty (30) days after the "presentment" (as opposed to the date) of the invoice."

### 9.02 PARTIAL PAYMENTS

- A. Any public works Contract executed by any Agency may provide for partial payments at the option of the Owner with respect to materials placed along or upon the sites or stored at secured locations, which are suitable for use in the performance of the contract.
- B. When approved by the agency, partial payment may include the values of tested and acceptable materials of a nonperishable or noncontaminative nature which have been produced or furnished for incorporation as a permanent part of the work yet to be completed, provided acceptable provisions have been made for storage.

1. Any allowance made for materials on hand will not exceed the delivered cost of the materials as verified by invoices furnished by the Contractor, nor will it exceed the contract bid price for the material complete in place.
- C. If requested by the Agency, receipted bills from all Contractors, Subcontractors, and material, men, etc., for the previous payment must accompany each application for payment. Following such a request, no payment will be made until these receipted bills have been received by the Owner.

#### 9.03 SUBSTANTIAL COMPLETION

- A. When the building has been made suitable for occupancy, but still requires small items of miscellaneous work, the Owner will determine the date when the project has been substantially completed.
- B. If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the Contractor, and without terminating the Contract, the Owner may make payment of the balance due for the portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment that it shall not constitute a waiver of claims.
- C. On projects where commissioning is included, the commissioning work as defined in the specifications must be complete prior to the issuance of substantial completion.

#### 9.04 FINAL PAYMENT

- A. Final payment, including the five percent (5%) retainage, shall be made within thirty (30) days after the Work is fully completed and the Contract fully performed and provided that the Contractor has submitted the following closeout documentation (in addition to any other documentation required elsewhere in the Contract Documents):
  1. Evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the work have been paid,
  2. An acceptable RELEASE OF LIENS,
  3. Copies of all applicable warranties,
  4. As-built drawings,
  5. Operations and Maintenance Manuals,
  6. Instruction Manuals,
  7. Consent of Surety to final payment.
  8. The Owner reserves the right to retain payments, or parts thereof, for its protection until the foregoing conditions have been complied with, defective work corrected and all unsatisfactory conditions remedied.

### **ARTICLE 10: PROTECTION OF PERSONS AND PROPERTY**

#### 10.01 PROTECTION OF PERSONS AND PROPERTY

- A. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take all reasonable precautions to prevent damage, injury or loss to: workers, persons nearby who may be affected, the Work, materials and equipment to be incorporated, and existing property at the site or adjacent thereto. The Contractor shall give notices and comply with applicable laws ordinances, rules regulations, and lawful orders of public authorities bearing on the safety of persons and property and their protection from injury, damage, or loss. The Contractor shall promptly remedy damage

- and loss to property at the site caused in whole or in part by the Contractor, a Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.
- B. The Contractor shall notify the Owner in the event any existing hazardous material such as lead, PCBs, asbestos, etc. is encountered on the project. The Owner will arrange with a qualified specialist for the identification, testing, removal, handling and protection against exposure or environmental pollution, to comply with applicable regulation laws and ordinances. The Contractor and Architect will not be required to participate in or to perform this operation. Upon completion of this work, the Owner will notify the Contractor and Architect in writing the area has been cleared and approved by the authorities in order for the work to proceed. The Contractor shall attach documentation from the authorities of said approval.
  - C. As required in the Hazardous Chemical Information Act of June 1984, all vendors supplying any materials that may be defined as hazardous, must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it has a warning caution on the label relating to a potential physical or health hazard, if it is known to be present in the work place, and if employees may be exposed under normal conditions or in any foreseeable emergency situation. Material Safety Data Sheets must be provided directly to the Owner along with the shipping slips that include those products.
  - D. The Contractor shall certify to the Owner that materials incorporated into the Work are free of all asbestos. This certification may be in the form of Material Safety Data Sheet (MSDS) provided by the product manufacturer for the materials used in construction, as specified or as provided by the Contractor.

## **ARTICLE 11: INSURANCE AND BONDS**

### **11.01 INSURANCE AND BONDS**

- A. The Contractor shall carry all insurance required by law, such as Unemployment Insurance, etc. The Contractor shall carry such insurance coverage as they desire on their own property such as a field office, storage sheds or other structures erected upon the project site that belong to them and for their own use. The Subcontractors involved with this project shall carry whatever insurance protection they consider necessary to cover the loss of any of their personal property, etc.
- B. Upon being awarded the Contract, the Contractor shall obtain a minimum of two (2) copies of all required insurance certificates called for herein, and submit one (1) copy of each certificate, to the Owner, within 20 days of contract award.
- C. Bodily Injury Liability and Property Damage Liability Insurance shall, in addition to the coverage included herein, include coverage for injury to or destruction of any property arising out of the collapse of or structural injury to any building or structure due to demolition work and evidence of these coverages shall be filed with and approved by the Owner.
- D. The Contractor's Property Damage Liability Insurance shall, in addition to the coverage noted herein, include coverage on all real and personal property in their care, custody and control damaged in any way by the Contractor or their Subcontractors during the entire construction period on this project.

- E. Builders Risk (including Standard Extended Coverage Insurance) on the existing building during the entire construction period, shall not be provided by the Contractor under this contract. The Owner shall insure the existing building and all of its contents and all this new alteration work under this contract during entire construction period for the full insurable value of the entire work at the site. Note, however, that the Contractor and their Subcontractors shall be responsible for insuring building materials (installed and stored) and their tools and equipment whenever in use on the project, against fire damage, theft, vandalism, etc.
- F. Certificates of the insurance company or companies stating the amount and type of coverage, terms of policies, etc., shall be furnished to the Owner, within 20 days of contract award.
- G. The Contractor shall, at their own expense, (in addition to the above) carry the following forms of insurance:
1. Contractor's Contractual Liability Insurance  
Minimum coverage to be:
    - Bodily Injury\$ 500,000for each person
    - \$1,000,000for each occurrence
    - \$1,000,000aggregate
    - Property Damage\$ 500,000for each occurrence
    - \$1,000,000aggregate
  2. Contractor's Protective Liability Insurance  
Minimum coverage to be:
    - Bodily Injury\$ 500,000for each person
    - \$1,000,000for each occurrence
    - \$1,000,000aggregate
    - Property Damage\$ 500,000for each occurrence
    - \$ 500,000aggregate
  3. Automobile Liability Insurance  
Minimum coverage to be:
    - Bodily Injury\$ 1,000,000for each person
    - \$ 1,000,000for each occurrence
    - Property Damage\$ 500,000per accident
  4. Prime Contractor's and Subcontractors' policies shall include contingent and contractual liability coverage in the same minimum amounts as 11.7.1 above.
  5. Workmen's Compensation (including Employer's Liability):
    - a. Minimum Limit on employer's liability to be as required by law.
    - b. Minimum Limit for all employees working at one site.
  6. Certificates of Insurance must be filed with the Owner guaranteeing fifteen (15) days prior notice of cancellation, non-renewal, or any change in coverages and limits of liability shown as included on certificates.
  7. Social Security Liability
    - a. With respect to all persons at any time employed by or on the payroll of the Contractor or performing any work for or on their behalf, or in connection with or arising out of the Contractor's business, the Contractor shall accept full and exclusive liability for the payment of any and all contributions or taxes or unemployment insurance, or old age retirement benefits, pensions or annuities

- now or hereafter imposed by the Government of the United States and the State or political subdivision thereof, whether the same be measured by wages, salaries or other remuneration paid to such persons or otherwise.
- b. Upon request, the Contractor shall furnish Owner such information on payrolls or employment records as may be necessary to enable it to fully comply with the law imposing the aforesaid contributions or taxes.
  - c. If the Owner is required by law to and does pay any and/or all of the aforesaid contributions or taxes, the Contractor shall forthwith reimburse the Owner for the entire amount so paid by the Owner.

## **ARTICLE 12: UNCOVERING AND CORRECTION OF WORK**

### 12.01 UNCOVERING AND CORRECTION OF WORK

- A. The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed or completed, and shall correct any Work found to be not in accordance with the requirements of the Contract Documents within a period of two years from the date of Substantial Completion, or by terms of an applicable special warranty required by the Contract Documents. The provisions of this Article apply to work done by Subcontractors as well as to Work done by direct employees of the Contractor.
- B. At any time during the progress of the work, or in any case where the nature of the defects shall be such that it is not expedient to have them corrected, the Owner, at their option, shall have the right to deduct such sum, or sums, of money from the amount of the contract as they consider justified to adjust the difference in value between the defective work and that required under contract including any damage to the structure.

## **ARTICLE 13: MISCELLANEOUS PROVISIONS**

### 13.01 CUTTING AND PATCHING

- A. The Contractor shall be responsible for all cutting and patching. The Contractor shall coordinate the work of the various trades involved.

### 13.02 DIMENSIONS

- A. All dimensions shown shall be verified by the Contractor by actual measurements at the project site. Any discrepancies between the drawings and specifications and the existing conditions shall be referred to the Owner for adjustment before any work affected thereby has been performed.

### 13.03 LABORATORY TESTS

- A. Any specified laboratory tests of material and finished articles to be incorporated in the work shall be made by bureaus, laboratories or agencies approved by the Owner and reports of such tests shall be submitted to the Owner. The cost of the testing shall be paid for by the Contractor.
- B. The Contractor shall furnish all sample materials required for these tests and shall deliver same without charge to the testing laboratory or other designated agency when and where directed by the Owner.

13.04 ARCHAEOLOGICAL EVIDENCE

- A. Whenever, in the course of construction, any archaeological evidence is encountered on the surface or below the surface of the ground, the Contractor shall notify the authorities of the Delaware Archaeological Board and suspend work in the immediate area for a reasonable time to permit those authorities, or persons designated by them, to examine the area and ensure the proper removal of the archaeological evidence for suitable preservation in the State Museum.

13.05 GLASS REPLACEMENT AND CLEANING

- A. The General Contractor shall replace without expense to the Owner all glass broken during the construction of the project. If job conditions warrant, at completion of the job the General Contractor shall have all glass cleaned and polished.

13.06 WARRANTY

- A. For a period of two (2) years from the date of Substantial Completion, as evidenced by the date of final acceptance of the work, the contractor warrants that work performed under this contract conforms to the contract requirements and is free of any defect of equipment, material or workmanship performed by the contractor or any of his subcontractors or suppliers. However, manufacturer's warranties and guarantees, if for a period longer than two (2) years, shall take precedence over the above warranties. The contractor shall remedy, at his own expense, any such failure to conform or any such defect. The protection of this warranty shall be included in the Contractor's Performance Bond.

**ARTICLE 14: TERMINATION OF CONTRACT**

14.01 TERMINATION OF CONTRACT

- A. If the Contractor defaults or persistently fails or neglects to carry out the Work in accordance with the Contract Documents or fails to perform a provision of the Contract, the Owner, after seven days written notice to the Contractor, may make good such deficiencies and may deduct the cost thereof from the payment then or thereafter due the Contractor. Alternatively, at the Owner's option, and the Owner may terminate the Contract and take possession of the site and of all materials, equipment, tools, and machinery thereon owned by the Contractor and may finish the Work by whatever method the Owner may deem expedient. If the costs of finishing the Work exceed any unpaid compensation due the Contractor, the Contractor shall pay the difference to the Owner.
- B. "If the continuation of this Agreement is contingent upon the appropriation of adequate state, or federal funds, this Agreement may be terminated on the date beginning on the first fiscal year for which funds are not appropriated or at the exhaustion of the appropriation. The Owner may terminate this Agreement by providing written notice to the parties of such non-appropriation. All payment obligations of the Owner will cease upon the date of termination. Notwithstanding the foregoing, the Owner agrees that it will use its best efforts to obtain approval of necessary funds to continue the Agreement by taking appropriate action to request adequate funds to continue the Agreement."

**END OF GENERAL REQUIREMENTS**

**SECTION 009500**

**GENERAL AND SPECIAL INSTRUCTIONS**

**PART 1 - GENERAL**

**1.01 GENERAL INSTRUCTIONS TO BIDDERS**

- A. The general rules and conditions which follow apply to all purchases and become a part of each contract or purchase order
  - 1. Before submitting its bid, the bidder must review all instructions and specifications.
  - 2. A bidder's misinterpretation or ignorance of such instructions or specifications will not excuse the bidder from complying with the instructions and specifications.
  - 3. The bidder must also review applicable state laws. If these instructions or the bid specifications are inconsistent with state law, state law shall control.

**1.02 DEFINITIONS:**

- A. "District" refers to the Brandywine School District.

**1.03 BID PROPOSALS**

- A. Use the enclosed Proposal Form in submitting a Bid Proposal. The Bid Proposal must be dated and signed by an authorized representative of the bidder.
- B. Refer to Section 001000, INSTRUCTIONS TO BIDDERS, for additional information.

**1.04 "RFP" - REQUESTS FOR PROPOSALS: N/A**

**1.05 PRE-BID MEETINGS: REQUIRED**

**1.06 DELIVERY OF BID PROPOSALS**

- A. Sealed Bid Proposal must be received at the address listed in the Advertisement for Bid notice, prior to the time set for the Bid Opening. It is the responsibility of the Bidder to make certain that the Bid Proposal is in the location designated above prior to the time set for the Bid Opening. The District accepts no responsibility for any bid entrusted to the United States Postal Service, or any other delivery service or company. Bid Proposals not received in the designated location by the time set for the Bid Opening will not be considered.

**1.07 BID OPENING**

- A. Bids will be publicly opened at the designated location at the time designated on the Proposal Form, and in the Advertisement for Bids. The purpose of the opening is to reveal the names of those bidders submitting proposals. The opening is not to serve as a forum for determining the responsiveness of each bid, or the apparent low bidder. The aggregate amount of each bid shall be disclosed. Additional information shall be disclosed at the discretion of the District.

**1.08 POLICY AND PROCEDURE FOR THE EXAMINATION AND COPYING OF PUBLIC RECORDS**

- A. Title 29 § 10003 Delaware Code Freedom of Information Act
  - 1. All public records shall be open to inspection and copying by any citizen of the State during regular business hours by the custodian of the records for the appropriate public body. Reasonable access to and reasonable facilities for copying of these records shall not be denied to any citizen. If the record is in active use or in storage and, therefore, not available at the time a citizen requests access, the custodian shall

so inform the citizen and make an appointment for said citizen to examine such records as expediently as they may be made available. Any reasonable expense involved in the copying of such records shall be levied as a charge on the citizen requesting such copy.

2. It shall be the responsibility of the public body to establish rules and regulations regarding access to public records as well as fees charged for copying of such records. (60 Del. Laws, c. 641 § 1.)

B. Examination of Contract File

1. Any citizen of the State or bidder may review the contract file only after making an appointment to do so with the District. Requests to review the records during an unannounced office visit may be denied if department personnel are busy, or if the file is in active use. Trade secrets and commercial or financial information of a privileged or confidential nature shall not be deemed public.

C. Requests for Bid Tabulations

1. Copies of bid tabulation may be obtained from the District either by mail after receipt of a written request and a self-addressed and stamped envelope, or by making an appointment to pick up copies that will be left at the Receptionist's desk. Bid tabulation and/or contract information other than the name of the successful bidder will not be given out over the telephone. Requests for bid tabulations during an unannounced office visit may be denied if work flow of department personnel will be disrupted.

D. Copying Fees

1. The District reserves the right to charge a reasonable fee for the copying of any public record. Such charges must be paid to the District prior to receiving the copies.

### 1.09 STATUS OF PROPOSALS

A. Unless otherwise stated in the Special Instructions or on the Proposal Form, the Proposal submitted by bidders shall be binding for a period of 60 days from the date the bids are opened. Requests for Proposals shall be binding for a period of 90 days.

B. Bids may be withdrawn up to the time of the bid opening upon request of the bidder. Such a request must be in writing and received by the District prior to the time stated for the bid opening. Timely requests submitted by facsimile or telegram will be honored.

C. Waiver - The District reserves the right to waive any failure to conform to the instructions or specifications if the waiver: (1) does not involve a mandatory statutory requirement; (2) does not provide a competitive advantage to one or more bidders; and (3) is in the best interest of the District.

D. Bidders may take exception to the terms and conditions of the instructions and/or specifications. Exceptions must be submitted prior to the opening of bids. Exceptions that do not conform to State bid law and/or create inequality in the treatment of bidders will be rejected. The bid of a bidder taking exception may be rejected if the District rejects the exception.

### 1.10 AWARDING OF BIDS

A. The District reserves the right to award the bid to the lowest qualified bidder meeting specifications by item, in total, or any other method, whichever is deemed by the District to be in its best interest.

- B. The District reserves the right to award the bid to 2 or more firms if the advertisement for bids notifies bidders of the right of the District to make such an award and the criteria for such an award.
- C. The District reserves the right to reject any and all bids, in whole or in part, to make partial awards, to waive any irregularity, to reasonably increase or decrease quantities where estimated quantities are shown or where definite quantities are shown, and may reject any bid which indicates any omission, contains alteration of form or additions not requested or imposes conditions, or where the individual bidder should receive a total award of less than \$500.00, or offers alternate items, and make any award which is deemed to be in the best interest of the District.
- D. In the event of tie bids, the District will decide which bidder is to be awarded the contract by any criteria of its choice.
- E. The contract shall be awarded by the District and its Board(s) within 60 days after the opening of bids. Failure to do so shall be cause for rejection of all bids. Responses to Requests for Proposals shall be awarded within 90 days after the opening of Proposals. Failure to do so shall be cause for rejection of all proposals.

#### 1.11 BID DEPOSIT REQUIRED

#### 1.12 FORMAL CONTRACT AND/OR PURCHASE ORDER

- A. The successful bidder shall execute the formal contract, within twenty (20) days after the award of the contract. No bidder or Vendor is to begin any work until it receives a State of Delaware Purchase Order signed by two authorized representatives of the District, properly processed through the State of Delaware Accounting Office. The Purchase Order shall serve as the authorization to proceed with work in accordance with the bid specifications and the special instructions.
- B. The formal contract or purchase order shall incorporate by reference these General Instructions, as well as the Special Instructions and Specifications and the bidder's Proposal.

#### 1.13 PERFORMANCE AND PAYMENT BONDS REQUIRED

#### 1.14 FAILURE TO COMPLY WITH CONTRACT: NEW AWARD: SUPERVISION

- A. If any person entering into a contract under the authority of this chapter neglects or refuses to perform it or fails to comply with the terms thereof, the District will terminate the contract and proceed to award a new contract in accordance with the provisions of Chapter 69, Title 29 of the Delaware Code, or may require the surety on the performance bond to complete the contract in accordance with the terms of the performance bond.
- B. Should a contractor/supplier fail to perform under the conditions of this contract, the District reserves the right to purchase the item or items on the open market and charge to the contractor/supplier or deduct from any monies owed the contractor/supplier, the difference between the bid price and the purchase price. However, no such action will be taken without first notifying the contractor/supplier by certified letter and giving him reasonable time to reply, but in no event longer than 10 days from the mailing of the certified letter. Failure to supply items as bid may be cause for removal of a bidder from our vendor bid list.

