

WINDOW REPLACEMENT - PHASE A

AT

LORTON CENTER 8101 LORTON ROAD LORTON, VA 22079

INVITATION FOR BID# MMB-028-24

INTENT:

It is the intent of this contract is to replace the windows at the above location. The Contractor shall provide all labor, material, equipment, and supervision to replace all the existing wood, and steel frame single pane windows. The Contractor will coordinate installation with the demolition contractor provided by FCPS. Provide insect screens at all operable hoppers. Obscure glass is to be used at all bathroom locations and above ceiling locations where indicated. The window color shall be white to match existing, per FCPS specification. This work will occur during normal business hours (6am-4pm). Work areas will be returned to existing conditions at the end of every workday/evening, unless otherwise directed. Since this is an occupied building, all work areas are expected to be kept very clean by the Contractor, to be vacuumed and dusted every day/evening. The Contract shall include all related work as detailed in these specifications and drawings to provide a complete and fully operational installation.

FAIRFAX COUNTY PUBLIC SCHOOLS OFFICE OF FACILITIES MANAGEMENT 5025 SIDEBURN ROAD FAIRFAX, VA 22032-2637 (703) 764-2457

In the event of inclement weather that closes the Fairfax County Public Schools Central or Administrative Offices, bids will be due and opened at the same time, the following business day that offices are open. To confirm closing, visit us online at www.fcps.edu.

FAIRFAX COUNTY PUBLIC SCHOOLS Lorton Center





BIDDING REQUIREMENTS, CONTRACT FORMS, AND CONDITIONS OF THE CONTRACT

INVITATION FOR BID	1
INSTRUCTIONS TO BIDDERS	2-12
BID FORM	13-16
BID BOND	17-18
PERFORMANCE BOND	19-21
PAYMENT BOND	22-24
GENERAL CONDITIONS	25-45
GENERAL REQUIREMENTS	46-49
TECHNICAL SPECIFICATIONS	50
Section 017300 Execution Section 024119 Selective Demolition Section 061053 Miscellaneous Rough Carpentry Section 079200 Joint Sealants Section 085113 Aluminum Windows Section 099113 Exterior Painting Section 099123 Interior Painting	1-5 1-5 1-4 1-6 1-7 1-6
DRAWINGS	Applicable

INVITATION FOR BID

RECEIPT OF BIDS

Bids shall be submitted in duplicate and shall be delivered and time stamped in Room 16, Sideburn Support Center, 5025 Sideburn Road, Fairfax, VA 22032 on or before the hour and date designated, at which time they will be opened and read in public.

LUMP SUM

Bids will be considered on a lump sum basis for the entire work described on the drawings and in the specifications.

DRAWINGS/SPECIFICATIONS

Drawings and specifications may be examined, and one (1) set obtained at the Office of Facilities Management, Room 14, 5025 Sideburn Road, Fairfax, VA 22032-6009 or download from https://www.fcps.edu/get-involved/doing-business-fcps/facilities-management-current-solicitations.

4. MINORITY/SMALL BUSINESS

Minority contractors and small business enterprises are invited and encouraged to submit bids.

COMPLETION TIME

The Contractor shall substantially complete the project within the time specified GENERAL CONDITIONS Item Number 16. Failure to complete this project within these specified dates without written agreement by FCPS Office of Facilities Management may result in the enforcement of liquidated damages or ineligibility to be awarded contracts on future FCPS Office of Facilities Management projects or both.

END OF SECTION

INSTRUCTIONS TO BIDDERS

QUALIFICATION OF BIDDER:

If a contract is for one hundred twenty thousand dollars (\$120,000.00) or more, or if the total value of all construction removal, repair or improvements undertaken by the bidder within any twelve (12) month period is seven hundred fifty thousand dollars (\$750,000.00) or more, the bidder is required under Title 54, Chapter 11, Code of Virginia (1950) as amended, to show evidence of being licensed as "Class A Contractor." (Non-Virginia licenses are not acceptable.) If a contract is seventy-five hundred dollars (\$7,500.00) or more but less than one hundred twenty thousand dollars (\$120,000.00) the bidder is required to show evidence of being licensed as a "Class B Contractor." The bidder shall place on the outside of the envelope containing the bid and shall place in over his signature whichever of the following notations is appropriate:

"Licensed	Class	A	Virginia Contractor	No.		
"Licensed	Class	В	Virginia Contractor	No.	19	

The Code of Virginia <u>does not allow an unlicensed contractor to submit a bid</u> where the resultant contract will require a license.