1.15 PREFERENCE FOR DELAWARE LABOR: STIPULATION IN CONTRACT

- A. In the construction of all public works for the State or any political subdivision thereof, or by persons contracting with the State or any political subdivision thereof, preference in employment of laborers, workmen or mechanics, shall be given to bona fide legal citizens of the State, who have established citizenship by residence of at least ninety days in the State. Any person, company or corporation who violates the provisions of this section shall pay a penalty to the Secretary of Finance equal to the amount of compensation paid to any person in violation of this section. (per Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d) Subsection (4)b)

1.16 NON-DISCRIMINATION

- A. In performing this work the successful bidder agrees to the following:
- B. The successful bidder will not discriminate against any employee or application for employment because of race, creed, color, sex, national origin, age or disability. The vendor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, sex, national origin, age or disability. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion, or transfer; recruitment; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
- C. The successful bidder will, in all solicitations or advertisements for employees place by or on behalf of himself, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, national origin, age or disability.

1.17 EQUAL OPPORTUNITY EMPLOYER

- A. The School District is an equal opportunity employer and does not discriminate or deny services on the basis of race, color, creed, national origin, sex, disability, or age.

1.18 INSURANCE - LIABILITY

- A. The successful bidder shall maintain, at its expense, the following insurance:
  - 1. Public Liability and Automobile Liability Insurance
    - a. The policy is to be provided for both the owner and the contractor.
    - b. Minimum coverage for bodily injury shall be \$500,000 for any one individual and \$1,000,000 for any one accident.
    - c. Minimum coverage for property damage shall be \$500,000 for any one accident.
    - d. Policies shall include completed operations, owners and contractors Protective Liability and Contractual Liability coverage, including protection against claims arising out of the activities of subcontractors in the same minimum amounts stated above.
    - e. If the project involves excavations, deep trenching, or blasting, endorsements to the policy should be obtained to cover these hazards.
    - f. Certificates of insurance must be filed with the owner guaranteeing fifteen (15) days' notice prior to cancellation.
  - 2. Builders Risk Policy
    - a. The builders risk policy shall be an all risk coverage policy.
    - b. The policy shall be in the name of the owner and prime contractor, jointly, "as their interests may appear."

- c. On new construction or complete additions, the policy will be carried on a completed value basis.
  - d. On renovation projects, the policy will be covered by either an installation floater or a separate policy of sufficient dollar amount to fully cover the cost of the materials stored.
  - e. If it is your policy to pay for material not stored on the site, either a separate certificate of insurance must be issued or a rider must be added to the existing builders risk policy. The amount of coverage must be sufficient to cover all materials stored off the site.
  - f. Certificates of insurance must be filed with the owner guaranteeing fifteen (15) days' notice prior to cancellation.
3. Worker's Compensation Including Employee's Liability
- a. Minimum limit on Employee's Liability to be \$100,000 minimum limit for all employees working at one site.
  - b. Certificates of insurance must be filed with the owner guaranteeing fifteen (15) days' notice prior to cancellation.

1.19 LCENSES, FEES, PERMITS, TAXES, AND STATE LAWS AS APPLICABLE

- A. In the performance of this Contract the successful Bidder is required to comply with all applicable Federal, State, and Local laws, ordinances, codes, and regulations. The cost of permits, insurance, taxes, and other relevant costs required in the performance of the Contract shall be borne by the successful Bidder. All Delaware Laws in reference to construction shall be as binding as though quoted in full herein and their application shall be fully adhered to by all parties affected hereby. The vendor shall furnish upon request any or all of the referenced items.

1.20 WAGE SCALE - PREVAILING WAGE RATE

1.21 PATENTS, TRADEMARKS, AND COPYRIGHTS

- A. The supplier shall hold free of any liability, the School District and the officers and employees, of any costs or expenses arising from patent, trademark or copyright infringement incurred by use of any item supplied or process used in performance of this Contract.

1.22 COVENANT AGAINST CONTINGENT FEES

- A. The bidder warrants that no person or selling agency has been employed or retained to solicit or secure the Contract upon an agreement of understanding for a commission or percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the bidder for the purpose of securing business. For breach or violation of this warrantee the School District shall have the right to annul the Contract without liability or at its discretion to deduct from the contract price or otherwise recover the full amount of such commission, percentage, brokerage or contingent fees.

1.23 TAXES - EXEMPT

- A. Since the School District is exempt, prices quoted shall not include Federal taxes or State of Local taxes. Tax Exemption number is (Available from Owner).

1.24 TRADE DISCOUNTS

- A. All prices offered must be lowest net price after trade discounts have been considered.

- B. Bids offering a percentage off list prices will not be accepted unless;
  - 1. Specifically requested in that manner;
  - 2. A copy of the referenced price list accompanies the bid.

#### 1.25 COMMERCIAL WARRANTY AND GUARANTEE CERTIFICATE

- A. The supplier agrees that the supplies or services furnished under the Contract shall be covered by the most favorable commercial warranties the supplier gives to any customer for such supplies or services and that the rights and remedies provided herein are in addition to and do not limit any rights afforded to the District by any other clauses of the Contract. A final payment for performance shall not relieve the successful bidder of responsibility for faulty materials or workmanship.

#### 1.26 INTERPRETATION OF SPECIFICATIONS

- A. Should any bidder be in doubt as to the intention and meaning of the specifications, he may make inquiry to the Architect. Questions received less than three working days before the opening of bids may not be considered. All questions in order to be considered must be submitted in writing.

#### 1.27 EXAMINATION OF SITE AND OTHER CONDITIONS BEARING ON THIS WORK

- A. Before submitting proposal, bidders shall fully inform themselves of the nature of the work by personal examination of the site and by such means as they consider necessary, as to matters, conditions, or considerations bearing on or in any way affecting the preparation of their proposal.
  - 1. A bidder shall not at any time after the submission of his proposal claim that there is any misunderstanding in regard to the location, extent, or nature of the work to be performed.
  - 2. No claims for any extra will be allowed because of alleged impossibilities in the production of the results specified, or because of inadequate or improper plans or specifications, and whenever a result is required, the successful bidder shall furnish any and all extras and make any changes needed to produce, to the satisfaction of the District, the required results at no expense to the District.
- B. Failure of the bidder to thoroughly understand all aspects of the solicitation before submitting their bid shall not be sufficient cause to permit withdrawal of its bid nor secure relief on pleas of error, after the contract is awarded.

#### 1.28 BRAND NAMES AND APPROVED EQUAL

- A. Where a particular manufacturer or several manufacturers, brands or models are referenced, it is to be interpreted as indicating the type or quality of material, and shall be interpreted to include an "approved equal". Bids may be considered on models or brands or products of manufacturers other than those specified if the items being substituted were approved by the designee of the District.
- B. Where a manufacturer, brand, or model is referenced in the bid specifications, the absence of a reference to a different manufacturer, brand, or model in the bidder's proposal shall be interpreted as a bid on the manufacturer, brand, or model specified.
- C. Where several manufacturers or models are referenced as being equally acceptable and the bidder does not indicate what particular model or brand they are offering, the Designee of the District shall have the right to select any brand or model referenced.

- D. Only one bid per item will be considered. If a vendor submits more than one bid on an item, none of the vendor's bids on that item will be considered.
- E. The Board of Education of the District shall be the sole judge as to whether or not items submitted meet specifications or whether or not items being bid are equal. Any attempt to "resell" or disqualify other supplies while the proposals are being analyzed may be reason for your bid to be disqualified.
- F. All items furnished under the Contract must be new and unused, latest models (unless otherwise specified) and free from all defects. The foregoing exempts exchange, normal "rebuilt" items, where specified.

#### 1.29 SAMPLES AND DESCRIPTIVE LITERATURE

- A. When requesting approval to bid models, brands or products of manufacturers other than those specified, such a request must be accompanied by catalog cuts and/or detailed specifications. The District may also request bidders to submit samples for examination and appraisal.
- B. Requested samples shall be submitted at no cost to the District and may be required by the District either prior to, at the time of the bid opening, or within ten calendar days following the request. Time of submission of samples shall be specified in the specifications. Samples shall be specified in the specifications. Samples not provided as requested, will be reason to reject the bid for that item. All such samples shall be identified as to the supplier, model number, bid item number and other information that may be required; these samples will be returned after evaluation. Suppliers shall have the responsibility of picking up their samples within two weeks after notification. Samples not removed after two weeks will automatically become the property of the District at no charge.

#### 1.30 RESPONSIBILITY FOR DAMAGE AND CARE OF SCHOOL PROPERTY

- A. The Supplier in the performance of this Contract will be held financially responsible for any damage to the grounds, buildings, or equipment caused by him, his subcontractors or employees, or other persons engaged in the performance of the Contract.
- B. Every reasonable effort shall be made by workmen to proceed with the work as described in these specifications in a manner accepted in trade circles as the highest level of workmanship. The successful bidder for this work shall be responsible for all damage to other work caused by his workmen or through the neglect of his workmen on the site.
- C. Workmanlike care shall be expected at all times in performing the work. It shall be the responsibility of the successful bidder to repair or replace all damaged property, the damage for which he or anyone working under his direction is responsible.

#### 1.31 SUPPLIER CLEAN-UP

- A. All debris resulting from the supplier's delivery and installation shall be disposed of entirely by the supplier in an efficient and expeditious manner as required and directed by the District Designee. The successful bidder shall at all times keep the premises free from accumulation of waste materials or rubbish caused by his employees or work. District-owned trash receptacles are not to be used by the vendor without prior approval.

#### 1.32 STORAGE OF MATERIALS

- A. Every effort shall be made by the successful bidder to schedule delivery of materials so that a minimum of storage space is required. The successful bidder shall not encumber

the premises with his materials and shall store all materials in a place designated by the District or its representative. The District will not be responsible for any damage to or theft of tools or materials used in this work.

#### 1.33 UNPACKING AND ASSEMBLING

- A. All work described in the specifications regarding unpacking, assembling, and placement of all movable furniture and/or equipment must be completed within five (5) days after furniture and/or equipment is received on the site unless prior approval is received.
- B. Any bidder failing to unpack and assemble knockdown equipment and furniture will be charged (deduction will be made from billing) a fee to cover the District's cost of unpacking and assembling.

#### 1.34 SERVICE

- A. Each bidder may be required to submit a signed statement to the effect he can furnish service by factory trained personnel Monday to Friday during the hours of 8:00 a.m. - 4:00 p.m.

#### 1.35 SCHEDULE FOR PERFORMANCE OF WORK

- A. All work described in these specifications must be completed with reasonable promptness. The District shall be the sole judge of what is "reasonably prompt" under the circumstances. If the successful bidder does not begin the work in a reasonable amount of time, it will be notified that if it fails to initiate the work promptly, the contract may be terminated and the District will forthwith proceed to collect for nonperformance of the work.

#### 1.36 ORDERING

- A. All items or services to be furnished under the Contract will be ordered by the issuance of a Purchase Order signed by two authorized representatives of the District. This document must be in the hands of the successful bidder prior to any work commencing on the Contract.

#### 1.37 DELIVERY, INSPECTION, ACCEPTANCE, AND PACKAGING

- A. All supplies, materials, equipment, goods, and services are to be delivered postpaid to the location or locations indicated on the Proposal Form, Specifications, or Purchase Order. No labor will be provided to help unload any product under Contract.
- B. The delivery of goods or items furnished under the terms of the Contract shall not be considered as acceptance thereof until the goods are inspected. The District shall have a reasonable opportunity to inspect. If, for example, goods are delivered on August 1, the District may not have a reasonable opportunity to inspect such goods until September or October. In all events, shipping invoices or other documents sent with goods shall not be controlling with respect to the timing of inspection. The inspection and test by the District of any supplies or lots thereof does not relieve the supplier from any responsibility regarding defects or other failure to meet the Contract requirements, which may be discovered subsequent to delivery. Except as otherwise provided in the Contract, acceptance shall be conclusive except as regards to patent defects, fraud, or such gross mistakes as amount to fraud.
- C. Any item to be supplied as a result of this Contract shall be subject to inspection and test by the Ordering Office, to the extent practicable, at all times and places including the period of manufacture and in any event prior to acceptance.

- D. In case any item or lots of items are found to be defective in material or workmanship or otherwise not in conformity with the requirements of the Contract, the Ordering Office shall have the right to either reject them (with or without instructions as to their disposition) or to require their correction. Items or lots of items which have been rejected or required to be corrected shall be removed or, if required by the Ordering Office as they may deem appropriate, corrected in place by and at the expense of the supplier promptly after notice, and shall not thereafter be tendered for acceptance unless the former rejection or requirement of correction is disclosed. If the supplier fails to promptly remove such items or lots of items which are required to be removed, or promptly to replace or correct such items or lots of items, the District either (1) may re-contract or otherwise, replace or correct such items and charge the supplier the cost occasioned the District thereby, or (2) may terminate the Contract for default as provided in the clause of the Contract entitled "Failure to comply with Contract".
- E. Acceptance or rejection of any items shall be made as promptly as practicable after delivery, except as otherwise provided in the Contract; but failure to inspect and accept or reject items shall neither relieve the supplier from responsibility for such items as are not in accordance with the Contract requirements nor impose liability on the District therefore.
- F. Neither the School District nor other Ordering Office will assume responsibility for damage to any rejected delivery caused by weather, improper warehousing, or mishandling.
- G. All outer packs of items delivered under the Contract (except subsistence items delivered to cafeterias) must be marked with the Purchase Order/Contract number and item identification.
  - 1. Failure to provide adequate identifying markings may result in refusal of the delivery.
- H. Unless otherwise stated, all prices include delivery and placement within the ship-to-address in that area specified in the Contract or Purchase Order.
- I. Collect shipments will not be accepted.
- J. All shipments shall be F.O.B. point of destination as indicated in the Proposal or on the Purchase Order.

#### 1.38 INVOICES

- A. Invoices must be completely identifiable, supported by delivery receipts where specified, and contain the following minimum information:
  - 1. Purchase Order/Contract number.
  - 2. Delivery destination as it appears on the Purchase Order.
  - 3. Contract item number, quantity and description of item billed.
  - 4. Unit price and extended price of each item.
  - 5. Total amount of invoice.
  - 6. Any prompt payment discount offered.

#### 1.39 INDEMNIFICATION

- A. By submitting a bid, all bidders agree that in the event they are awarded a contract, they will indemnify and otherwise hold harmless the District, its agents and employees from any and all liability, suits, actions or claims, together with all costs, expenses or attorneys'

fees, arising out of their performance of work or supplying materials and services in connection with the contract. This agreement to indemnify and hold harmless shall cover all suits, actions, claims or liabilities asserted against the District, its agents and employees, regardless of whether such suits, actions, claims or liabilities are based upon acts or failures to act attributable to the District or its employees or agents, to the extent that it shall be also determined that the acts, or failure to act are attributable, in whole or in part, to such bidders or its employees or agents.

#### 1.40 ASSIGNMENT OF ANTITRUST CLAIMS

A. As consideration for the award and execution by the Board(s) of this contract, the successful bidder hereby grants, conveys, sells, assigns, and transfers to the State of Delaware all of its right, title and interest in and to all known or unknown causes of action it presently has or may now or hereafter acquire under the antitrust laws of the United States and the State of Delaware, relating to the particular goods or services purchased or acquired by the Board(s) pursuant to this contract.

#### 1.41 HAZARDOUS MATERIALS

A. As required in the Hazardous Chemical Information Act of June, 1984, all vendors supplying any materials that may be defined as hazardous must provide Material Safety Data Sheets for those products. Any chemical product should be considered hazardous if it is known to be present in the work place, and if employees may be exposed under normal conditions or in any foreseeable emergency situation.

B. Material Safety Data Sheets must be provided directly to each School along with the shipping slips that includes those products.

#### 1.42 CONTRACT DOCUMENTS

A. These General Instructions and any Special Instructions, Bid Specifications, Requests for Bid, Bid Proposal Form, Purchase Order, and Contract shall be a part of and constitute the contract entered into by the District and any successful bidder. In the event there is any discrepancy between any of the foregoing contract documents, the following order of documents governs so that the former prevails over the latter: Contract, Purchase Order, Bid Specifications, Special Instructions, General Instructions, Requests for Bid and Bid Proposal Form.

#### 1.43 THE CONTRACT

A. This Contract shall be governed by Delaware law, and any dispute concerning the interpretation or application of this Contract, and any documents incorporated by reference into this Contract, or any materials supplied or work performed under this Contract must be heard in Delaware.

#### 1.44 TRANSFER OF BIDS

A. The District named in this bid and the successful bidder may reach an agreement to make available to any agency or school district in the State the bid prices submitted for this contract. Where such an agreement exists, the District named shall have access to purchase under the contract.

#### 1.45 CONTRACT REQUIREMENTS:

A. This contract will be issued to cover the General requirements for multiple locations of the District, as noted in this project manual \_\_\_\_\_.

1.46 CONTRACT PERIOD:

- A. Each vendor's contract shall be valid for a period from Authorization to Proceed through completion.

1.47 PRICES

- A. Prices will remain firm for the term of the contract.

1.48 MANDATORY INSURANCE REQUIREMENTS

- A. Before any work is done hereunder, the Certificate of Insurance and/or copies of the insurance policies, referencing the contract number stated herein, shall be filed with the State. The certificate holder is as follows:

As required in Section 009000

1.49 BASIS OF AWARD:

- A. The Owner shall award this contract to the lowest responsible and responsive bidder(s) who best meets the terms and conditions of the bid. .
- B. The Owner reserves the right to reject any or all bids in whole or in part, to make multiple awards, partial awards, award by types, item by item, or lump sum total, whichever may be most advantageous to the District.

1.50 HOLD HARMLESS:

- A. The successful bidder agrees that it shall indemnify and hold the District and all its agencies harmless from and against any and all claims for injury, loss of life, or damage to or loss of use of property caused or alleged to be caused by acts or omissions of the successful bidder, its employees, and invitees on or about the premises and which arise out of the successful bidder's performance, or failure to perform as specified in the Agreement.

1.51 NON-PERFORMANCE:

- A. In the event the vendor does not fulfill its obligations under the terms and conditions of this contract, the ordering agency may purchase equivalent product on the open market any difference in cost between the contract prices herein and the price of open market product shall be the responsibility of the vendor. Under no circumstances shall monies be due the vendor in the event open market products can be obtained below contract cost. Any monies charged to the vendor may be deducted from an open invoice.

1.52 PAYMENT:

- A. The agencies or school districts involved will authorize and process for payment each invoice within thirty (30) days after the date of receipt.

1.53 ALTERNATE BIDS AND SUBSTITUTIONS:

- A. All alternate bids/substitutions must be accompanied with the following information for each item in order to be considered for award.
  1. Completed bid forms
  2. Written list, stating deviations from specified product.
  3. Product literature and manufacturers specifications.
  4. Warranty Information.

- B. All vendors should also be prepared to provide a sample of the exact item bid for evaluation purposes within 48 hours of a request to provide this information. Failure of a

vendor to meet any of these terms will result in an automatic rejection of the vendor's bid for items that do not comply with these requirements.

- C. The District and the Architect reserve sole discretion on the final selections based on any and all criteria and any or all General Conditions, Special Instructions or Supplementary Conditions.

1.54 QUANTITIES:

- A. Quantities listed in this Specification are the anticipated needs for this contract. Except where budget constraints would prohibit ordering those quantities, the quantities stated are, to the best of the District's knowledge, the minimum amounts. The right to increase or decrease quantities is reserved and the unit price quoted on the bid form shall remain as quoted for the contract period.

1.55 PUNCH LIST:

- A. Vendor(s) shall complete punch list items in a timely manner. Final payment will not be issued until punch list items are complete to Owner's satisfaction

**END OF SECTION**

**SECTION 011000**

**SUMMARY**

**PART 1 GENERAL**

1.01 PROJECT

- A. The Project consists of the construction of full depth asphalt paving replacment, cross walks, sidewalks replacment, new curbing, new striping, stormwater drainage improvements and erosion and sediment controls..

1.02 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price.

1.03 DESCRIPTION OF ALTERATIONS WORK

- A. Scope of demolition and removal work is shown on drawings and details..
- B. Contractor shall remove and deliver the following to Owner prior to start of work:
  - 1. \_\_\_\_\_.
  - 2. \_\_\_\_\_.
- C. Contractor shall remove and store the following prior to start of work, for later reinstallation by Contractor:
  - 1. \_\_\_\_\_.
  - 2. \_\_\_\_\_.

1.04 OWNER OCCUPANCY

- A. Owner intends to continue to occupy adjacent portions of the existing building during the entire period of construction for the conduct of normal operations. .
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Construct work to accommodate the Owner's use of the premises during the construction period. Coordinate with the Owner's Representative to minimize inconvenience to faculty, students and parents/guardians.

1.05 TIME OF START AND COMPLETION

- A. Site is available for start of work on June 20 2016
- B. The Work shall be Substantially Complete within 56 calendar days after issuance of Notice to Proceed (if any) or Date of Contract, whichever is earlier.
  - 1. Provide double shifts and/or overtime if required to meet Substantial Completion date.
  - 2. Work must be completed by August 12 2016
  - 3. Minor work may be permitted after occupancy.

1.06 LIQUIDATED DAMAGES

- A. There are no Liquidated Damages applying to this Work.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 012000**  
**PRICE AND PAYMENT PROCEDURES**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Sum and Contract Time.
- C. Change procedures.
- D. Correlation of Contractor submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

- A. Section 005000 - Contracting Forms and Supplements: Forms to be used.
- B. Document 007300 - Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.
- C. Section 012100 - Allowances: Payment procedures relating to allowances.
- D. Section 012200 - Unit Prices: Monetary values of unit prices, payment and modification procedures relating to unit prices.

1.03 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- B. Forms filled out by hand will not be accepted.
- C. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- D. Include in each line item, the amount of Allowances specified in Section 01210. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
- C. Forms filled out by hand will not be accepted.
- D. Execute certification by signature of authorized officer.
- E. 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.
- F. List each executed Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of Work.
- G. Submit three copies of each Application for Payment.
- H. Include the following with the application:
  - 1. Insurance certificates for off-site stored products.

#### 1.05 MODIFICATION PROCEDURES

- A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to the Contract Documents.
- B. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.
- C. For other required changes, Architect will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
  - 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
  - 2. Promptly execute the change.
- D. For changes for which advance pricing is desired, Architect will issue a Contract Modification Request (CMR) that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change, with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation, including changes in Contract Time, if necessary, .
  - 1. Such request is for information only, and is not an instruction to execute the changes, nor to stop work in progress.
  - 2. Format for Contract Modification Requests shall be as issued by the Architect at the Pre-Construction meeting.
- E. Contractor may propose a change by submitting a change order request for change to Architect, 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.
- F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
- G. Substantiation of Costs: Provide full information required for evaluation.
  - 1. Provide following data:
    - a. Quantities of products, labor, and equipment.
    - b. Taxes, insurance, and bonds.
    - c. Overhead and profit.
    - d. Justification for any change in Contract Time.
    - e. Credit for deletions from Contract, similarly documented.
  - 2. Support each claim for additional costs, including time and material work, with additional information:
    - a. Origin and date of claim.
    - b. Dates and times work was performed, and by whom.
    - c. Time records and wage rates paid.
    - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
  - 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.

- H. When the information in the Contract Modification Request and Change Order Request is complete, it will be submitted to the Architect for review and forwarded to the Owner. If the change is agreed to by the Owner, the Architect will prepare a Change Order and forward it to the Contractor for signature.
- I. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- J. After execution of Change Order by all parties, 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.
- K. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- L. Promptly enter changes in Project Record Documents.

#### 1.06 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
  - 1. All closeout procedures specified in Section 017000.
  - 2. All Closeout submittals as specified in Section 017800.
  - 3. Submit Affidavit of Payment of Indebtedness: See General Conditions.
  - 4. Submit Consent of Surety to Final Payment: See General Conditions.
  - 5. Submit Releases of Liens: See General Conditions. Release forms shall conform to State law governing mechanics Liens and shall be transmitted with AIA Document G706A. Note that Document G706A is not a release of liens and must be accompanied by actual releases.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 012200**

**UNIT PRICES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

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

**1.02 COSTS INCLUDED**

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

**1.03 MEASUREMENT OF QUANTITIES**

- A. Assist by providing necessary equipment, workers, and survey personnel as required.

**1.04 PAYMENT**

- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Architect, multiplied by the unit price.
- B. Payment will not be made for any of the following:
  - 1. Products wasted or disposed of in a manner that is not acceptable.
  - 2. Products determined as unacceptable before or after placement.
  - 3. Products not completely unloaded from the transporting vehicle.
  - 4. Products placed beyond the lines and levels of the required Work.
  - 5. Products remaining on hand after completion of the Work.
  - 6. Loading, hauling, and disposing of rejected Products.

**1.05 SCHEDULE OF UNIT PRICES**

- A. The description of Unit Prices contained in this Section is in summary form. Detailed requirements for materials and execution are shown on the drawings and specified in the Section indicated.
- B. Refer to Bid Form for complete list or Unit Prices required.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 013000**

**ADMINISTRATIVE REQUIREMENTS**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Special meetings
- B. Submittals for review, information, and project closeout.
- C. Submittal procedures.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

3.01 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
  - 1. Product data.
  - 2. Shop drawings.
- B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 017800 - Closeout Submittals.

3.02 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
  - 1. Design data.
  - 2. Certificates.
  - 3. Test reports.
  - 4. Inspection reports.
  - 5. Manufacturer's instructions.
  - 6. Manufacturer's field reports.
  - 7. MSDS sheets.
  - 8. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner. No action will be taken.

3.03 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout:
  - 1. Project record documents.
  - 2. Warranties.
  - 3. Bonds.
  - 4. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

**END OF SECTION**

**SECTION 015000**

**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Temporary telecommunications services.
- B. Temporary sanitary facilities.
- C. Temporary Controls: Barriers, enclosures, and fencing.
- D. Construction Aids
- E. Security requirements.
- F. Vehicular access and parking.
- G. Traffic Regulation
- H. Tree and Plan Protection
- I. Waste removal facilities and services.
- J. Field offices.

1.02 RELATED REQUIREMENTS

- A. Section 015100 - Temporary Utilities.

1.03 TEMPORARY UTILITIES - SEE SECTION 015100

1.04 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:
  - 1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
  - 2. Telephone Land Lines: One line, minimum; one handset per line.
  - 3. Internet Connections: Minimum of one; DSL modem or faster.
  - 4. Facsimile Service: Minimum of one dedicated fax machine/printer.

1.05 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Use of existing facilities is not permitted.
- C. New permanent facilities may not be used during construction operations.
- D. Maintain daily in clean and sanitary condition.

1.06 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, 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.

#### 1.07 FENCING

- A. Construction: Commercial grade chain link fence.
- B. Provide 6 foot (1.8 m) high fence around construction site; equip with vehicular and pedestrian gates with locks.
- C. Location:
  - 1. Enclose and secure all construction areas.
  - 2. Locate vehicular entrance gates in suitable relation to construction facilities; and to avoid interference with traffic on public thoroughfares.
  - 3. Locate pedestrian entrance gates as required to provide controlled personnel entry, in suitable relation to construction parking facilities.

#### 1.08 EXTERIOR ENCLOSURES

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

#### 1.09 INTERIOR ENCLOSURES

- A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
- B. Construction: Framing and gypsum board sheet materials with closed joints and sealed edges at intersections with existing surfaces:
  - 1. Maximum flame spread rating of 75 in accordance with ASTM E84.

#### 1.10 CONSTRUCTION AIDS

- A. Provide construction aids and equipment required to facilitate execution of the Work. Examples are scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.
- B. Mutual use may be arranged by the Contractor where applicable.
- C. Stairs in existing building shall not be used by construction personnel.
- D. Elevators in the existing building and new elevators shall not be used by construction personnel.

#### 1.11 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
- B. Security of persons and property in areas under control of the Contractor shall be the Contractor's exclusive responsibility.
- C. The Contractor, at his own expense, shall initiate whatever programs necessary to execute his responsibility.
- D. Control of access to the areas under control of the Contractor shall be maintained. Visitors shall be required to report immediately to the Field Office and to produce full

identification to be recorded in the Contractor's Daily Log, along with the purpose of the visit.

E. Coordinate with Owner's security program.

#### 1.12 VEHICULAR ACCESS AND PARKING

A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.

B. Coordinate access and haul routes with governing authorities and Owner.

C. Provide and maintain access to fire hydrants, free of obstructions.

D. Provide means of removing mud from vehicle wheels before entering streets.

E. Maintain traffic areas free as possible of excavated materials, construction equipment, products, snow, ice and debris.

F. Designated existing on-site roads may be used for construction traffic.

1. Provide additional temporary roads as needed for required construction access.

2. Maintain existing road construction, and restore to original, or specified, condition at completion of Work.

G. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

#### 1.13 TRAFFIC REGULATION

A. Obtain all temporary permits for access to and use of public roads and streets for construction and hauling purposes. Comply with traffic control regulations applying to permit issuance.

B. Provide all markers, signs, lights and barriers on and near the site to safely control construction traffic and public access.

#### 1.14 TREE AND PLANT PROTECTION

A. Preserve and protect existing trees and plants at site which are designated to remain, and those adjacent to site.

B. Consult with Architect, and remove agreed-on roots and branches which interfere with construction. Employ qualified tree surgeon to perform removal and treat cuts.

C. Provide temporary barriers to a height of six feet, around each, or around each group, of trees and plants.

D. Protect plants from deleterious liquid and solid droppings from construction operations.

E. Protect root zones of trees and plants:

1. Do not allow vehicular traffic or parking.

2. Do not store materials or products.

3. Prevent dumping of refuse or chemically injurious materials or liquids.

4. Prevent puddling or continuous running water.

F. Carefully supervise excavating, grading and filling, and subsequent construction operations, to prevent damage.

G. Replace, or suitably repair, trees and plants designated to remain which are damaged or destroyed due to construction operations.

#### 1.15 WASTE REMOVAL

- A. See Section 017419 - Construction Waste Management and Disposal, for additional requirements.
- B. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- C. Provide containers with lids. Remove trash from site periodically.
- D. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- E. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

#### 1.16 FIELD OFFICES

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.
- C. Locate offices and storage sheds as as directed in the field.
- D. Office may be moved inside new structure or located inside existing structures if approved by Architect and Owner.

#### 1.17 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.
- B. Remove underground installations to a minimum depth of 2 feet (600 mm). Grade site as indicated.
- C. Clean and repair damage caused by installation or use of temporary work.
  - 1. Remove stone from temporary access roads, unless it is to be incorporated into new work.
  - 2. Grade damaged areas of site to required elevations, spread topsoil, and re-seed.
- D. Restore existing facilities used during construction to original condition.
- E. Restore new permanent facilities used during construction to specified condition.

### **PART 2 PRODUCTS - NOT USED**

### **PART 3 EXECUTION - NOT USED**

**END OF SECTION**

**SECTION 017800**  
**CLOSEOUT SUBMITTALS**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 007200 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 013000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 017000 - Execution and Closeout Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.
- B. Operation and Maintenance Data:
  - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
  - 2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
  - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned , with Architect comments. Revise content of all document sets as required prior to final submission.
  - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
  - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
  - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
  - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

**PART 2 PRODUCTS - NOT USED**

**PART 3 EXECUTION**

**3.01 PROJECT RECORD DOCUMENTS**

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
  - 1. Drawings.
  - 2. Addenda.
  - 3. Change Orders and other modifications to the Contract.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Record Drawings : Legibly mark each item to record actual construction including:
  - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
  - 2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
  - 3. Field changes of dimension and detail.
  - 4. Details not on original Contract drawings.

**3.02 OPERATION AND MAINTENANCE DATA**

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

**3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES**

- A. For Each Product, Applied Material, and Finish:
  - 1. Product data, with catalog number, size, composition, and color and texture designations.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning 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 information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

**3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS**

- A. For Each Item of Equipment and Each System:
  - 1. Description of unit or system, and component parts.
  - 2. Identify function, normal operating characteristics, and limiting conditions.
  - 3. Include performance curves, with engineering data and tests.
  - 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Panelboard Circuit Directories: Provide electrical service characteristics, controls, and communications; typed.
- D. Include color coded wiring diagrams as installed.
- E. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- F. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- G. Provide servicing and lubrication schedule, and list of lubricants required.
- H. Include manufacturer's printed operation and maintenance instructions.
- I. Include sequence of operation by controls manufacturer.
- J. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- K. Provide control diagrams by controls manufacturer as installed.
- L. Provide charts of valve tag numbers, with location and function of each valve, keyed to flow and control diagrams.
- M. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- N. Additional Requirements: As specified in individual product specification sections.

**3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS**

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- D. Prepare data in the form of an instructional manual.
- E. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 3 inch (\_\_\_\_ mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

- F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- L. Arrange content by products and systems under section numbers and sequence of Table of Contents of this Project Manual.
  - 1. Operating instructions.
  - 2. Maintenance instructions for equipment and systems.
  - 3. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
- M. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

### 3.06 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial 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 and bonds until time specified for submittal.
- E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

**END OF SECTION**

**SECTION 02 4100**  
**DEMOLITION**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 01 1000 - Summary: Sequencing and staging requirements.
- C. Section 01 1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.
- D. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- E. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- F. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
  - 1. Areas for temporary construction and field offices.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

**PART 2 PRODUCTS -- NOT USED**

**PART 3 EXECUTION**

3.01 SCOPE

- A. Remove portions of existing buildings in the following sequence:
  - 1. Roofing and roof insulation.
  - 2. EIFS fascia.
  - 3. Rooftop equipment.
- B. Remove other items indicated, for relocation.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
  - 1. Obtain required permits.
  - 2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.

3. Provide, erect, and maintain temporary barriers and security devices.
  4. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
  5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
  6. Do not close or obstruct roadways or sidewalks without permit.
  7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
  8. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Protect existing structures and other elements that are not to be removed.
1. Provide bracing and shoring.
  2. Prevent movement or settlement of adjacent structures.
  3. Stop work immediately if adjacent structures appear to be in danger.
- D. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

### 3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
1. Verify that construction and utility arrangements are as shown.
  2. Report discrepancies to Architect before disturbing existing installation.
  3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
- C. Remove existing work as indicated and as required to accomplish new work.
1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
  2. Remove items indicated on drawings.
- D. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
  2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
  3. Repair adjacent construction and finishes damaged during removal work.
  4. Patch as specified for patching new work.

### 3.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

**END OF SECTION**

**SECTION 05 3100**  
**STEEL DECKING****PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Replacing deteriorated roof deck.
- B. Supplementary framing for openings up to and including 18 inches.

## 1.02 RELATED REQUIREMENTS

- A. Section 07 5216 - SBS Modified Bituminous Roofing: Replacing existing deteriorated metal deck.

## 1.03 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- B. SDI (DM) - Publication No.31, Design Manual for Composite Decks, Form Decks, Roof Decks; Steel Deck Institute; 2007.

## 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittals procedures.
- B. Product Data: Provide deck profile characteristics, dimensions, structural properties, and finishes.

## 1.05 QUALITY ASSURANCE

- A. Design deck layout, spans, fastening, and joints under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.

## 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Cut plastic wrap to encourage ventilation.
- B. Separate sheets and store deck on dry wood sleepers; slope for positive drainage.

**PART 2 PRODUCTS**

## 2.01 STEEL DECK

- A. All Deck Types: Select and design metal deck in accordance with SDI Design Manual.
  - 1. Calculate to structural working stress design and structural properties specified.
  - 2. Maximum Vertical Deflection of Roof Deck: 1/240 of span.
- B. Roof Deck: Non-composite type, fluted steel sheet:
  - 1. Galvanized Steel Sheet: ASTM A653/A653M, Structural Steel (SS) Grade 33/230, with G90/Z275 galvanized coating.
  - 2. Minimum Base Metal Thickness: 22 gage, 0.0299 inch or match existing.
  - 3. Nominal Height: 1-1/2 inch or match existing.
  - 4. Profile: Fluted match existing.
  - 5. Formed Sheet Width: 36 inch maximum.
  - 6. Side Joints: Lapped, mechanically fastened.
  - 7. End Joints: Lapped, mechanically fastened.

## 2.02 ACCESSORY MATERIALS

- A. Fasteners: Stainless steel, self tapping.

- B. Flute Closures: Closed cell foam rubber, 1 inch thick; profiled to fit tight to the deck.

### 2.03 FABRICATED DECK ACCESSORIES

- A. Sheet Metal Deck Accessories: Metal closure strips and cover plates, 22 gage, 0.0299 inch thick sheet steel; of profile and size as indicated; finished same as deck.

## **PART 3 EXECUTION**

### 3.01 INSTALLATION

- A. Erect metal deck in accordance with SDI Design Manual and manufacturer's instructions. Align and level.
- B. On concrete and masonry surfaces provide minimum 4 inch bearing.
- C. On steel supports provide minimum 1-1/2 inch bearing.
- D. Fasten deck to steel support members at ends and intermediate supports at 12 inches on center maximum, parallel with the deck flute and at each transverse flute using methods specified.
- E. At mechanically fastened male/female side laps fasten at 12 inches on center maximum.
- F. At deck openings from 6 inches to 18 inches in size, provide 2 by 2 by 1/4 inch steel angle reinforcement. Place angles perpendicular to flutes; extend minimum two flutes beyond each side of opening and mechanically attach to deck at each flute.
- G. Close openings above walls and partitions perpendicular to deck flutes with single row of foam cell closures.
- H. Place metal cant strips in position and mechanically attach.

**END OF SECTION**

**SECTION 05 4000**  
**COLD-FORMED METAL FRAMING**

**PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Formed steel stud parapet framing.

## 1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Wood blocking and miscellaneous framing.
- B. Section 07 2100 - Thermal Insulation: Insulation within framing members.
- C. Section 07 2500 - Weather Barriers: Weather barrier sheathing system.
- D. Section 07 6200 - Sheet Metal Flashing and Trim: Head and sill flashings.
- E. Section 07 9200 - Joint Sealants.
- F. Section 09 2400 - Portland Cement Plastering.

## 1.03 REFERENCE STANDARDS

- A. AISI S100-12 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2012.
- B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- D. ASTM C955 - Standard Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases; 2011c.
- E. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2011a.
- F. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).

## 1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with work of other sections that is to be installed in or adjacent to the metal framing system, including but not limited to structural anchors, cladding anchors, utilities, insulation, and firestopping.

## 1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on standard framing members; describe materials and finish, product criteria, limitations.
- C. Shop Drawings: Indicate component details, bearing, anchorage, and type and location of fasteners, and accessories or items required of related work.
- D. Manufacturer's Installation Instructions: Indicate special procedures, conditions requiring special attention.

## 1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, and with minimum three years of documented experience.

- B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience and approved by manufacturer.