LICENSE REQUIREMENT:

All firms doing business in Fairfax County shall obtain a license as required by Chapter 4, Article 7, of The Code of the County of Fairfax, Virginia, as amended, entitled "Business, Professional and Occupational Licensing (BPOL) Tax." Questions concerning the BPOL tax should be directed to the Office of Assessments, telephone (703) 222-8234

REGISTERATION OF BUSINESS ENTITY:

Authorization to Transact Business in Virginia: By submitting a bid in response to this solicitation, the bidder represents and warrants as follows: (a) it has authorization to transact business in the Commonwealth of Virginia as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the Code of Virginia, or as otherwise required by law; and (b) it shall not allow its existence to lapse or its certification of authority or registration to transact business in Virginia, if so required under Title 13.1 or Title 50 of the Code of Virginia, to be revoked or cancelled at any time during the term of this Contract.

<u>Certificate of Authority</u>: Any foreign business entity transacting business in Virginia shall secure a certificate of authority as required by Title 13.1 or Title 50 of the Code of Virginia, from the State Corporation Commission, Post Office Box 1197, Richmond, Virginia 23209. The Commission may be reached at (804) 371-9733 or (800) 552-7945.

MANDATORY PRE-BID MEETING:

A mandatory pre-bid meeting will be held <u>February 14, 2024</u>* at <u>10:00 a.m.</u> at **Lorton Center**, **8101 Lorton Road**, **Lorton**, **VA 22079**. Contractors shall meet in the Lobby of the buildings front entrance to sign the meeting roster and then will proceed to the Satellite location. <u>NO ONE WILL</u> **BE ADMITTED AFTER 10:05 A.M.**

*In the event of inclement weather on the date of the Mandatory Pre-Bid meeting that delays opening or closes the Fairfax County Public Schools Central or Administrative Offices, the meeting will be rescheduled by Addendum.

The purpose of the pre-bid meeting is to provide potential Bidder's an opportunity to ask questions and obtain clarification about any aspect of this Invitation for Bid. Any changes or clarifications resulting from this pre-bid meeting will be issued in a written addendum.

It is important that all Bidders have a clear understanding of the specifications, scope of work, and requirements of this solicitation. Attendance at the pre-bid meeting will be a pre-requisite for submitting a Bid; attendance will be evidenced by the Contractor's signature on the meeting roster. Bidders who do not attend the pre-bid meeting will not be permitted to submit a Bid. If a Bidder submits a Bid and did not attend the mandatory pre-bid meeting, the Bid will not be considered.

5. BIDDER'S QUESTIONS:

All contact between prospective Bidders and the Owner with respect to this solicitation will be formally held at scheduled meetings or will be conducted in writing through the Owner's Office of Facilities Management. Except as expressly authorized herein, communications between prospective bidders, their agents and/or representatives and any representative of the Owner concerning interpretation of all or any portion of this solicitation are prohibited and may not be relied upon for any purpose. No interpretation of the meaning of these documents will be made to any bidder orally.

Any question or request for an interpretation must be in writing and submitted to the Owner by U.S. Mail, commercially recognized overnight delivery service, or hand delivery during business hours addressed as follows:

Angela C. Mylechraine, CPPB, VCO, Contract Administrator Fairfax County Public Schools
Department of Facilities and Transportation Services
Office of Facilities Management
5025 Sideburn Road, Room 16
Fairfax, Virginia 22032
Telephone Number: (703) 764-2457
Email: acmylechrain@fcps.edu

In order to be eligible for consideration, a question or request for interpretation must be received on or before the date that is three (3) days before the date established for the submission of bids.