## **PART 2 PRODUCTS**

### 2.01 FRAMING SYSTEM

- A. Provide primary and secondary framing members, bridging, bracing, plates, gussets, clips, fittings, reinforcement, and fastenings as required to provide a complete framing system.

### 2.02 FRAMING MATERIALS

- A. Studs and Track: ASTM C955; studs formed to channel, "C", or "Sigma" shape with punched web; U-shaped track in matching nominal width and compatible height.
  - 1. Gage and Depth: As indicated on the drawings.
  - 2. Galvanized in accordance with ASTM A653/A653M, G90/Z275 coating.
- B. Framing Connectors: Factory-made, formed steel sheet.
  - 1. Material: ASTM A653/A653M SS Grade 33 and 40 (minimum), with G90/Z275 hot dipped galvanized coating for base metal thickness less than 10 gage, 0.1345 inch, and factory punched holes and slots.
  - 2. Structural Performance: Maintain load and movement capacity required by applicable code, when evaluated in accordance with AISI S100-12.
  - 3. Fixed Connections: Provide non-movement connections for tie-down to foundation, floor-to-floor tie-down, roof-to-wall tie-down, joist hangers, gusset plates, and stiffeners.
  - 4. Wall Stud Bridging Connections: Provide mechanical load-transferring devices that accommodate wind load torsion and weak axis buckling induced by axial compression loads. Provide bridging connections where indicated on the drawings.

### 2.03 ACCESSORIES

- A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined for conditions encountered; finish to match framing components.
- B. Joint sealing system.
- C. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

### 2.04 FASTENERS

- A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot dip galvanized per ASTM A153/A153M.
- B. Anchorage Devices: Drilled expansion bolts and bolts and nuts.

## **PART 3 EXECUTION**

### 3.01 INSTALLATION OF STUDS

- A. Install components in accordance with manufacturers' instructions and ASTM C1007 requirements.
- B. Place studs at 16 inches on center; not more than 2 inches from abutting walls and at each side of openings. Connect studs to tracks using fastener method.
- C. Coordinate placement of insulation in multiple stud spaces made inaccessible after erection.
- D. Touch-up field welds and damaged galvanized surfaces with primer.

**END OF SECTION**

**SECTION 05 5000**  
**METAL FABRICATIONS**

**PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Shop fabricated steel items.

## 1.02 REFERENCE STANDARDS

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- C. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2014.
- D. ASTM A325M - Standard Specification for Structural Bolts, Steel, Heat Treated 830 MPa Minimum Tensile Strength (Metric); 2014.
- E. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2015.
- F. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; Society for Protective Coatings; 1999 (Ed. 2004).
- G. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).

## 1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.

**PART 2 PRODUCTS**

## 2.01 MATERIALS - STEEL

- A. Steel Sections: ASTM A36/A36M.
- B. Bolts, Nuts, and Washers: ASTM A325 (ASTM A325M), Type 1, plain.
- C. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- D. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
- E. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

## 2.02 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

### 2.03 FINISHES - STEEL

- A. Prime paint steel items.
  - 1. Exceptions: Galvanize items to be embedded in concrete and items to be imbedded in masonry.
- B. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.
- C. Prime Painting: One coat.
- D. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

### 2.04 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.

## **PART 3 EXECUTION**

### 3.01 INSTALLATION

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Obtain approval prior to site cutting or making adjustments not scheduled.

### 3.02 TOLERANCES

- A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

**END OF SECTION**

**SECTION 06 1000**  
**ROUGH CARPENTRY**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Roofing nailers.

1.02 RELATED REQUIREMENTS

- A. Section 07 7200 - Roof Accessories: Prefabricated roof curbs.

1.03 REFERENCE STANDARDS

- A. AWWA U1 - Use Category System: User Specification for Treated Wood; American Wood Protection Association; 2012.
- B. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce; 2010.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide technical data on wood preservative materials and application instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

**PART 2 PRODUCTS**

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
  - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
  - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee ([www.alsc.org](http://www.alsc.org)) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
  - 3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.
- B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
  - 1. Lumber: S4S, No. 2 or Standard Grade.
  - 2. Boards: Standard or No. 3.

### 2.03 ACCESSORIES

- A. Fasteners and Anchors:
  - 1. Metal and Finish: Stainless steel for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
  - 2. Anchors: Toggle bolt type for anchorage to hollow masonry.

### 2.04 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
  - 1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.

## **PART 3 EXECUTION**

### 3.01 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

### 3.02 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
- C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.
- D. In parapet walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

### 3.03 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
- B. Provide wood curb at all roof openings except where prefabricated curbs are specified and where specifically indicated otherwise. Form corners by alternating lapping side members.

### 3.04 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

### 3.05 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 7419 - Construction Waste Management and Disposal.
  - 1. Comply with applicable regulations.

2. Do not burn scrap on project site.
  3. Do not burn scraps that have been pressure treated.
  4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

**END OF SECTION**

**SECTION 07 0150.19**  
**PREPARATION FOR RE-ROOFING**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Removal of existing roofing system in preparation for a new roof membrane system.

1.02 REFERENCE STANDARDS

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with affected mechanical and electrical work associated with roof penetrations.
- B. Preinstallation Meeting: Convene one week before starting work of this section.

1.04 FIELD CONDITIONS

- A. Do not remove existing roofing membrane when weather conditions threaten the integrity of the building contents or intended continued occupancy.
- B. Maintain continuous temporary protection prior to and during installation of new roofing system.

**PART 2 PRODUCTS**

2.01 MATERIALS

- A. Temporary Protection: Sheet fiber reinforced plastic; provide weights to retain sheeting in position.

**PART 3 EXECUTION**

3.01 EXAMINATION

- A. Verify that existing roof surface is clear and ready for work of this section.

3.02 PREPARATION

- A. Sweep roof surface clean of loose matter.
- B. Remove loose refuse and dispose off site.

3.03 MATERIAL REMOVAL

- A. Remove only existing roofing materials that can be replaced with new materials the same day.
- B. Remove metal counter flashings.
- C. Scrape roofing gravel from membrane surface without causing serious damage to membrane felts.
- D. Remove damaged portions of roofing membrane, perimeter base flashings, flashings around roof protrusions, pitch pans and pockets.
- E. Cut and lay flat any membrane blisters.
- F. Remove damaged insulation and fasteners, cant strips, blocking.

3.04 FIELD QUALITY CONTROL

- A. The drawings identify the approximate limits to material removal.
- B. Testing will identify the condition of existing materials and their reuse, repair or removal.
- C. Test Reports: Indicate existing insulation moisture content.

3.05 PROTECTION

- A. Provide temporary protective sheeting over uncovered deck surfaces.

- B. Turn sheeting up and over parapets and curbing. Retain sheeting in position with weights.
- C. Provide for surface drainage from sheeting to existing drainage facilities.
- D. Do not permit traffic over unprotected or repaired deck surface.

**END OF SECTION**

**SECTION 07 2100**  
**THERMAL INSULATION**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Batt insulation in exterior parapet construction.

1.02 RELATED REQUIREMENTS

- A. Section 07 2500 - Weather Barriers: Separate air barrier and vapor retarder materials.

1.03 REFERENCE STANDARDS

- A. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.

1.05 FIELD CONDITIONS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

**PART 2 PRODUCTS**

2.01 BATT INSULATION MATERIALS

- A. Mineral Fiber Batt Insulation: Flexible or semi-rigid preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
  - 1. Smoke Developed Index: 0 (zero), when tested in accordance with ASTM E84.
  - 2. Thickness: 3 1/2 inch.
  - 3. Manufacturers:
    - a. ROXUL, Inc; ComfortBatt: [www.roxul.com](http://www.roxul.com).

2.02 ACCESSORIES

- A. Adhesive: Type recommended by insulation manufacturer for application.

**PART 3 EXECUTION**

3.01 BATT INSTALLATION

- A. Install insulation in accordance with manufacturer's instructions.
- B. Install in exterior parapet spaces without gaps or voids. Do not compress insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
- E. Coordinate work of this section with construction of air barrier seal specified in Section 07 2500.

3.02 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

**END OF SECTION**

**SECTION 07 2500****GYPSUM BOARD WEATHER-RESISTANT BARRIER AND AIR BARRIER SYSTEM****PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Work of this section includes coated fiberglass-mat gypsum sheathing board system with integral weather-resistant barrier (WRB) and air barrier (AB) features, and all accessory materials required for covering sheathing joints, fasteners, penetrations, rough openings, and material transitions, for use under exterior wall claddings.

## 1.02 RELATED SECTIONS

- A. Section 01 4000 Quality Requirements; coordination with owners' independent testing and inspection agency
- B. Section 054000 Cold-Formed Metal Framing
- C. Section 061000 Rough Carpentry
- D. Section 07 4264 - Metal Composite Material Wall Panels: Exterior wall cladding.
- E. Section 079200 Joint Sealants; sealant materials and installation techniques

## 1.03 DEFINITIONS

- A. Air Barrier (AB): Air tight barrier made of material that is relatively air impermeable but moisture vapor permeable, with sealed joints and penetrations, and with terminations sealed to adjacent surfaces.
- B. Weather-Resistant Barrier (WRB): Water-shedding barrier made of material that is moisture-resistant, installed to shed water, with sealed joints and penetrations, and with terminations sealed to adjacent surfaces.
- C. Rough Openings: Openings in the wall to accommodate windows and doors.
- D. Material Transitions: Areas where the WRB / AB coated fiberglass-mat gypsum sheathing connects to beams, columns, slabs, parapets, foundation walls, roofing systems, and at the interface of dissimilar materials.

## 1.04 REFERENCE STANDARDS

- A. ASTM C473 Standard Test Method for Physical Testing of Gypsum Panel Products.
- B. ASTM C1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
- C. ASTM C1280 Standard Specification for Application of Gypsum Sheathing.
- D. ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
- E. ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
- F. ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials.
- G. ASTM E119 Standard Test Method for Fire Tests of Building Construction and Materials.
- H. ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 C.
- I. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
- J. ASTM E2178 Standard Test Method for Air Permeance of Building Materials.
- K. ASTM E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies.

- L. ICC ES AC212 Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing.
- M. AAMA 714 Voluntary Specification for Liquid Applied Flashing Used to Create a Water Resistive Seal Around Exterior Wall Openings in Buildings.

#### 1.05 SUBMITTALS

- A. Submittals: Submit in accordance with Division 1 requirements.
- B. Product Data and Installation Instructions: Submit manufacturer's product data including sheathing and accessory material types, composition, descriptions and properties, installation instructions and substrate preparation recommendations.
- C. Shop Drawings: Submit shop drawings indicating locations and extent of WRB / AB system, including details of typical conditions, special joint conditions, intersections with other building envelope systems and materials; counterflashings and details showing bridging of envelope at substrate changes, details of sealing penetrations, and detailed flashing around windows and doors
- D. Test Reports: Submit test reports indicating compliance with specified performance characteristics and requirements
- E. Sample warranty: Submit a sample warranty identifying the terms and conditions of the warranty as herein specified.
- F. Evaluation reports: For WRB / AB system from ICC-ES.

#### 1.06 WARRANTY

- A. Provide manufacturer's exposure warranty that offers twelve (12) months of coverage against in-place exposure damage, delamination and deterioration beginning with the date of installation of the product.
- B. Provide manufacturer's standard warranty for sheathing to be free of manufacturing defects that make it unsuitable for its intended use. Warranty period shall be five (5) years from the date of purchase of the product.
- C. Provide to contractor the performance warranty registration for DensElement™ Barrier System. When properly installed, DensElement™ Barrier System is warranted to perform as a water-resistive barrier and air barrier as defined in the 2015 IBC and IECC for a period of five (5) years from the date of installation of the system in such structure

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Store WRB / AB coated fiberglass mat gypsum sheathing under cover and keep dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack sheathing flat and supported on risers on a flat platform to prevent sagging.
- B. Protect fluid applied material, primers and accessory materials from damage, weather, excessive temperatures and construction traffic.
- C. Store fluid applied material and primers at temperatures of 40 degrees F or above.
- D. Apply fluid applied material to clean surfaces free of contaminants. Chemical residues, surface coatings or films may adversely affect adhesion. Clean pressure-treated wood and other contaminated surfaces with a solvent wipe before application.

## 1.08 FIELD CONDITIONS

- A. Application standards where applicable are in accordance with Gypsum Association Publication GA-253 for gypsum sheathing and ASTM C1280.
- B. Do not install sheathing that is moisture damaged. Indications that panels are moisture damaged include, but not limited to, discoloration, sagging, or irregular shape.
- C. Allow installed sheathing to be dry to the touch before sealing joints, penetrations, rough openings, and material transitions.
- D. Do not attempt to seal joints, corners, penetrations, rough openings, and material transitions when installed sheathing surface is frozen or has frost on the surface
- E. Do not apply sealing materials to sheathing when air or surface temperature is below 40F for fluid applied materials.

## PART 2 PRODUCTS

### 2.01 WEATHER BARRIER ASSEMBLIES

- A. Basis of Design: DensElement Barrier System as manufactured by Georgia-Pacific Gypsum, LLC.
  - 1. Sheathing: DensElement Sheathing.
  - 2. Fluid-applied flashing materials: Fluid-applied flashing as approved by Georgia-Pacific Gypsum, LLC.
  - 3. Primers, backer rods and accessory materials: As approved by Georgia-Pacific Gypsum, LLC.
- B. System Description: Weather-Resistant Barrier and Air Barrier assembly installed at exterior stud walls under exterior cladding, consisting of the following components as herein specified:
  - 1. Sheathing: WRB / AB coated fiberglass mat gypsum sheathing.
  - 2. Fluid-applied flashing to seal sheathing joints, inside and outside corners, penetrations, rough openings, and material transitions.
  - 3. Primer to seal raw gypsum edges before applying fluid applied flashing.
  - 4. Backer rods and accessory materials.

### 2.02 WEATHER-RESISTANT BARRIER (WRB) AND AIR BARRIER (AB) GYPSUM SHEATHING

- A. Description: Coated fiberglass mat gypsum sheathing with integral weather-resistant barrier (WRB) and air barrier (AB) complying with applicable requirements of ICC ES AC 212, ASTM E2178, ASTM E2357.
- B. Vapor Permeability: When tested as system in accordance with ASTM E96 (water method) the WRB and AB system has a minimum vapor permeance of 20 perms with sealed joints and fasteners.
- C. The WRB and Air Barrier Gypsum Sheathing has a moisture absorption rate < 6%.
- D. Air Barrier performance requirements:
  - 1. Air permeance of sheathing: Sheathing with an air permeability not greater than 0.001 cfm/ft<sup>2</sup> (0.02L/s/m<sup>2</sup>) when tested in accordance with ASTM E2178.
  - 2. Air permeance of assembly: Assembly of sheathing and sealing components with an average air leakage not greater than 0.04 cfm/ft<sup>2</sup> (0.2L/s/m<sup>2</sup>) when tested in accordance with ASTM E2357.

### 2.03 FLUID-APPLIED FLASHING AND ACCESSORY MATERIALS FOR JOINTS, INSIDE AND OUTSIDE CORNERS, FASTENERS, ROUGH OPENINGS, AND MATERIAL TRANSITIONS

- A. Substrate requirements:

1. Sheathing joint and transition gaps to receive fluid-applied flashing shall be less than 1/4" (6.4 mm).
  2. Gaps that are more than 1/8" and less than 1/4" shall be filled with a backer rod to support the fluid applied flashing at the transition joint.
  3. For gaps larger than 1/4" use fluid-applied flashing as approved by Georgia-Pacific Gypsum, LLC.
- B. Fluid applied flashing for panel joints, inside and outside corners, and penetrations
1. Description: Water based fluid applied flashing.
  2. Properties:
    - a. Basis of Design substrate: Georgia-Pacific Gypsum LLC DensElement Sheathing.
    - b. Adhesion to fiberglass mat faced sheathing: No delamination from face of sheathing.
    - c. Applied wet film thickness: 16 to 30 mils.
    - d. Air permeance: meets 0.004 cubic feet per minute per square foot (0.02L/s/sq m), maximum, when tested in accordance with ASTM E2178.
    - e. Water vapor permeance: >10 perms (287 ng/(Pa s sq m)), minimum, when tested in accordance with ASTM E96/E96M.
    - f. Ultraviolet and weathering resistance: Approved for 12 months weather exposure.
    - g. Comply with applicable requirements of AAMA 714
  3. Primer: Provide primer to seal the cut edges of gypsum sheathing.
- C. Fluid applied flashing for sealing fasteners:
1. Description: Water based fluid applied flashing.
  2. Properties:
    - a. Basis of Design substrate: Georgia-Pacific Gypsum LLC DensElement Sheathing.
    - b. Adhesion to fiberglass mat faced sheathing: No delamination from face of sheathing.
    - c. Applied wet film thickness: 10-15 mils.
    - d. Air permeance: meets 0.004 cubic feet per minute per square foot (0.02L/s/sq m), maximum, when tested in accordance with ASTM E2178.
    - e. Water vapor permeance: >10 perms (287 ng/(Pa s sq m)), minimum, when tested in accordance with ASTM E96/E96M.
    - f. Ultraviolet and weathering resistance: Approved for 12 months weather exposure.
    - g. Comply with applicable requirements of AAMA 714.
- D. Material transitions using fluid applied flashing:
1. Refer to substrate requirements for treatment of gaps as specified herein. Gaps from 1/8" to 1/4" shall be filled with a backer rod prior to applying fluid applied flashing. Gaps greater than 1/4" shall be sealed with fluid-applied flashing as approved by manufacturer.
  2. Fluid applied flashing for material transitions: Water based fluid applied flashing.
  3. Properties:
    - a. Basis of Design substrate: Georgia-Pacific Gypsum LLC DensElement Sheathing.
    - b. Adhesion to fiberglass mat faced sheathing: No delamination from face of sheathing.
    - c. Applied wet film thickness: 16-30 mils
    - d. Air permeance: 0.004 cubic feet per minute per square foot (0.02L/s/sq m), maximum, when tested in accordance with ASTM E2178
    - e. Water vapor permeance: >10 perms (287 ng/(Pa s sq m)), minimum, when tested in accordance with ASTM E96/E96M
    - f. Ultraviolet and weathering resistance: Approved for minimum of 12 months weather exposure
    - g. Comply with applicable requirements of AAMA 714

**PART 3 EXECUTION****3.01 PREPARATION**

- A. Remove projections, protruding fasteners, loose or damaged sheathing material at edges of panel that might interfere with proper installation to seal joints, corners, fasteners, penetrations, openings, or material transitions.
- B. Wipe down the sheathing surface to receive sealing materials with a clean cloth.
- C. Ensure field conditions are met as outlined in Part 1 - General Requirements.

**3.02 INSTALLATION OF WEATHER-RESISTANT BARRIER (WRB) AND AIR BARRIER (AB) SHEATHING**

- A. WRB / AB Coated fiberglass mat sheathing:
  - 1. Install and fasten sheathing according to manufacturer's detailed installation instructions
  - 2. Fastener and penetration treatment: Treat all countersunk (fasteners penetrating through the fiberglass mat) with specified fluid applied flashing used for sealing joints.

**3.03 FLUID APPLIED FLASHING FOR SEALING SHEATHING JOINTS, CORNERS, FASTENERS, AND MATERIAL TRANSITIONS**

- A. Sealing sheathing joints using specified fluid-applied flashing:
  - 1. Apply fluid applied flashing over the joint in a zig-zag or ribbon pattern dispensed from a tube type container. Cover a minimum of 2" on both sides of the joint.
  - 2. With a 4 or 6" straight edge knife or trowel, spread evenly over the sheathing joint.
  - 3. Apply at a rate to achieve a wet mil thickness of 16-30 mils over the entire joint area.
- B. Sealing sheathing vertical corners using specified fluid-applied flashing:
  - 1. Prime exposed gypsum edges with specified primer.
  - 2. Apply fluid applied flashing over the inside and/or outside corner in a zig-zag or ribbon pattern dispensed from either a tube type container. Cover a minimum of 2" on both sides of the corner.
  - 3. With a 4 or 6" straight edge knife or trowel, spread evenly over the sheathing corner.
  - 4. Apply at a rate to achieve a wet mil thickness of 16-30 mils over the corner area.
- C. Sealing sheathing fasteners using specified fluid-applied flashing: Apply the fluid applied flashing material to fasteners, and wipe down with a straight edge tool; provide a minimum 10-15 mil thick coating over the fastener
- D. Sealing sheathing material transitions using specified fluid-applied flashing
  - 1. Sheathing joint and transition gaps to receive fluid-applied flashing shall be less than 1/4" (6.4 mm).
  - 2. For gaps larger than 1/4" use shall be sealed with fluid-applied flashing as approved by manufacturer.
  - 3. Gaps that are more than 1/8" and less than 1/4" shall be filled with a backer rod to support the fluid applied flashing at the transition joint.
  - 4. If necessary, prime the adjacent material with primer per the material manufacturer's recommendations.
  - 5. Apply fluid applied flashing over the sheathing and adjacent material in a zig-zag or ribbon pattern dispensed from a tube type container. Ensure the flashing is a minimum of 3" on each substrate material surface.
  - 6. With a 4 or 6" straight edge knife or trowel, spread fluid applied flashing over material transition joint.
  - 7. Apply at a rate to achieve a wet mil thickness of 16-30 mils.

### 3.04 SEALING EXTERIOR WALL PENETRATIONS

- A. Exterior wall penetration shall be sealed to prevent air and water infiltration. Penetrations may be sealed with fluid applied flashing.
- B. For round or square pipe/duct penetrations use specified fluid applied flashing, refer to manufacturer's technical guide for instructions for proper sealing.

### 3.05 FIELD QUALITY CONTROL

- A. Do not cover installed WRB / AB assembly until required inspections have been completed and installation has been accepted.
- B. Where applicable, allow for owner's inspection and air barrier testing and reporting.

### 3.06 PROTECTION

- A. Protect WRB / AB assembly from damage during installation and during the construction period.

**END OF SECTION**

**SECTION 07 4264****METAL COMPOSITE MATERIAL WALL PANELS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Exterior cladding consisting of formed metal composite material (MCM) sheet, secondary supports, and anchors to structure, attached to solid backup.
- B. Matching flashing and trim.

**1.02 REFERENCE STANDARDS**

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- C. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- D. ASTM A276/A276M - Standard Specification for Stainless Steel Bars and Shapes; 2016.
- E. ASTM A480/A480M - Standard Specification for General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip; 2015.
- F. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- G. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- H. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2010.
- I. ASTM D523 - Standard Test Method for Specular Gloss; 2014.
- J. ASTM D1781 - Standard Test Method for Climbing Drum Peel for Adhesives; 1998 (Reapproved 2012).
- K. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics; 2014.
- L. ASTM D2244 - Standard Practice for Calculation of Color Differences from Instrumentally Measured Color Coordinates; 2011.
- M. ASTM D4145 - Standard Test Method for Coating Flexibility of Prepainted Sheet; 2010.
- N. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films; 2007.
- O. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

**1.03 ADMINISTRATIVE REQUIREMENTS**

- A. Pre-Installation Meeting: Convene one week before starting work of this section to verify project requirements, co-ordinate with installers of other work, establish condition and completeness of building substrate, and review manufacturers' installation instructions and warranty requirements.
  - 1. Require attendance by the installer and relevant sub-contractors.
  - 2. Include MCM sheet manufacturer's representative and wall system manufacturer's representative to review storage and handling procedures.

3. Review in detail truck transportation, parking, vertical transportation, schedule, personnel, installation of adjacent materials and substrate.
4. Review procedures for protection of work and other construction.
5. Review safety precautions.

#### 1.04 SUBMITTALS

- A. Product Data - MCM Sheets: Manufacturer's data sheets on each product to be used, including thickness, physical characteristics, and finish, and:
  1. Finish manufacturer's data sheet showing physical and performance characteristics.
  2. Storage and handling requirements and recommendations.
  3. Fabrication instructions and recommendations.
  4. Specimen warranty for finish, as specified herein.
- B. Shop Drawings: Show layout and elevations, dimensions and thickness of panels, connections, details and location of joints, sealants and gaskets, method of anchorage, number of anchors, supports, reinforcement, trim, flashings, and accessories.
  1. Indicate panel numbering system.
  2. Differentiate between shop and field fabrication.
  3. Indicate substrates and adjacent work with which the wall system must be coordinated.
  4. Include large-scale details of anchorages and connecting elements.
  5. Include large-scale details or schematic, exploded or isometric diagrams to fully explain flashing at a scale of not less than 1-1/2 inches per 12 inches.
- C. Selection Samples: For each finish product specified, color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finish product specified, minimum size 12 inches square, representing actual product in color and texture.
- E. Installer's Qualification Statement.
- F. Maintenance Data: Care of finishes and warranty requirements.
- G. Executed Warranty: Submit warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

#### 1.05 QUALITY ASSURANCE

- A. Field Measurements: Verify actual dimensions by field measurement before fabrication; show recorded measurements on shop drawings.
- B. Installer Qualifications: Company specializing in performing work of the type specified in this section.
  1. With minimum 3 years of documented experience.
- C. Mock-Up: Provide a mock-up for evaluation of fabrication workmanship.
  1. Locate where directed.
  2. Provide panels finished as specified.
  3. Mock-up may remain as part of the Work.

#### 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
  1. Protect finishes by applying heavy duty removable plastic film during production.
  2. Package for protection against transportation damage.
  3. Provide markings to identify components consistently with drawings.

4. Exercise care in unloading, storing and installing panels to prevent bending, warping, twisting and surface damage.
- B. Store products protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
1. Store in well ventilated space out of direct sunlight.
  2. Protect from moisture and condensation with tarpaulins or other suitable weather tight covering installed to provide ventilation.
  3. Store at a slope to ensure positive drainage of any accumulated water.
  4. Do not store in any enclosed space where ambient temperature can exceed 120 degrees F.
  5. Avoid contact with any other materials that might cause staining, denting, or other surface damage.

#### 1.07 WARRANTY

- A. MCM Sheet Manufacturer's Finish Warranty: Provide manufacturer's written warranty stating that the finish will perform as follows for minimum of 5 years:
1. Chalking: No more than that represented by a No.8 rating based on ASTM D4214.
  2. Color Retention: No fading or color change in excess of 5 Hunter color difference units, calculated in accordance with ASTM D2244.
  3. Gloss Retention: Minimum of 30 percent gloss retention, when tested in accordance with ASTM D523.

### **PART 2 PRODUCTS**

#### 2.01 MANUFACTURERS

- A. Metal Composite Material Sheet Manufacturers:
1. Alcoa, Inc: [www.alcoa.com](http://www.alcoa.com).
  2. ALPOLIC Materials; ALPOLIC / fr (fire resistant core): [www.alpolic-usa.com](http://www.alpolic-usa.com).
  3. Alucoil North America LLC; larson by Alucoil, FR Core (fire resistant): [www.alucoilnorthamerica.com](http://www.alucoilnorthamerica.com).

#### 2.02 WALL PANEL SYSTEM

- A. Wall Panel System: Metal panels, fasteners, and anchors designed to be supported by framing or other substrate provided by others; provide installed panel system capable of maintaining specified performance without defects, damage or failure.
1. Provide structural design by or under direct supervision of a Structural Engineer licensed in the State in which the Project is located.
  2. Provide panel jointing and weatherseal using reveal joints and gaskets but no sealant.
  3. Anchor panels to supporting framing without exposed fasteners.
- B. Performance Requirements:
1. Thermal Movement: Provide for free and noiseless vertical and horizontal thermal movement due to expansion and contraction under material temperature range of minus 20 degrees F to 180 degrees F without buckling, opening of joints, undue stress on fasteners, or other detrimental effects; allow for ambient temperature at time of fabrication, assembly, and erection procedures.
- C. Panels: One inch deep pans formed of metal composite material sheet by routing back edges of sheet, removing corners, and folding edges.
1. Reinforce corners with riveted aluminum angles.
  2. Provide concealed attachment to supporting structure by adhering attachment members to back of panel; attachment members may also function as stiffeners.

3. Maintain maximum panel bow of 0.8 percent of panel dimension in width and length; provide stiffeners of sufficient size and strength to maintain panel flatness without showing local stresses or read-through on panel face.
4. Secure members to back face of panels using structural silicone sealant approved by MCM sheet manufacturer.
5. Fabricate panels under controlled shop conditions.
6. Where final dimensions cannot be established by field measurement before commencement of manufacturing, make allowance for field adjustments without requiring field fabrication of panels.
7. Fabricate as indicated on drawings and as recommended by MCM sheet manufacturer.
  - a. Make panel lines, breaks, curves and angles sharp and true.
  - b. Keep plane surfaces free from warp or buckle.
  - c. Keep panel surfaces free of scratches or marks caused during fabrication.
8. Provide joint details providing a watertight and structurally sound wall panel system that allows no uncontrolled water penetration on inside face of panel system.
9. For "dry" jointing, secure extrusions to returned pan edges with stainless steel rivets; provide means of concealed drainage with baffles and weeps for water that might accumulate in members of system.

### 2.03 MATERIALS

- A. Metal Composite Material (MCM) Sheet: Two sheets of aluminum sandwiching a core of extruded thermoplastic material; no foamed insulation material content.
  1. Overall Sheet Thickness: 3 mm, minimum.
  2. Face Sheet Thickness: 0.019 inches, minimum.
  3. Alloy: Manufacturer's standard, selected for best appearance and finish durability.
  4. Bond and Peel Strength: No adhesive failure of the bond between the core and the skin nor cohesive failure of the core itself below 22.4 inch-pound/inch with no degradation in bond performance, when tested in accordance with ASTM D1781, simulating resistance to panel delamination, after 8 hours of submersion in boiling water and after 21 days of immersion in water at 70 degrees F.
  5. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84.
  6. Flammability: Self-ignition temperature of 650 degrees F or greater, when tested in accordance with ASTM D1929.
  7. Factory Finish: One coat fluoropolymer resin coating, approved by the coating manufacturer for the length of warranty specified for the project, and applied by coil manufacturing facility that specializes in coil applied finishes.
    - a. Coating Flexibility: Pass ASTM D4145 minimum 1T-bend, at time of manufacturing.
    - b. Long-Term Performance: Not less than that specified under WARRANTY in PART 1.
- B. Metal Framing Members: Include sub-girts, zee-clips, base and sill angles and channels, hat-shaped and rigid channels, and furring channels required for complete installation.
  1. Provide material strength, dimensions, configuration as required to meet the applied loads applied and in compliance with applicable building code.
  2. Sheet Steel Components: ASTM A653/A653M galvanized to G90/Z275 or zinc-iron alloy-coated to A60/ZF180; or ASTM A792/A792M aluminum-zinc coated to AZ60/AZM180.
  3. Stainless Steel Sheet Components: ASTM A480/A480M.

- C. Flashing: Sheet aluminum; 0.040 inch thick, minimum; finish and color to match MCM sheet.
- D. Anchors, Clips and Accessories: Use one of the following:
  - 1. Stainless steel complying with ASTM A276/A276M, ASTM A480/A480M, or ASTM A666.
  - 2. Steel complying with ASTM A36/A36M and hot-dipped galvanized to ASTM A153/A153M.
  - 3. Steel complying with ASTM A36/A36M and hot-dipped galvanized to ASTM A123/A123M Coating Grade 10.
- E. Fasteners:
  - 1. Exposed fasteners: Stainless steel; permitted only where absolutely unavoidable and subject to prior approval of the Architect.
  - 2. Screws: Self-drilling or self-tapping Type 410 stainless steel or zinc-alloy steel hex washer head, with EPDM or PVC washer under heads of fasteners bearing on weather side of metal wall panels.
  - 3. Bolts: Stainless steel.
  - 4. Fasteners for Flashing and Trim: Blind fasteners of high-strength aluminum or stainless steel.
- F. Joint Sealer: Clear silicone sealant approved by MCM sheet manufacturer.
- G. Provide panel system manufacturer's and installer's standard corrosion resistant accessories, including fasteners, clips, shims, anchorage devices and attachments.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify dimensions, tolerances, and interfaces with other work.
- B. Verify substrate on-site to determine that conditions are acceptable for product installation in accordance with manufacturers written instructions.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- D. Notify Architect in writing of conditions detrimental to proper and timely completion of work. Do not proceed with erection until unsatisfactory conditions have been corrected.

#### **3.02 PREPARATION**

- A. Protect adjacent work areas and finish surfaces from damage during installation.

#### **3.03 INSTALLATION**

- A. Do not install products that are defective, including warped, bowed, dented, and broken members, and members with damaged finishes.
- B. Comply with instructions and recommendations of MCM sheet manufacturer and wall system manufacturer, as well as with approved shop drawings.
- C. Install wall system securely allowing for necessary thermal and structural movement; comply with wall system manufacturer's instructions for installation of concealed fasteners.
- D. Do not handle or tool products during erection in manner that damages finish, decreases strength, or results in visual imperfection or failure in performance. Return component parts that require alteration to shop for refabrication, if possible, or for replacement with new parts.

- E. Do not form panels in field unless required by wall system manufacturer and approved by the Architect; comply with MCM sheet manufacturer's instructions and recommendations for field forming.
- F. Separate dissimilar metals; use gasket fasteners, isolation shims, or isolation tape where needed to eliminate possibility of electrolytic action between metals.
- G. Install flashings as indicated on shop drawings At flashing butt joints, provide a lap strap under flashing and seal lapped surfaces with a full bed of non-hardening sealant.
- H. Install square, plumb, straight, and true, accurately fitted, with tight joints and intersections maintaining the following installation tolerances:
  - 1. Variation From Plane or Location: 1/2 inch in 30 feet of length and up to 3/4 inch in 300 feet, maximum.
  - 2. Deviation of Vertical Member From True Line: 0.1 inch in 25 feet run, maximum.
  - 3. Deviation of Horizontal Member From True Line: 0.1 inch in 25 feet run, maximum.
  - 4. Offset From True Alignment Between Two Adjacent Members Abutting End To End, In Line: 0.03 inch, maximum.
- I. Replace damaged products.

#### 3.04 CLEANING

- A. Ensure weep holes and drainage channels are unobstructed and free of dirt and sealants.
- B. Remove protective film after installation of joint sealers, after cleaning of adjacent materials, and immediately prior to completion of work.
- C. Remove temporary coverings and protection of adjacent work areas.
- D. Clean installed products in accordance with manufacturer's instructions.

#### 3.05 PROTECTION

- A. Protect installed panel system from damage during construction.

**END OF SECTION**

**SECTION 07 5216****STYRENE-BUTADIENE-STYRENE MODIFIED BITUMINOUS ROOFING (SBS)****PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. SBS modified bituminous membrane roofing system, including all components specified.
- B. Disposal of demolition debris and construction waste is the responsibility of Contractor. Perform disposal in manner complying with all applicable federal, state, and local regulations.
- C. Comply with the published recommendations and instructions of the roofing membrane manufacturer.
- D. Commencement of work by Contractor shall constitute acknowledgement by Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by roofing membrane manufacturer. No modification of the Contract Sum will be made for failure to adequately examine the Contract Documents or the project conditions.

## 1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Wood nailers associated with roofing and roof insulation.
- B. Section 07 6200 - Sheet Metal Flashing and Trim: Formed metal flashing and trim items associated with roofing.
- C. Section 07 7100 - Roof Specialties: Manufactured copings, and other flashing-related items.
- D. Section 07 7200 - Roof Accessories: Roof hatches, vents, and manufactured curbs.

## 1.03 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 for definition of terms related to roofing work not otherwise defined in the section.
- B. LTTR: Long Term Thermal Resistance, as defined by CAN-ULC S770.

## 1.04 REFERENCE STANDARDS

- A. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2013.
- B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2014.
- C. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.
- D. ASTM D6164/D6164M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements; 2011.
- E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- F. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2012.
- G. PS 1 - Structural Plywood; 2009.

## 1.05 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Meeting: Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials.

1. Require attendance with parties directly influencing the quality of roofing work or affected by performance of roofing work.
2. Notify Architect well in advance of meeting.

#### 1.06 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data:
  1. Provide membrane manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the membrane manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing membrane.
  2. Installation Instructions: Provide manufacturer's instructions to installer, marked up to show exactly how all components will be installed; where instructions allow installation options, clearly indicate which option will be used.
- C. Samples: Submit samples of each product to be used.
- D. Shop Drawings:
  1. Provide roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
  2. For tapered insulation, provide project-specific layout and dimensions for each board.
- E. Specimen Warranty: Submit prior to starting work.
- F. Installer Qualifications: Letter from manufacturer attesting that the roofing installer meets the specified qualifications.
- G. Pre-Installation Notice: Copy to show that manufacturer's required Pre-Installation Notice (PIN) has been accepted and approved by the manufacturer.
- H. Executed Warranty.

#### 1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.
- B. Store materials clear of ground and moisture with weather protective covering.
- C. Keep combustible materials away from ignition sources.

#### 1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Comply with warranty procedures required by manufacturer, including notifications, scheduling, and inspections.
- C. Warranty: Roofing Membrane Limited Warranty covering membrane only, for the term indicated.
  1. Limit of Liability: Prorated based on original cost of membrane.
  2. Scope of Coverage: Provide replacement membrane material sufficient to replace the affected area of membrane as a result of any manufacturing defect or ordinary exposure to the elements.

**PART 2 PRODUCTS****2.01 MANUFACTURERS**

- A. Basis of Design: Manufacturer - SBS Roofing System: Firestone Building Products LLC, Carmel, IN: [www.firestonebpco.com](http://www.firestonebpco.com).
  - 1. Roofing systems manufactured by others are acceptable provided the roofing system is completely equivalent in materials and warranty conditions and the manufacturer meets the following qualifications:
    - a. Specializing in manufacturing the roofing system to be provided.
    - b. Minimum ten years of experience manufacturing the roofing system to be provided.
- B. Manufacturer of Insulation: Same manufacturer as roof membrane.

**2.02 ROOFING SYSTEM DESCRIPTION**

- A. Roofing System: Styrene-butadiene-styrene modified bituminous membrane.
  - 1. Membrane and Attachment: Mineral granule surfaced cap sheet, heat welded (torch applied) over 3 ply hot asphalt applied built-up base.
  - 2. Granule Color: White.
- B. Roofing System Components:
  - 1. Insulation Cover Board: Wood fiber board, 0.5 inch thick; loose-laid, no attachment.
  - 2. Insulation:
    - a. Maximum Board Thickness: 2 inches; use as many layers as necessary; stagger joints in adjacent layers.
    - b. Tapered: Slope as indicated; provide minimum R-value at thinnest point; place tapered layer on bottom.
    - c. Total R-value: 25, minimum.
    - d. Top Layer: Polyisocyanurate foam board, non-composite; mechanically fastened.
    - e. Crickets: Tapered insulation of same type as specified for top layer; slope as indicated.
  - 3. Deck Cover Board: Gypsum-based board, 1/2 inch thick; mechanically fastened.
    - a. Product: DensDeck Prime; Manufacturer: Georgia-Pacific.