ADDENDA:

Any and all such responses, interpretations and any supplemental instructions will be returned in writing to the prospective bidder requesting such interpretation or will be in the form of written addenda which, if issued, will be not later than two (2) days prior to the date fixed for submission of bids.

It shall be the responsibility of each bidder to monitor the Owner's website for Addenda issued at the following URL: https://www.fcps.edu/get-involved/doing-business-fcps/facilities-management-current-solicitations Notwithstanding any provision to the contrary, the failure of any bidder to monitor the Owner's website or to otherwise receive any addenda shall neither constitute grounds for withdrawal of a bid nor relieve such bidder from any responsibility for incorporation of the

provisions of any addenda into its bid.as submitted. All addenda so issued shall become part of the Contract Documents.

BID SECURITY:

Bids \$100,000 or above shall be accompanied by a certified or cashier's check, cash escrow, or a bidder's bond in an amount not less than five percent (5%) of the amount of the bid, made payable to the Fairfax County Public Schools, Fairfax, Virginia. No other form of bid security is acceptable. The bidder's bond shall be issued by a surety company licensed to conduct business in Virginia and shall be on the form herein provided. Said check, escrow, or bond shall be given as a guarantee that the bidder will enter into a contract if awarded the work and, in case of refusal or failure to enter into said contract, the check, escrow, or bond will be declared forfeited to the Owner.

CONTRACT SECURITY:

- A. For contracts \$100,000 or above, the successful bidder, simultaneously with execution of the Contract, shall furnish a Performance Bond and a Payment Bond each in an amount equal to one hundred percent (100%) of the Contract price. Bonds shall be on the forms herein provided and shall be issued by a surety company licensed to conduct business in Virginia. The Owner reserves the right to request documentation from the surety company as to its financial capabilities, past experience, etc. In the event that the Contractor's surety company becomes insolvent, bankrupt or in any way is incapable of providing the services and/or security of the Performance and Payment Bonds, the Contractor shall within ten (10) days furnish a new Payment and a new Performance Bond to the Owner from a surety licensed to conduct business in Virginia. Any additional cost in securing new bonding will be the responsibility of the Contractor.
- B. In lieu of a payment or performance bond, a bidder may furnish a certified check, cashier's check, or cash escrow in the face amount required for the bond.
- C. The Contractor shall have the option to require all subcontractors furnishing labor and materials under this Contract in excess of two thousand five hundred dollars (\$2,500.00) to furnish to the successful bidder a payment bond in the amount of fifty percent (50%) of the work sublet to the Contractor.

9. BIDS:

- A. In order to be eligible for consideration, bids shall be made in accordance with the following instructions:
 - Before submitting a bid, each bidder shall become familiar with the requirements of the Contract Documents and shall include in its bid prices a sum sufficient to cover the cost of all items and services described herein.
 - 2. Bids shall be made upon the Bid Form prepared and furnished by the Owner, a copy of which is bound herein. Bids must contain a bid for each of the items shown on the bid form. Failure to complete all requested prices shall be cause for rejection of the bid. The signatures of all persons shall be in longhand. The completed form shall be without erasures, exceptions, or alterations.
 - Bidder are required to submit with their completed Bid Forms the Bid Bond (or other authorized bid security) and all attachments to the Bid Form. Failure to provide all required documentation with the Bidder's response to this IFB may

result in rejection of the Bid. In addition, a Bidder's failure to sign the Bid Form (or any attachment) or Bidder's taking exception to the terms of any of the Contract Documents may result in rejection of its Bid.

- Bids shall not contain any recapitulation of the work to be done, and alternate bids will not be considered unless called for. No oral, telegraphic bids or modifications will be considered.
- 5. Bids shall be time-stamped in Room 16, Sideburn Support Center, 5025 Sideburn Road, Fairfax, VA 22032, on or before the day and hour set for the opening of bids, enclosed in an opaque sealed envelope and bearing the title of the work, name of the bidder, and the bidder's Virginia Class A Contractor's License number. Bids may be modified or withdrawn by bidders prior to, but not later than, the time fixed for the opening of same.
- 6. It is the sole responsibility of each bidder to deliver its bid timely and to the precise location indicated as the place for receipt and opening of bids. Accordingly, bids which are transmitted via US Mail, commercial courier, or overnight delivery service to the Owner are not guaranteed to be brought timely to the attention of the Owner's official who is responsible for opening the bids for this project.