**2.03 SBS MODIFIED BITUMEN MATERIALS**

- A. Cap Sheet: Granule surfaced SBS polymer-modified bitumen sheet, reinforced with non-woven polyester fabric, complying with ASTM D6164/D6164M, Type II, Grade G, with the following additional characteristics:
  - 1. Reinforcing Fabric: 7.8 oz per sq yd, with continuous fiberglass strands in machine direction.
  - 2. Nominal Thickness: 0.160 inch.
  - 3. Post Consumer Recycled Content: 5 percent, nominal.
  - 4. Sheet Width: 3.3 feet, nominal.
- B. Interply Base Sheet: SBS polymer-modified bitumen sheet, complying with ASTM D6164/D6164M, Type I, Grade S, formulated for hot asphalt and cold adhesive application to substrate and cap sheet, with the following additional characteristics:
  - 1. Reinforcing Fabric: 5.3 oz per sq yd polyester.
  - 2. Nominal Thickness: 0.09 inch.
  - 3. Post Consumer Recycled Content: 8 percent, nominal.
  - 4. Sheet Width: 3.3 feet, nominal.
  - 5. Acceptable Product: SBS PolyBase by Firestone.

- C. Base Sheet: Same as interply base sheet.
- D. Flashings: Same materials and configuration as roofing membrane.

#### 2.04 ROOF INSULATION AND COVER BOARDS

- A. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminated to faces, complying with ASTM C1289 Type II Class 1, with the following additional characteristics:
  - 1. Thickness: As indicated elsewhere.
  - 2. Size: 48 inches by 96 inches, nominal.
    - a. Exception: Insulation to be attached using adhesive or asphalt may be no larger than 48 inches by 48 inches, nominal.
  - 3. Compressive Strength: 20 psi when tested in accordance with ASTM C1289.
  - 4. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.
  - 5. Recycled Content: 19 percent post-consumer and 15 percent post-industrial, average.
- B. Gypsum-Based Cover Board: Non-combustible, water resistant gypsum core with embedded glass mat facers, complying with ASTM C1177/C1177M, and with the following additional characteristics:
  - 1. Size: 48 inches by 96 inches, nominal.
    - a. Exception: Board to be attached using adhesive or asphalt may be no larger than 48 inches by 48 inches, nominal.
  - 2. Thickness: As indicated elsewhere.
  - 3. Surface Water Absorption: 2.5 g, maximum, when tested in accordance with ASTM C473.
  - 4. Spanning Capability: Recommended by manufacturer for following minimum flute spans:
    - a. 1/2 inch Thickness: 5 inches, minimum.
  - 5. Surface Burning Characteristics: Flame spread index of 0 (zero), smoke developed index of 0 (zero), when tested in accordance with ASTM E84.
  - 6. Combustibility: Non-combustible, when tested in accordance with ASTM E136.
  - 7. Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
  - 8. Mold Growth Resistance: Zero growth, when tested in accordance with ASTM D3273 for minimum of 4 weeks.
  - 9. Pre-primed for better adhesion.
  - 10. Acceptable Product: Georgia-Pacific DensDeck Prime Roof Guard.
- C. Insulation Fasteners: Type and size as required by roof membrane manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof membrane manufacturer.

#### 2.05 ACCESSORY MATERIALS

- A. Wood Nailers: PS 20 dimension lumber, Structural Grade No. 2 or better Southern Pine, Douglas Fir; or PS 1, APA Exterior Grade plywood; pressure preservative treated.
  - 1. Width: 3-1/2 inches, nominal minimum, or as wide as the nailing flange of the roof accessory to be attached to it.
  - 2. Thickness: Same as thickness of roof insulation.
- B. Cant Strips and Tapered Edge Strips: 45 degree face slope and minimum 5 inch face dimension; provide at all angle changes between vertical and horizontal planes that exceed 45 degrees.

1. Install using hot asphalt (Type IV), roofing mastic, or mechanically fastened using fasteners and plates approved by roofing manufacturer.
- C. Lead Flashing: Soft lead sheet, minimum 3 pounds per square foot

### **PART 3 INSTALLATION**

#### **3.01 GENERAL**

- A. Install roofing, insulation, flashings, and accessories in accordance with roofing manufacturer's published instructions and recommendations for the specified roofing system. Where manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.
- B. Obtain all relevant instructions and maintain copies at project site for duration of installation period.
- C. Do not start work until Pre-Installation Notice has been submitted to manufacturer as notification that this project requires a manufacturer's warranty.
- D. Perform work using competent and properly equipped personnel.
- E. Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.
- F. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice; do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application; consult manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 degrees F.
- G. Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.
  1. Protect from spills and overspray from bitumen, adhesives, sealants and coatings.
  2. Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.
  3. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.
- H. Until ready for use, keep materials in their original containers as labeled by the manufacturer.
- I. Consult membrane manufacturer's instructions, container labels, and Material Safety Data Sheets (MSDS) for specific safety instructions. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.

#### **3.02 EXAMINATION**

- A. Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.
- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

### 3.03 PREPARATION

- A. Remove the wet areas of the existing roof system down to the roof deck including all existing composition base flashings. Dispose of all materials properly. Perform asbestos removal in accordance with federal, state and local regulations and dispose of waste in legal manner.
  - 1. At penetrations, remove all existing flashings, including lead, asphalt, mastic, etc.
  - 2. At walls, curbs, and other vertical and sloped surfaces, remove loose and unsecured flashings; remove mineral surfaced and coated flashings; remove excessive asphalt to provide a smooth, sound surface for new flashings.
- B. Take appropriate measures to ensure that fumes from adhesive solvents are not drawn into the building through air intakes.
- C. Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease and other materials that may damage the membrane.
- D. Fill all surface voids in the immediate substrate that are greater than 1/4 inch wide with fill material acceptable insulation to membrane manufacturer.
- E. Seal, grout, or tape deck joints, where needed, to prevent bitumen seepage into building.

### 3.04 INSULATION AND COVER BOARD INSTALLATION

- A. Install insulation in configuration and with attachment method(s) specified in PART 2, under Roofing System.
- B. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
- C. Lay roof insulation in courses parallel to roof edges.
- D. Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than 1/4 inch. Fill gaps greater than 1/4 inch with acceptable insulation. Do not leave the roofing membrane unsupported over a space greater than 1/4 inch.

### 3.05 FLASHING AND ACCESSORIES INSTALLATION

- A. Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by membrane manufacturer's recommendations and details.

### 3.06 FIELD QUALITY CONTROL

- A. Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer specifically to inspect installation for warranty purposes (i.e. not a sales person).
- B. Perform all corrections necessary for issuance of warranty.

### 3.07 CLEANING

- A. Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.
- B. Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of manufacturers of components and surfaces.
- C. Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

3.08 PROTECTION

- A. Where construction traffic must continue over finished roof membrane, provide durable protection and replace or repair damaged roofing to original condition.

**END OF SECTION**

**SECTION 07 5600**  
**FLUID-APPLIED ROOFING**

**PART 1 - GENERAL**

## 1.01 SUMMARY

- A. Provide labor and materials necessary to install a fluid applied fully reinforced elastomeric composite roof membrane system.

## 1.02 RELATED REQUIREMENTS

- A. Styrene-Butadiene-Styrene Modified Bituminous Roofing (SBS) - Section 07 5216
- B. Flashing and Sheet Metal Division 07 - Section 07 6200
- C. Joint Protection Division 07 - Section 07 9200

## 1.03 REFERENCES

- A. American Society for Testing and Materials (ASTM) Standards.
  - 1. D 6083 Standard Specification for Liquid Applied Acrylic Coating Used in Roofing.
  - 2. Volume 04.04 Roofing and Waterproofing
  - 3. Volume 06.01 Paint- Tests for Chemical, Physical, and Optical Properties; Appearance.
- B. National Roofing Contractors Association (NRCA)
  - 1. Roofing and Waterproofing Manual (Current Edition)

## 1.04 SYSTEM DESCRIPTION

- A. The fluid applied fully reinforced elastomeric composite roof membrane system provides a 50 mil membrane. Coatings to be used in the membrane system shall meet or exceed all requirements listed in ASTM D-6083 Standard Specification for Liquid Applied Acrylic Coatings Used in Roofing.
- B. Roof Type 1: A fully reinforced composite membrane system designed for weatherproofing and recovery of asphalt roof surfaces including modified bitumen and other acceptable substrates
- C. Roof Type 2: A fully reinforced composite membrane system designed for use over approved roof cover board.

## 1.05 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Meeting: Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.
  - 1. Require attendance with parties directly influencing the quality of roofing work or affected by performance of roofing work.
  - 2. Notify Architect well in advance of meeting.

## 1.06 SUBMITTALS

- A. Submit product data sheets and installation instructions.
- B. Verify field measurements and submit materials list, including quantities to be used to achieve specified membrane thickness.
- C. Submit 2 year applicator warranty against leaks caused by defects in workmanship. Warranty shall be signed by an authorized representative of the applicator.
- D. Submit sample copy of manufacturer's 15 year warranty.
- E. Submit Manufacturer's Application for Warranty Form indicating acceptance of project for warranty by manufacturer's authorized representative.

- F. Submit Material Safety Data Sheets (MSDS) for all coating products to be used.
- G. Submit manufacturers standard color chart, or if special colors, prepare and submit representative samples of each color specified.
- H. Submit copy of Approved Applicator Certificate and/or letter indicating applicator approval issued by manufacturer of coating system.
- I. Submit applicator's completed project reference list.

#### 1.07 QUALITY ASSURANCE

- A. Applicator Qualifications: Applicator shall have proven experience in the installation of work similar to that required for this project.
  - 1. Manufacturer's certification of applicator approval is required for warranty.
- B. Manufacturer Qualifications: The manufacturer shall have manufactured elastomeric coatings for a minimum of 20 years and shall provide reference list of successful applications.
- C. All details must be installed in conformance with manufacturer's specifications and detail drawings.
  - 1. For conditions not addressed by the manufacturer or these specifications, the reference guides for application and detailing shall be the National Roof Contractors Association - Roofing & Waterproofing Manual - Current Edition.
- D. Inspections by the manufacturer's authorized representative will be required for warranty.
  - 1. Inspection shall not replace the normal responsibilities of the contracting parties.
  - 2. Request for inspections, must be forwarded, along with a roof plan, to the manufacturer prior to start of the project.
- E. Provide all primers, coatings, fabric and accessories as manufactured and/or approved in writing by the manufacturer.
- F. Documentation of project information and description of weather conditions at times of application of system must be kept in an Applicators Daily Log by project foreman.
  - 1. This log shall be forwarded to manufacturer upon completion of application.

#### 1.08 DELIVERY, STORAGE AND HANDLING

- A. Furnish materials and component accessories in manufacturer's original containers clearly indicating the manufacturer's label and other identifying information including batch number and manufacturing date.
- B. Store materials in a dry location, protected until installation in accordance with manufacturer's instructions.
- C. Protect materials against freezing. Store materials between 40°F and 100°F. Protect from extreme heat. Do not store in direct sunlight.

#### 1.09 PROJECT CONDITIONS

- A. Substrate: Prior to starting coating system installation work, complete all work necessary to provide suitable surface for application of the fluid-applied roofing system.
  - 1. Substrate shall be smooth, dry, and free of debris.
  - 2. Wet insulation must be removed and replaced or addressed with other measures as required.
  - 3. Moisture surveys shall be completed as required.
- B. The material requirements specified herein are for typical conditions. The number of gallons required may need to be increased to account for uneven application, applicator inefficiencies, surface texture, or other conditions. In all cases minimum dry film thickness must be achieved.

- C. Install drains or take other corrective action to correct or prevent excess ponding water.

#### 1.10 ENVIRONMENTAL CONDITIONS

- A. It is the responsibility of the applicator to determine if present and forecast weather conditions are acceptable for application of fluid-applied roofing coatings.
- B. Do not apply fluid-applied roofing coatings when rain, fog, snow, or freezing temperatures are possible within 24 hours or before coating can dry.
- C. Do not apply coatings when the temperature of surfaces to be coated and/or surrounding air temperatures are less than 50°F.
- D. During extremely hot conditions do not apply coatings, or apply coatings in thinner applications to prevent blistering. Additional coats will be required to achieve specified dry film thickness.
- E. Do not apply fluid-applied roofing coatings when temperatures are within 5°F of the dew point or when dew point can be reached before the coatings have sufficiently dried or cured. Special consideration must be given during spring and autumn when rapid temperature changes near sunset can occur. Shortened workdays may be required.
- F. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before proceeding with or continuing coating operation.
- G. Wind conditions and the potential for overspray must be considered during application of coatings to avoid damage to adjacent surfaces or completed work.

#### 1.11 SAFETY REQUIREMENTS

- A. Users must familiarize themselves with appropriate Material Safety Data Sheets (MSDS). MSDS must be available at all worksites where materials are being used.
- B. Materials shall be applied in accordance with all applicable local, state, and federal regulations.
- C. A respirator should be used when spraying fluid-applied roofing coatings to protect applicators from overspray particles.
- D. When applying reflective white or light color coatings to a roof, sunglasses should be used to protect eyes from glare.
- E. Handle on pails should not be used to hoist pail from ground to roof.
- F. Translucent light panels should be clearly marked and safely protected from foot traffic.
- G. All work shall be performed in compliance with the safety procedures outlined in the current Fall Protection Guide published by the Occupational Safety and Health Administration (OSHA).
- H. If hazardous materials such as lead paint or asbestos are encountered notify appropriate personnel and comply with all applicable local, state, and federal regulations.

#### 1.12 WORK SEQUENCE

- A. Sequence of installation is at the Applicator's discretion providing it does not disrupt operations or activities of the occupants of the building.
- B. Schedule and execute work to prevent leaking.

#### 1.13 WARRANTY

- A. Warranty shall be 15 year Material Warranty.

- B. Furnish applicator warranty with minimum 2 year coverage. The occurrence of leaks caused by defects in workmanship during the covered period will be remedied at no cost to the building owner according to provisions of the applicator warranty.

**PART 2 - PRODUCTS**

2.01 FLUID APPLIED FULLY REINFORCED MEMBRANE SYSTEM

- A. Basis of Design: Manufacturer:  
 Acrymax Technologies Inc.  
 221 Brooke Street; Media, PA 19063  
 Telephone (610) 566-7470, FAX (610) 891-0834  
 email info@acrymax.com; website http://www.acrymax.com
- B. Substitutions: Substitutions if allowed must be approved by specifier before submission of bids.

2.02 MATERIALS

- A. Roof Type 1: Acrymax ARS-1-A50XT System shall include but not be limited to:
  - 1. AF-130BC Basecoat Elastomeric Coating
  - 2. AF-130XT High-strength Elastomeric Finish Coating
  - 3. Poly-1 Reinforcement Fabric
- B. Roof Type 2: Acrymax ARS-1-RB50XT System shall include but not be limited to:
  - 1. AF-130BC Basecoat Elastomeric Coating
  - 2. AF-130XT High Strength Elastomeric Coating
  - 3. Poly-1 Reinforcement Fabric
  - 4. Poly-6 Self-stick Reinforcement Tape
- C. Minimum Material Properties
  - 1. Elastomeric Coatings - Elastomeric coatings shall be water-dispersed 100% acrylic elastomeric coatings. Materials shall exhibit the following properties:
    - a. Liquid Coating Property Requirements

	AF-130BC	AF-130XT	ASTM
Weight Per Gallon	12.1 +/- .3 lbs	11.1 +/- .3 lbs	D1475
Solids by Weight	66.9 +/- 2.0	64.0 +/- 2.0	D1644
Solids by Volume	50.8 +/- .5	51.0 +/- .5	D2697
Viscosity	95 - 115 kU	95- 110 kU	D562

- b. b. Cured Film Typical Physical Properties

	AF-130BC	AF-130XT	ASTM
Low Temp. Flexibility	Pass @ -15o F	Pass @ -30o F	D522
Elongation at break @74o F	245%	460%	D2370
Elongation at break @0o F	130%	100%	D2370
Tensile strength at break @74o F	240 psi	670 psi	D2370
Tensile strength at break @0o F	660 psi	2100 psi	D2370
Permeance	<20 perms	<20 perms	D1653
Accelerated weathering	No effect	No effect	D4798
Fungi Resistance	Zero rating	Zero rating	G21

- c. AF-130XT shall also pass Rain Permeability Test ETP-1375, Mil-Std 810E Method 506.3, Process III
- 2. Reinforcement Fabric - Stitchbonded polyester for use in cold fluid applied roof membranes that shall provide high strength and good elongation.
  - a. a. Poly-1 Fabric (Average typical properties)

	Average	ASTM Standard
Tensile strength	57.1	D-1682
Elongation	61.65%	D-1682

2.03 APPLICATION EQUIPMENT

- A. Fluid-applied roofing coatings shall be applied by brush, roller, or spray.
  - 1. Spray application should be done with airless spray equipment.
  - 2. Application by roller or brush may require additional coats, but material requirements will generally remain the same.
  - 3. In all cases, the specified minimum membrane thickness must be achieved.

2.04 ROOF INSULATION AND COVER BOARDS

- A. Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with black glass reinforced mat laminated to faces, complying with ASTM C1289 Type II Class 1, with the following additional characteristics:
  - 1. Thickness: As indicated elsewhere.
  - 2. Size: 48 inches by 96 inches, nominal.
    - a. Exception: Insulation to be attached using adhesive or asphalt may be no larger than 48 inches by 48 inches, nominal.
  - 3. Compressive Strength: 20 psi when tested in accordance with ASTM C1289.
  - 4. Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents.
  - 5. Recycled Content: 19 percent post-consumer and 15 percent post-industrial, average.
- B. Gypsum-Based Cover Board: Non-combustible, water resistant gypsum core with embedded glass mat facers, complying with ASTM C1177/C1177M, or cellulosic-fiber-reinforced, water-resistant gypsum substrate, complying with ASTM C 1278/C 1278M and with the following additional characteristics:
  - 1. Size: 48 inches by 96 inches, nominal.
    - a. Exception: Board to be attached using adhesive or asphalt may be no larger than 48 inches by 48 inches, nominal.
  - 2. Thickness: As indicated elsewhere.
  - 3. Surface Water Absorption: 2.5 g, maximum, when tested in accordance with ASTM C473.
  - 4. Spanning Capability: Recommended by manufacturer for following minimum flute spans:
    - a. 1/2 inch Thickness: 5 inches, minimum.
  - 5. Surface Burning Characteristics: Flame spread index of 0 (zero), smoke developed index of 0 (zero), when tested in accordance with ASTM E84.
  - 6. Combustibility: Non-combustible, when tested in accordance with ASTM E136.
  - 7. Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies.
  - 8. Mold Growth Resistance: Zero growth, when tested in accordance with ASTM D3273 for minimum of 4 weeks.
  - 9. Pre-primed for better adhesion.

10. Acceptable Products:

- a. Product: DensDeck Prime Roof Guard; Manufacturer: Georgia-Pacific Corporation.
- b. Product: Securock Gypsum-Fiber Roof Board.; Manufacturer: USG Corporation.

2.05 RELATED MATERIALS

A. Primer

1. Type 1 and 2: Acrymax AF-127 Primer-Sealer
2. Type 1: Acrymax AF-9000 Acrylic Modified Asphalt Emulsion

B. Sealant

1. Polyurethane

C. Polyurethane Foam

1. Expanding polyurethane foam of a type suitable for roofing applications

**PART 3 - EXECUTION**

3.01 MANUFACTURERS INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, technical bulletins, recommendations, MSDS, and installation instructions.

3.02 EXAMINATION

- A. Examine the substrate, flashing conditions, penetrations, equipment supports, curbs, adjoining construction and the conditions under which the work is to be installed. Do not proceed until all unsatisfactory conditions have been corrected and substrate is acceptable. Applicator shall be responsible for providing a proper substrate to receive the fluid-applied roofing coating system.
- B. Verify that all roof drains are clear and in working condition.
- C. Verify that all air intake equipment and air conditioning units are closed or protected during application of coatings.

3.03 PREPARATION

- A. Surfaces to be coated must be sound and free of any contaminants that would interfere with proper adhesion of coatings.
- B. Substrate: Prior to starting coating system installation work, complete all substrate corrective actions required, including, but not limited to; removal of obsolete roof top equipment or roof penetrations, replacement or repair of damaged roof decking, replacement of loose fasteners, removal and replacement of wet insulation, or completion of any other repairs necessary to provide a sound substrate. Substrate shall be smooth, dry, and free of debris.

3.04 ROOF TYPE 1: SPECIAL PREPARATION

- A. Large blisters in existing membrane must be cut and made level with the roof surface. After making level, reinforce repaired area with Poly-1 Reinforcing Fabric embedded in and saturated with Acrymax AF-130BC.
- B. Patch cracks, voids, and other defects with suitable filler. Polyurethane foam may be used if made flush with surface.
- C. Heavily alligatored asphalt surfaces should be precoated with AF-9000 Acrylic Modified Asphalt Emulsion prior to application of the ARS-1-A Membrane System.
- D. Elongated or fatigue cracks in the existing membrane surface must be reinforced with 6" width Poly-1 Reinforcing Fabric embedded in and saturated with Acrymax AF-130BC.

## 3.05 INSTALLATION

- A. Following inspection and acceptance of substrate condition, install the Reinforced Roof Membrane System using minimum coverage's indicated in the manufacturer's guidelines. Adherence to guidelines will yield an average membrane thickness of 50 mils dry film thickness (dft) and a minimum of 47 mils.
- B. Basecoat & Reinforcement - Apply reinforcement fabric and basecoat to: field of roof (Type 1); or entire surface of the installed roof boards (Type 2), as follows:
  - 1. Apply tack coat of AF-130BC Basecoat at minimum rate of 1.5 gallons per 100 square feet to surface. Immediately embed POLY-1 Polyester Reinforcement into wet coating allowing fabric to contour and lay flush to the surface of the roof board. Care must be taken to avoid air pockets, wrinkles, "fishmouths", or gaps. Extra care must be taken to ensure that fabric edges are completely saturated and fully adhered. Roller, brush, or soft broom shall be used to insure that Poly-1 is fully embedded into wet coating.
  - 2. After embedding POLY-1 into wet coating apply a saturating coat of AF-130BC, at the minimum rate of 1.5 gallons per 100 sq. ft. making sure fabric is completely saturated and flush to the surface to which it has been applied.
  - 3. Total AF-130BC to embed and saturate reinforcing fabric shall be not less than 3 gallons per 100 square feet of reinforcement.
  - 4. Each successive run of fabric reinforcement shall be overlapped a minimum of 3".
  - 5. Achieve a 25 mil base membrane thickness.
- C. Flashings & Details - Apply reinforcement at flashings, roof penetrations, transitions, perimeters and any other areas requiring reinforcement
  - 1. Apply heavy coat of AF-130BC to the area to be reinforced, and embed Poly-1 Reinforcement Fabric into wet coating. A soft brush should be used to insure fabric conforms to surface and is fully embedded into wet coating with no wrinkles, bridging, air pockets, gaps or "fishmouths".
  - 2. Apply additional coating to the top of fabric taking care to completely saturate fabric and provide a weatherproof seal.
  - 3. Total AF-130BC to embed and saturate reinforcing fabric shall be not less than 3 gallons per 100 square feet of reinforcement.
- D. 1st Intermediate Coat - Apply coat of AF-130XT to all previously reinforced areas at minimum application rate of 1.0 gallon of AF-130XT per 100 square feet. Apply in color that provides contrast to basecoat and 2nd intermediate coating.
- E. 2nd Intermediate Coat - Apply coat of AF-130XT to entire surface previously coated at minimum application rate of 1.0 gallon per 100 square feet. Apply at right angles to previous coat in a "cross hatch" pattern. Apply in color that provides contrast to 1st intermediate and final finish coating.
- F. Finish Coat - Apply coat of AF-130XT to entire surface previously coated at minimum application rate of 1.0 gallon of AF-130XT per 100 square feet. Apply at right angles to previous coat in a "cross hatch" pattern. Apply in color that provides contrast to 2nd intermediate coating.
- G. If necessary apply additional AF-130XT, where required, to insure that specified membrane thickness is achieved. Applicator shall achieve proper membrane thickness according to specification.
- H. Edges of coating application shall be done in an aesthetically acceptable manner.

### 3.06 ROOF TYPE 1: SPECIAL INSTALLATIONS

- A. Primer: AF-127 primer shall be used over asphaltic surfaces including modified bitumen to promote adhesion to oxidized surfaces.
  - 1. AF-127 Primer shall be used on all granulated surfaces.
- B. Roofs that have previously been coated with aluminized coatings shall be primed with AF-127 Primer to prevent "leafing."
- C. Use of primer is not a substitute for proper cleaning of surfaces to receive coatings.

### 3.07 ROOF TYPE 2: SPECIAL INSTALLATIONS

- A. Roof Board Installation: Attach roof board to roof using either mechanical fasteners or suitable adhesive.
  - 1. Mechanical attachment shall be done using fasteners that are appropriate for the substrate.
    - a. Space fasteners as recommended by roof board manufacturer so that it is securely fastened to the deck.
  - 2. If using adhesive to secure the insulation to the substrate, utilize appropriate adhesive for the substrate to be covered.
  - 3. Roof deck areas shall have positive slope to drain.
    - a. Use tapered insulation if necessary to provide positive slope.
    - b. Add crickets as required.
  - 4. Reinforce areas around drains, scuppers, flashings and protrusions by applying a heavy coat of AF-315 using a brush.
    - a. Tops of fastener plates should be sealed with AF-315 if installation of the membrane system will not be started on the same day as installation of roof board.
  - 5. Prime roof board with AF-127 Primer applied at the rate of 1 gallon per 250 square feet.
    - a. If DensDeck DuraGuard is used a primer is not necessary.
  - 6. Reinforce seams between sheets of roof board using Poly-6 Self Stick Tape - minimum 2" width centered over the seam.

### 3.08 FIELD QUALITY REQUIREMENTS

- A. Provide the services of a technical representative at the job site at the start of the installation, periodically as work progresses, and upon final completion.
- B. Verify final minimum film thickness as specified. If specified dry film thickness has not been achieved, application of additional coating will be required.
- C. Visually inspect critical areas of the roof including roof transitions, seams and penetrations and touch up with additional fluid-applied roof coatings to insure complete and adequate coverage.
- D. Manufacturer reserves the right to perform post installation testing for conformance to specification.
  - 1. Any areas that do not meet the minimum standards for application of the fluid applied fully reinforced elastomeric composite roof membrane system as specified herein shall be corrected at the applicator's expense.
  - 2. Manufacturer's inspection shall not constitute acceptance of responsibility for any improper application of materials.

### 3.09 PROTECTION & CLEANING

- A. Surfaces not intended to receive the fluid-applied roofing system shall be protected with temporary protection measures during application of the system.
- B. Remove temporary protection at end of the project.
  - 1. Clean, repair or replace damaged and soiled surfaces to the satisfaction of the Architect.

- C. Remove waste, surplus materials and debris resulting from application of the coating system.
- D. Protect completed membrane from damage.
  - 1. Schedule sequence of work so that traffic over new membrane is minimized.
  - 2. Institute required procedures for protection of completed membrane during installation of work by other trades throughout construction period.
  - 3. If damage occurs touch-up and restore damaged or defaced coated surfaces to conform with the specifications and conditions of the warranty.

**END OF SECTION**

**SECTION 07 6200**  
**SHEET METAL FLASHING AND TRIM**

**PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Fabricated sheet metal items, including flashings, counterflashings, and other items indicated in Schedule.
- B. Combination flashing, mortar deflection, and weep as complete one step system.
- C. Sealants for joints within sheet metal fabrications.

## 1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Wood nailers for sheet metal work.
- B. Section 07 5216 - SBS Modified Bituminous Roofing: Roofing System.
- C. Section 07 5600 - Fluid-Applied Roofing: Roofing System.
- D. Section 07 9005 - Joint Sealers.
- E. Div 23: Flashing sleeves and collars for mechanical items protruding through roofing membrane.

## 1.03 REFERENCE STANDARDS

- A. ASTM B32 - Standard Specification for Solder Metal; 2008 (Reapproved 2014).
- B. ASTM D4479/D4479M - Standard Specification for Asphalt Roof Coatings - Asbestos-Free; 2007 (Reapproved 2012)e1.
- C. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012)e1.
- D. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association; 2012.
- E. Industry standards:
  - 1. BIA Technical Notes on Brick Construction No. 7, Water Penetration Resistance- Design and Detailing, August 2005.

## 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product data: Indicate material type, composition, thickness, and installation procedures.
- C. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- D. Samples: Submit two samples 6 x 6 inch in size illustrating metal finish color.
- E. Product Quality & Environmental submittals:
  - 1. Certificates:
    - a. Indicate materials supplied or installed are asbestos free.
    - b. Indicate recycled content: a minimum of 60% total recycled material; based on 60% Post Industrial Recycled Content.
  - 2. Critical Performance Attributes:
    - a. Tensile Strength, stainless steel 100,000 psi average
    - b. Puncture Resistant, stainless steel 2,500 psi average
    - c. When tested as manufactured, product resists growth of mold pursuant to test method ASTM D 3273.

- d. Fire Rating: flame spread and smoke generation
  - 1) Rated Class A, ASTM E84
- e. Certify the use of domestic manufactured stainless steel for flashing.

#### 1.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.
- B. Maintain one copy of each document on site.
- C. Qualifications:
  - 1. Manufacturer: Provide flashing materials by single manufacturer with not less than twenty five years of experience in manufacturing flexible flashing products.

#### 1.06 PRE-INSTALLATION MEETING

- A. Convene one week prior to starting the work of this Section.

#### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

#### 1.08 WARRANTY

- A. Special warranty:
  - 1. Manufacturer: Warrant flexible flashing/drainage system material for life of the wall.
  - 2. Begin warranty at Date of Substantial Completion.

### **PART 2 PRODUCTS**

#### 2.01 FLASHING TYPES

- A. Flashing Type 1: 2 piece interlocking type:
  - 1. Stainless Steel: ASTM A666, Type 304, soft temper, 28 gage (0.0156 inch) thick; smooth No. 4 finish.
  - 2. Configurations shall be as shown on drawings.
  - 3. Where cap flashings or counter flashings occur, they shall be of two-piece construction with a receiver having a special vertical locking slot that requires no malleting or bending to hold the insert member in place.
  - 4. Keyed or corrugated flashings are unacceptable.
- B. Flashing Type 2: Masonry thru-wall type: NOT USED
- C. Flashing Type 3: Membrane roofing base flashing material as specified in Roofing Sections.
- D. Flashing Type 4: Formed metal flashing (other than Type 1): Exposed metal flashing.
  - 1. Stainless Steel: ASTM A666, Type 304, soft temper, 28 gage (0.0156 inch) thick; smooth No. 4 finish.
- E. Flashing Type 4A: Stainless steel core flexible flashing with drainage fabric:
  - 1. Product standard of quality: York Manufacturing, Inc.; York Flash-Vent SS,
  - 2. Accepted products:
    - a. York Manufacturing, Inc.; York Flash-Vent SS, ([www.yorkmfg.com](http://www.yorkmfg.com))
    - b. STS Coatings, Inc.; Wall Guardian TWF Stainless Steel ([www.stscoatings.com](http://www.stscoatings.com))
    - c. Building Materials West Company, Inc.; Evacu-Flash SS ([www.evacu-flash.com](http://www.evacu-flash.com))
    - d. Other flashings that meet the requirements in section 1.04.C
  - 3. Characteristics:

- a. Type: Engineered system, with high resistant to damage, composite with a stainless steel with non-asphalt adhesive polymer fabric laminated to one stainless steel and non-woven drainage fabric laminated to opposing face with non-asphalt adhesive.
- b. Stainless steel: ASTM A240
- c. Fabrics:
  - 1) Polymer fabric; laminated back face to stainless steel core
  - 2) Non-woven drainage fabric: Fabric laminated to front face stainless steel core.
- d. Recycled content: stainless steel is 60% recycled
  - 1) Size: Manufacturer's standard width rolls.

## 2.02 ACCESSORIES

- A. Fasteners: Same material and finish as flashing metal .
- B. Slip Sheet: Rosin sized building paper.
- C. Protective Backing Paint: Asphaltic mastic, ASTM D 4479 Type I.
- D. Mastic/sealant: Product standard of quality is York Manufacturing, Inc.; UniverSeal US100.
  1. Characteristics:
    - a. Type: One part 100% solids, solvent-free formulated silyl-terminated polyether (STPE), ASTM C920-11, Type S, Grade NS, Class 50.
- E. Outside corner and inside corner material; manufacturer's standard available units using:
  1. Stainless steel: 26 gauge stainless steel.
- F. End dam: Product may be folded in line with the flashing material or utilize preformed end dams by manufacturer using:
  1. Stainless steel: 26 gauge stainless steel
- G. Splice material: Product standard of quality is York 304 by York Manufacturing, standard self-adhered metal material; material matching system material or use York Manufacturing's Multi-Flash Stainless Steel lap piece and polyether sealant as a splice.
- H. Termination bar: Product standard of quality is York T-96 termination bar.
  1. Manufacturer's standard 1 inch composite material bar.
- I. Repair and other materials/accessories: Manufacturer's standard.
- J. Fasteners: Domestic manufactured fastener types and sizes recommended by flashing manufacturer for intended use.
- K. Plastic Cement: ASTM D4586, Type I.
- L. Solder: ASTM B32; Sn50 (50/50) type.

## 2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Fabricate cleats of same material as sheet, interlocking with sheet.
- C. Form pieces in longest possible lengths.
- D. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- E. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- F. Tin edges of metal sheet to be soldered. Solder shop formed metal joints. After soldering, remove flux. Wipe and wash solder joints clean. Weather seal joints.
- G. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.

- H. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.

### **PART 3 EXECUTION**

#### **3.01 EXAMINATION**

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

#### **3.02 PREPARATION**

- A. Install starter and edge strips, and cleats before starting installation.
- B. Install surface mounted reglets true to lines and levels. Seal top of reglets with sealant.
- C. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

#### **3.03 INSTALLATION**

- A. Conform to drawing details and to the following:
  - 1. SMACNA Architectural Sheet Metal Manual,
- B. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- D. Fasten cavity wall flashings to stud back-up with a non-corrosive termination bar and seal the top edge of the flashing with sealant.
- E. Solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.
- F. Concealed Flashing Type 4A:
  - 1. Install where indicated, specified, or required in accord with flashing manufacturer's written instructions and as follows.
    - a. Prohibited practice: Tucking the flashing into the backer wall.
    - b. Prohibited practice: Bonding or splicing to non-woven drainage fabric.
  - 2. Extend flashing 6" minimum, beyond opening, each side without stretching flashing material.
  - 3. Flashing width: Width required starting 1.5 inches to the exterior of the outside face of exterior wythe, extending through cavity, rising height required to extend above lintel steel at least 2 inches.
    - a. After inspection by the Architect, cut flush with the leading edge of the brick.
  - 4. Splice end joints by butting ends together over 4" wide piece of self-adhering stainless steel flashing.
    - a. The self-adhering stainless steel flashing should be sealed metal face down on to the substrate with sealant.
    - b. Remove the release linear and butt the two pieces of flashing together and embed them into the splice sealant.
    - c. Seal the butt seam with sealant.
  - 5. Masonry back up:
    - a. Surface mount flashing after damp proofing installation specified in Damp Proofing Section in accord with manufacturer's installation instructions.

- b. Apply flashing with drainage surface to outside.
  - c. Fasten to masonry back-up surface at top by embedding in layer of sealant and use a termination bar to fasten to the backer wall and seal the top of the termination bar with sealant.
6. Confirm compatibility with manufacturer's mutual letters for components in contact.
  7. Lay flashing in continuous bead of sealant on masonry or supporting steel.
  8. Fold ends of flashing to form end dam; seal with sealant or utilize preformed end dams from manufacturer.
  9. Inside and outside corners: Use preformed corners from manufacturer.
  10. Do not cover drainage fabric with air barrier.
  11. Protect flashing from damage from trades, the environment and falling debris.

### 3.04 SCHEDULE

#### A. Sheet metal Flashing Schedule

1. Type 1: NOT USED
2. Type 2: NOT USED
3. Type 3: Membrane Roof Flashings - Refer to Section 07 5216 - SBS Modified Bituminous Membrane Roofing and Section 07 5600 - Fluid-Applied Roofing.
4. Type 4: Stainless steel formed metal flashing:
  - a. Exposed locations where indicated.
5. Type 4A: Stainless steel core flexible flashing with drainage fabric:
  - a. Concealed locations and as follows:
    - 1) Changes in veneer materials, vertically.
    - 2) Other wall openings.
    - 3) Other locations indicated.

**END OF SECTION**

**SECTION 07 9200**  
**JOINT SEALANTS****PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Joint backings and accessories.

## 1.02 RELATED REQUIREMENTS

- A. Section 07 4264 - Metal Composite Material Wall Panels: Sealants required in conjunction with wall panels.

## 1.03 REFERENCE STANDARDS

- A. ASTM C794 - Standard Test Method for Adhesion-In-Peel of Elastomeric Joint Sealants; 2015.
- B. ASTM C834 - Standard Specification for Latex Sealants; 2010.
- C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- D. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems; 2000 (Reapproved 2011).
- E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- F. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2008 (Reapproved 2012).
- G. ASTM C1311 - Standard Specification for Solvent Release Sealants; 2010.
- H. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2013.

## 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
  - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
  - 2. List of backing materials approved for use with the specific product.
  - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
  - 4. Substrates the product should not be used on.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
- E. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.
- F. Preconstruction Laboratory Test Reports: Submit at least four weeks prior to start of installation.

- G. Preinstallation Field Adhesion Test Plan: Submit at least two weeks prior to start of installation.
- H. Preinstallation Field Adhesion Test Reports: Submit filled out Preinstallation Field Adhesion Test Reports log within 10 days after completion of tests; include bagged test samples and photographic records.