10. OPENING OF BIDS:

Bids will be opened and read aloud at the time and place set forth in the Invitation for Bid. Bidders, or their representative, and other interested persons may be present at the opening of the bids.

11. WITHDRAWAL OF BIDS:

- A. A bidder may withdraw his bid from consideration if the price bid was substantially lower than the other bids due solely to a mistake therein, provided the bid was submitted in good faith, and the mistake was a clerical mistake as opposed to a judgment mistake, and was actually due to an unintentional arithmetic error or an unintentional omission of a quantity of work, labor or materials made directly in the completion of a bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of original work papers, documents and materials used in the preparation of the bid sought to be withdrawn. The bidder must give notice in writing of his claim of right to withdraw his bid within two (2) business days after the conclusion of the bid opening procedure. Any claim of a bidder for withdrawal shall be governed by Section 2.2-4330(B)(1) of the Code of Virginia, as amended.
- B. No bid may be withdrawn when the result would be the awarding of this Contract to another bidder in which the ownership of the withdrawing bidder is more than five percent (5%).
- C. If a bidder is permitted to withdraw a bid under this section, he may not thereafter, for compensation, supply any material or labor, or perform any subcontract or other work agreement for the person or firm to whom the Contract is ultimately awarded, or otherwise benefit directly or indirectly, from the performance of the project for which the withdrawn bid was submitted.

12. REJECTION OF BIDS:

The Owner reserves the right to accept or reject any or all bids, and/or to waive any informality which does not affect the price, quality, quantity or delivery scheduling for the goods, services or construction being procured in any one or all bids received.

13. AWARD OF CONTRACT:

- A. The Contract will be awarded, if at all, to the lowest responsive and responsible bidder complying with these instructions and the Invitation for bid. The responsibility of bidders will be considered in making the award.
- Bids shall be made upon the Bid Form prepared and furnished by the Owner, a copy of which is bound herein. Bids must contain a bid for the base bid and unit prices shown on the bid form. Failure to complete all requested prices shall be cause for rejection of the bid. Bids shall be stated both in writing and in figures. The signatures of all persons shall be in longhand. The complete form shall be without erasures or alternations. Bids will be evaluated on the basis of a firm fixed price and award will be made to the lowest responsive and responsible bidder complying with all provisions of the Invitation for bid.
- C. Unless cancelled or rejected, a responsive bid from the responsible bidder shall be accepted as submitted, except that if a bid from the responsive and responsible bidder exceeds available funds, then the Owner may negotiate with such responsive and responsible bidder to obtain a contract price that is within available funds.

Negotiation may be undertaken when there is insufficient time to re-advertise with a modified specification and/or there are not clearly definable elements of the specifications, which can be removed to permit a re-advertisement or it is otherwise in the best interest of the Owner to negotiate.

If negotiation is undertaken, the Owner may negotiate changes in the solicitation with the lowest responsive and responsible bidder to obtain a satisfactory price within available funds. If a satisfactory price cannot be agreed upon, then the negotiation shall be terminated, and the solicitation cancelled.

- D. The Owner reserves the right to require any one or more bidders to submit the items specified in Subsection I below. Bidders are advised that it is the Owner's intention not to award a contract hereunder to any bidder whose past performance shows his firm to be generally late in performance of contracts or services. The ability of the lowest bidder with to provide the required bonds will not in and of itself establish the responsibility of the bidder.
- E. The Owner reserves the right to defer award of Contract for a period of forty-five (45) calendar days after due date of bids. Bid prices shall be binding for forty-five (45) calendar days following bid-opening date, unless extended by mutual consent of all parties.
- F. A "responsive bidder" shall mean a bidder who has submitted a bid, which conforms, in all material respects, to the requirements of the bidding documents.
- G. A "responsible bidder" shall mean a bidder who has the capability, in all respects, to perform fully the Contract requirements and the moral and business integrity and

reliability, which will assure good faith performance. In determining responsibility, the following criteria will be considered:

- 1. The ability, capacity, and skill of the bidder to perform the Contract or provide the service required;
- 2. The ability of the bidder to perform the Contract or provide the service promptly, or within the time specified, without delay or interference;
- 3. The character, integrity, reputation, judgment, experience and efficiency of the bidder;
- 4. The quality of the bidder's performance on previous contracts or services;
- 5. The previous and existing compliance by the bidder with laws and ordinances relating to contracts or services;
- 6. The sufficiency or the financial resources and ability of the bidder to perform the Contract or provide the service.
- 7. The quality, availability and adaptability of the goods or services to the particular use required;
- 8. When the bidder is in arrears to the Owner or the County, or has defaulted on a project for the Owner or the County, or is delinquent on taxes and assessments to the County or on amounts due the Owner;
- 9. Such other information as may be deemed by the Owner as having a bearing on the decision to award the Contract, including, but not limited to:
 - a. The ability, experience and commitment of the bidder properly to plan, schedule, coordinate, and execute the work under the Contract.
 - b. Whether the bidder has ever been debarred from bidding or found ineligible for bidding on any other projects.
- H. The purpose of subparagraph G, above, is to enable the Owner to select the bid, which is in its best interests
- I. The Owner reserves the right to require from any one or more bidders the following:
 - Upon request of Owner, Bidders agree to submit references within one (1) business day after the opening of the bid;
 - 2. A list of a minimum of five (5) projects completed by the bidder within the last two (2) years that are similar in size and scope to the services described herein; and
 - Financial statements indicating current financial status, prepared in accordance with generally accepted accounting principles, by a C.P.A. licensed to do business in Virginia.
- J. Notice of intention to award a contract, as well as the award of the contract, will be posted on the website of the Owner's website at the following URL: https://www.fcps.edu/school-board/school-board-meetings While the school division staff

may communicate procurement results to bidders or offerors, each bidder or offeror has the responsibility to monitor the website for its own purposes.

14. PROTEST OF AWARD OR DECISION TO AWARD:

A. Any bidder may protest the award or the decision to award this Contract by submitting a protest in writing to Fairfax County Public Schools (FCPS) Superintendent or Designee, no later than ten (10) days after the award or the announcement of the decision to award, whichever occurs first; however, that no protest shall lie for a claim that the selected bidder is not a responsible bidder.

The written protest must include the basis for the protest and the nature of the relief sought. The Owner's Division Superintendent or Designee shall issue a decision in writing within ten (10) days after receipt of the protest, stating the reasons for the action taken.

This written decision shall be final unless the bidder appeals within ten (10) days after of receipt of the written decision by instituting legal action as provided in the Code of Virginia.

- B. If, prior to the award, it is determined that the decision to award is arbitrary and capricious, then the sole relief shall be as hereinafter provided:
 - 1. Where the award has been made but performance has not yet begun, the performance may be declared void by the School Board.
 - Where the award has been made and performance has begun, the Owner may declare the Contract void upon a finding that the action is in the best interest of the School Board.
 - Where a contract is declared void, the performing contractor shall be compensated for the cost of performance at the rate specified in the Contract up to the time of declaration. In no event shall the performing contractor be entitled to lost profits.
- C. Pending final determination of a protest, the validity of the award shall not be affected by the fact that protest has been filed.
- D. An award need not be delayed for the period allowed a bidder to protest, but in the event of a timely protest, no further action to award this Contract will be taken unless the Owner's Division Superintendent or Designee makes a written determination that proceeding without delay is necessary to protest the public interest or that the bid offer will expire.

15. APPEAL OF DETERMINATION OF NON-RESPONSIVENESS OR NON-RESPONSIBILITY:

A. Any bidder who, despite having the lowest bid, is determined not to be a responsive or responsible bidder for this Contract shall be notified in writing by the Owner. The written notice shall state the basis for the determination, and this determination shall be final unless the bidder appeals within ten (10) days after of receipt of the notice by instituting legal action as provided in the Code of Virginia. The bidder may not institute legal action until all statutory requirements have been met.