#### 1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience and approved by manufacturer.
- C. Preconstruction Laboratory Testing: Arrange for sealant manufacturer(s) to test each combination of sealant, substrate, backing, and accessories.
  - 1. Adhesion Testing: In accordance with ASTM C794.
  - 2. Compatibility Testing: In accordance with ASTM C1087.
  - 3. Allow sufficient time for testing to avoid delaying the work.
  - 4. Deliver to manufacturer sufficient samples for testing.
  - 5. Report manufacturer's recommended corrective measures, if any, including primers or techniques not indicated in product data submittals.
  - 6. Testing is not required if sealant manufacturer provides data showing previous testing, not older than 24 months, that shows satisfactory adhesion, lack of staining, and compatibility.
- D. Preinstallation Field Adhesion Test Plan: Include destructive field adhesion testing of one sample of each combination of sealant type and substrate, except interior acrylic latex sealants, and include the following for each tested sample.
  - 1. Identification of testing agency.
  - 2. Preinstallation Field Adhesion Test Log Form: Include the following data fields, with known information filled out.
    - a. Test date.
    - b. Copy of test method documents.
    - c. Age of sealant upon date of testing.
    - d. Test results, modeled after the sample form in the test method document.
    - e. Indicate use of photographic record of test.
- E. Field Adhesion Test Procedures:
  - 1. Allow sealants to fully cure as recommended by manufacturer before testing.
  - 2. Have a copy of the test method document available during tests.
  - 3. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
  - 4. When performing destructive tests, also inspect the opened joint for proper installation characteristics recommended by manufacturer, and report any deficiencies.
  - 5. Deliver the samples removed during destructive tests in separate sealed plastic bags, identified with project, location, test date, and test results, to Owner.
  - 6. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Architect.
- F. Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Destructive Tail Procedure.
  - 1. Sample: At least 18 inch long.

2. Minimum Elongation Without Adhesive Failure: Consider the tail at rest, not under any elongation stress; multiply the stated movement capability of the sealant in percent by two; then multiply 1 inch by that percentage; if adhesion failure occurs before the "1 inch mark" is that distance from the substrate, the test has failed.
3. If either adhesive or cohesive failure occurs prior to minimum elongation, take necessary measures to correct conditions and re-test; record each modification to products or installation procedures.

#### 1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

### **PART 2 PRODUCTS**

#### 2.01 JOINT SEALANT APPLICATIONS

- A. Scope:
  1. Exterior Joints: Seal open joints, whether or not the joint is indicated on the drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
    - a. Wall expansion and control joints.
    - b. Joints between door, window, and other frames and adjacent construction.
    - c. Joints between different exposed materials.
    - d. Openings below ledge angles in masonry.
    - e. Other joints indicated below.
  2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
    - a. Joints between door, window, and other frames and adjacent construction.
    - b. Other joints indicated below.
  3. Do not seal the following types of joints.
    - a. Intentional weepholes in masonry.
    - b. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
    - c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
    - d. Joints where installation of sealant is specified in another section.
    - e. Joints between suspended panel ceilings/grid and walls.
- B. Exterior Joints: Use nonsag non-staining silicone sealant, Type 1, unless otherwise indicated.
  1. Lap Joints in Sheet Metal Fabrications: Butyl rubber, non-curing; Type 3.
- C. Interior Joints: Use nonsag polyurethane sealant, Type \_\_\_\_, unless otherwise indicated.
  1. Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant; Type \_\_\_\_\_.

#### 2.02 JOINT SEALANTS - GENERAL

#### 2.03 NONSAG JOINT SEALANTS

- A. Type 1 - Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
  1. Movement Capability: Plus and minus 50 percent, minimum.

2. Non-Staining To Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
  3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.
- B. Type 2 - Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
- C. Type 3 - Non-Curing Butyl Sealant: Solvent-based; ASTM C1311; single component, nonsag, non-skinning, non-hardening, non-bleeding; vapor-impermeable; intended for fully concealed applications.

#### 2.04 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

### **PART 3 EXECUTION**

#### 3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.
- D. Preinstallation Adhesion Testing: Install a sample for each test location shown in the test plan.
1. Test each sample as specified in PART 1 under QUALITY ASSURANCE article.
  2. Notify Architect of date and time that tests will be performed, at least 7 days in advance.
  3. Record each test on Preinstallation Adhesion Test Log as indicated.
  4. If any sample fails, review products and installation procedures, consult manufacturer, or take whatever other measures are necessary to ensure adhesion; re-test in a different location; if unable to obtain satisfactory adhesion, report to Architect.
  5. After completion of tests, remove remaining sample material and prepare joint for new sealant installation.

#### 3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

#### 3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

- B. Perform installation in accordance with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
  - 1. Width/depth ratio of 2:1.
  - 2. Neck dimension no greater than 1/3 of the joint width.
  - 3. Surface bond area on each side not less than 75 percent of joint width.
- D. Install bond breaker backing tape where backer rod cannot be used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

#### 3.04 FIELD QUALITY CONTROL

- A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.
- B. Destructive Adhesion Testing: If there are any failures in first 1000 linear feet, notify Architect immediately.
- C. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.
- D. Repair destructive test location damage immediately after evaluation and recording of results.

#### 3.05 POST-OCCUPANCY

- A. Post-Occupancy Inspection: Perform visual inspection of entire length of project sealant joints at a time that joints have opened to their greatest width; i.e. at the low temperature in the thermal cycle. Report failures immediately and repair.

**END OF SECTION**

**SECTION 09 2116**  
**GYPSUM BOARD ASSEMBLIES**

**PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Metal channel ceiling framing.
- B. Gypsum wallboard.
- C. Joint treatment and accessories.

## 1.02 RELATED REQUIREMENTS

- A. Section 07 9200 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.

## 1.03 REFERENCE STANDARDS

- A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.
- B. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.
- C. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.
- D. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.
- E. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.
- F. ASTM C1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2014a.
- G. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2012.
- H. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2013.

## 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.

## 1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 5 years of experience.

**PART 2 PRODUCTS**

## 2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
  - 1. See PART 3 for finishing requirements.

## 2.02 METAL FRAMING MATERIALS

- A. Non-Loadbearing Framing System Components: ASTM C645; galvanized sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
  - 1. Ceiling Channels: C-shaped.
  - 2. Furring: Hat-shaped sections, minimum depth of 7/8 inch.

- B. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

### 2.03 BOARD MATERIALS

- A. Impact Resistant Wallboard:
  - 1. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
  - 2. Type: Fire resistance rated Type X, UL or WH listed.
  - 3. Thickness: 5/8 inch.
  - 4. Edges: Tapered.

### 2.04 ACCESSORIES

- A. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic or rolled zinc, unless noted otherwise.
- B. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
  - 1. Tape: 2 inch wide, creased paper tape for joints and corners, except as otherwise indicated.
  - 2. Chemical hardening type compound.
- C. High Build Drywall Surfer: Vinyl acrylic latex-based coating for spray application, designed to take the place of skim coating and separate paint primer in achieving Level 5 finish.
- D. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.
- E. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

## **PART 3 EXECUTION**

### 3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

### 3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Suspended Ceilings and Soffits: Space framing and furring members as indicated.

### 3.03 BOARD INSTALLATION

- A. Comply with ASTM C 840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

### 3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as directed.
  - 1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where gypsum board abuts dissimilar materials.

### 3.05 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, bedded with chemical hardening type joint compound and finished with chemical hardening type joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:

1. Level 5: Walls and ceilings to receive semi-gloss or gloss paint finish and other areas specifically indicated.
  2. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
1. Feather coats of joint compound so that camber is maximum 1/32 inch.
- D. Where Level 5 finish is indicated, spray apply high build drywall surfacer over entire surface after joints have been properly treated; achieve a flat and tool mark-free finish.
- 3.06 TOLERANCES
- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

**END OF SECTION**

**SECTION 09 2400**  
**PORTLAND CEMENT PLASTERING**

**PART 1 GENERAL**

1.01 SECTION INCLUDES

- A. Portland cement plaster for patching existing ceiling over metal lath and solid surfaces.

1.02 RELATED REQUIREMENTS

- A. Section 05 4000 - Cold-Formed Metal Framing: Structural metal framing for plaster.
- B. Section 09 2116 - Gypsum Board Assemblies: Metal stud framing and furring for plaster.

1.03 REFERENCE STANDARDS

- A. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- B. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006 (Reapproved 2011).
- C. ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster; 2015b.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittals procedures.
- B. Product Data: Provide data on plaster materials, characteristics and limitations of products specified.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.

1.06 FIELD CONDITIONS

- A. Do not apply plaster when substrate or ambient air temperature is under 50 degrees F or over 80 degrees F.
- B. Maintain minimum ambient temperature of 50 degrees F during installation of plaster and until cured.

**PART 2 PRODUCTS**

2.01 PORTLAND CEMENT PLASTER ASSEMBLIES

- A. Exterior Stucco: Portland cement plaster system, made of finish, brown, and scratch coat and reinforcing mesh.

2.02 PLASTER MATERIALS

- A. Portland Cement, Aggregates, and Other Materials: In accordance with ASTM C926.
- B. Premixed One-Coat Stucco: Mixture of Type IIA Portland cement, complying with ASTM C150/C150M, hydrated lime complying with ASTM C207, fibers and other approved ingredients, install in accordance with ASTM C926.
- C. Premixed Base Coat: Mixture of cement, aggregate, and proprietary admixtures for scratch and brown coats, installed in accordance with ASTM C926.

2.03 METAL LATH

- A. Metal Lath and Accessories: Use metal lath as plaster base at loading dock ceiling.

#### 2.04 PLASTER MIXES

- A. Over Metal Lath: Three-coat application, mixed and proportioned in accordance with manufacturer's instructions.
- B. Premixed Plaster Materials: Mix in accordance with manufacturer's instructions.
- C. Mix only as much plaster as can be used prior to initial set.
- D. Mix materials dry, to uniform color and consistency, before adding water.
- E. Protect mixtures from freezing, frost, contamination, and excessive evaporation.
- F. Do not retemper mixes after initial set has occurred.

### **PART 3 EXECUTION**

#### 3.01 PREPARATION

- A. Dampen masonry surfaces to reduce excessive suction.

#### 3.02 PLASTERING

- A. Apply premixed plaster in accordance with manufacturer's instructions.
- B. Apply plaster in accordance with ASTM C926.
- C. Three-Coat Application Over Metal Lath:
  - 1. Apply first coat to a nominal thickness of 3/8 inch.
  - 2. Apply second coat to a nominal thickness of 3/8 inch.
  - 3. Apply finish coat to a nominal thickness of 1/8 inch.
- D. In exterior work, scribe contraction joints through entire plaster application at 10 feet on center each way.
- E. Moist cure base coats.
- F. Apply second coat immediately following initial set of first coat.
- G. After curing, dampen previous coat prior to applying finish coat.
- H. Finish Texture: Float to a consistent and smooth finish.
- I. Avoid excessive working of surface. Delay troweling as long as possible to avoid drawing excess fines to surface.
- J. Moist cure finish coat for minimum period of 48 hours.

#### 3.03 TOLERANCES

- A. Maximum Variation from True Flatness: 1/8 inch in 10 feet.

**END OF SECTION**

**SECTION 09 9000**  
**PAINTING AND COATING**

**PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Surfaces to be finished are indicated in this section and on the Drawings.

## 1.02 RELATED REQUIREMENTS

- A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

## 1.03 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

## 1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of all products to be used, with the following information for each:
  - 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
- C. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.

## 1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Company specializing in performing the work of this section with minimum 5 years experience.
- B. Material Safety Data Sheets: At project site maintain file of MSDS sheets for each product used; become familiar with and follow manufacturer's stated application and safety requirements.

## 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

## 1.07 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.
- D. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.

- E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

#### 1.08 EXTRA MATERIALS

- A. See Section 01 6000 - Product Requirements, for additional provisions.
- B. Supply 1 gallon of each color; store where directed.
- C. Label each container with color in addition to the manufacturer's label.

### **PART 2 PRODUCTS**

#### 2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer.
- B. In the event that a single manufacturer cannot provide all specified products, minor exceptions will be permitted provided approval by Architect is obtained using the specified procedures for substitutions.
- C. Basis of Design: Products by The Sherwin Williams Company are the basis of design and set the standard of quality required.
- D. Substitutions: See Section 01 6000 - Product Requirements.

#### 2.02 MATERIALS - GENERAL

- A. Volatile Organic Compound (VOC) Content:
  - 1. Provide coatings that comply with the most stringent requirements specified in the following:
    - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
    - b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; [www.otcair.org](http://www.otcair.org); specifically:
      - 1) Opaque, Flat: 50 g/L, maximum.
      - 2) Opaque, Nonflat: 150 g/L, maximum.
      - 3) Opaque, High Gloss: 250 g/L, maximum.
      - 4) Varnishes: 350 g/L, maximum.
    - c. Architectural coatings VOC limits of State in which the project is located.
  - 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
  - 3. Provide tints and colorants that will not add VOCs to specified products.
- B. Paints and Coatings: Provide products listed in Master Painters Institute Approved Product List, current edition available at [www.paintinfo.com](http://www.paintinfo.com), for specified MPI Categories, except as otherwise indicated.
  - 1. Provide ready mixed paints and coatings .
  - 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

#### 2.03 PAINT SYSTEMS

- A. Provide Premium Grade systems (2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.

## 2.04 EXTERIOR PAINT SYSTEMS

### A. SYSTEM E-1:

1. Substrate: Structural Steel and Metal Fabrications:
2. Manufacturers and products:
  - a. Sherwin Williams:
    - 1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-310 Series
    - 2) 2nd Coat: S-W ProIndustrial DTM Acrylic, semi-gloss
    - 3) 3rd Coat: S-W ProIndustrial DTM Acrylic, semi-gloss

### B. SYSTEM E-2:

1. Substrate: Galvanized Metal, Not Chromate Passivated:
2. Manufacturers and Products:
  - a. Sherwin Williams:
    - 1) 1st Coat: S-W Pro Industrial Pro-Cryl® Primer, B66-310 Series
    - 2) 2nd Coat: S-W ProIndustrial DTM Acrylic, semi-gloss
    - 3) 3rd Coat: S-W ProIndustrial DTM Acrylic, semi-gloss

### C. SYSTEM E-3:

1. Substrate: Cement Plaster (Stucco):
2. Applications include but are not limited to stucco ceilings.
3. Manufacturers and Products:
  - a. Sherwin Williams:
    - 1) 1st Coat: Loxon Concrete & Masonry Primer Sealer, A24W8300
    - 2) 2nd Coat: A-100 Exterior Latex Flat, A6 Series
    - 3) 3rd Coat: A-100 Exterior Latex Flat, A6 Series

## 2.05 INTERIOR PAINT SYSTEMS

### A. SYSTEM I-1

1. Substrate: Gypsum Board (Flat Finish):
2. Applications include but are not limited to ceilings, soffits, and bulkheads.
3. Manufacturers and Products:
  - a. Sherwin Williams:
    - 1) 1st Coat: S-W ProMar Latex 200 Primer
    - 2) 2nd Coat: S-W ProMar® 200 Latex Flat
    - 3) 3rd Coat: S-W ProMar® 200 Latex Flat

## PART 3 EXECUTION

### 3.01 SCOPE -- SURFACES TO BE FINISHED

- A. Paint all exposed surfaces except where indicated not to be painted or to remain natural; the term "exposed" includes areas visible through permanent and built-in fixtures when they are in place.
- B. Paint the surfaces described in PART 2, indicated on the Drawings, and as follows:
  1. If a surface, material, or item is not specifically mentioned, paint in the same manner as similar surfaces, materials, or items, regardless of whether colors are indicated or not.
  2. Paint surfaces behind movable equipment and furnishings the same as similar exposed surfaces.
  3. Paint surfaces to be concealed behind permanently installed fixtures, equipment, and furnishings, using primer only, prior to installation of the permanent item.

4. Paint back sides of access panels and removable and hinged covers to match exposed surfaces.
  5. Paint shop-primed mechanical and electrical items occurring in finished areas.
- C. Do Not Paint or Finish the Following Items:
1. Items fully factory-finished unless specifically noted; factory-primed items are not considered factory-finished.
  2. Items indicated to receive other finish.
  3. Items indicated to remain naturally finished.
  4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
  5. Anodized aluminum.
  6. Polished and brushed stainless steel items.
  7. Brick, precast concrete, integrally colored plaster.
  8. Polished and brushed stainless steel, anodized aluminum, bronze, terne, and lead.
  9. Acoustical materials.
  10. Concealed piping, ductwork, and conduit.

### 3.02 EXAMINATION

- A. Verify that surfaces are ready to receive Work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- C. Test shop-applied primer for compatibility with subsequent cover materials; report incompatible primer conditions and submit recommended changes for Architect's approval.
- D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
  1. Plaster and Gypsum Board: 12 percent.

### 3.03 PREPARATION

- A. Coordinate painting work with cleaning and preparation work so that dust and other contaminants do not fall on newly painted, wet surfaces.
- B. Surface Appurtenances: Prior to preparing surfaces or finishing, remove electrical plates, hardware, light fixtures, light fixture trim, escutcheons, machined surfaces, fittings, and similar items already installed that are not to be painted.
  1. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before preparation and finishing.
  2. After completing painting in each space or area, reinstall items removed using workers skilled in the trades involved.
- C. Surfaces: Correct defects and clean surfaces which affect work of this section.
- D. Marks: Seal with shellac those which may bleed through surface finishes.
- E. Impervious Surfaces: Remove mildew by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.
- G. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

- H. Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.
- I. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

### 3.04 APPLICATION

- A. Apply products in accordance with manufacturer's instructions and as specified or recommended by MPI Manual, using the preparation, products, sheens, textures, and colors as indicated.
  - 1. Remove, refinish, or repaint work not complying with requirements.
- B. Do not apply finishes over dirt, rust, scale, grease, moisture, scuffed surfaces, or other conditions detrimental to formation of a durable coating film; do not apply finishes to surfaces that are not dry.
- C. Use applicators and methods best suited for substrate and type of material being applied and according to manufacturer's instructions.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate; provide total dry film thickness of entire system as recommended by manufacturer.
  - 1. Number of coats and film thickness required are the same regardless of application method.
  - 2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.
  - 3. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive dry film thickness equivalent to that of flat surfaces.
- E. Apply finish to completely cover surfaces with uniform appearance without brush marks, runs, sags, laps, ropiness, holidays, spotting, cloudiness, or other surface imperfections.
  - 1. Before applying finish coats, apply a prime coat of material recommended by manufacturer, unless the surface has been prime coated by others; where evidence of suction spots or unsealed areas in first coat appear, recoat primed and sealed surfaces to ensure finish coat with no burn through or other defects due to insufficient sealing.
  - 2. Apply first coat to surface that has been cleaned, pretreated, or otherwise prepared as soon as practical after preparation and before subsequent surface deterioration.
  - 3. Do not apply succeeding coats until the previous coat has cured as recommended by manufacturer.
  - 4. Do not recoat until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and application of another coat will not cause the undercoat to lift or lose adhesion.
  - 5. If manufacturer's instructions recommend sanding to produce a smooth, even surface, sand between coats.
  - 6. Before applying next coat vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
  - 7. Pigmented (Opaque) Finishes: Provide smooth, opaque surface of uniform finish, color, appearance, and coverage.

3.05 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.
- B. Owner will provide field inspection.

3.06 CLEANING AND PROTECTION

- A. Collect waste material which may constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from site.
- C. Protect other work, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting as approved by Architect.
- D. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.
- E. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in MPI Manual.

**END OF SECTION**