- B. If it is determined that the Owner's decision was arbitrary and capricious, or otherwise in error, and this Contract has yet to be awarded, the sole relief available to the bidder shall be a finding that the Bidder is a responsive and responsible bidder for this Contract.
- C. If the award has already been made and performance has begun, then the Owner may declare the Contract void upon a finding that this action is in its best interests. Where a contract is declared void, the performing contractor shall be compensated for the cost of performance up to the time of such declaration. In no event shall the performing contractor be entitled to lost profits.

16. SUBSTITUTIONS:

Unless otherwise provided in the bid documents, the name of a certain brand, make, or manufacturer is intended to restrict bidders to the specific brand, make, or manufacturer specified. Substitute materials proposed as equal to materials specified shall be submitted in writing to the Owner by the bidder with full substantiating data for evaluation no later than ten (10) days prior to bid opening; substitute materials shall not be considered for evaluation after this time period. Proposed substitute materials which equal or exceed the performance standard of the specified materials in the sole judgment of the Owner will be included in an "Approved Substitute Materials Bulletin" to be issued prior to the bid opening date.

For purposes of this solicitation and any resulting contract, the Owner's designation of any one or more manufacturers, subcontractors and/or suppliers as "pre-approved" shall signify only that such manufacturers, subcontractors and suppliers previously have submitted work samples to the Owner that satisfied the Owner's requirements. The Owner's designation of any one or more manufacturers, subcontractors and/or suppliers as "pre-approved" shall in no event be deemed or construed to be a representation or warranty on the part of the Owner of any such manufacturer's, subcontractor's or supplier's capability of or capacity for (in terms of financial wherewithal, personnel and equipment availability, managerial ability, product quality or otherwise) performing or furnishing any portion of the Work in accordance with the requirements of this solicitation. Each bidder shall conduct such independent investigation into the qualifications, experience and abilities of its selected manufacturers, subcontractors and suppliers, as it deems appropriate under the circumstances.

17. FORM OF CONTRACT:

The Contract Documents are defined in the General Conditions to consist of "The Standard Construction Contract Agreement between Owner and Contractor, the Conditions of the Contract (General Conditions), the Special Provisions, the Drawings, the Specifications, the Bid Form (including all attachments), the Invitation for Bid, the Instructions to Bidder, all Addenda issued prior to execution of the Contract, and all Modifications thereto."

18. VIRGINIA FAIR EMPLOYMENT ACT:

The Contractor shall comply with the Virginia Fair Employment Act.

19. SMALL, MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES:

A. The Fairfax County Human Rights Ordinances and relevant Federal and State Laws, orders and regulations require Fairfax County to ensure that its procurement practices are non-discriminatory and promote equality of opportunity for Small, Minority and Women-Owned Business Enterprises.

- B. Small Business/Organization is an independently owned and operated business which, together with affiliates, has 250 or fewer employees or average annual gross receipts of \$10 million or less averaged over the previous three years.
- C. Minority Business is a business concern that is at least 51 percent owned by one or more minority individuals or in the case of a corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest in the corporation, partnership or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals. Such individuals shall include Asian American, African American, Hispanic American, Native American, Eskimo or Aleut.
- D. Woman-Owned Business is a business concern that is at least 51 percent owned by one or more women who are U.S. citizens or legal resident aliens, or in the case of a corporation, partnership or limited liability company or other entity, at least 51 percent of the equity ownership interest is owned by one or more women who are U.S. citizens or legal resident aliens, and both the management and daily business operations are controlled by one or more women who are U.S. citizens or legal resident aliens.

20. FAILURE TO EXECUTE CONTRACT:

In the event that the successful bidder, fails or refuses to execute the Contract within fifteen (15) days after he has received notice of the acceptance of his Bid, such bidder shall forfeit the bid security (which was submitted in form of Certified or Cashier's Check, cash escrow, or bid bond) with his Bid, as liquidated damages for such failure or refusal. The amount of such forfeiture will no exceed the lesser of: (a) the face amount of the bid security; and (b) the difference between the bid for which the bid security was provided and the next low bid for the Project.

21. SAFETY RESOLUTION:

Safety: The Contractor shall abide by, and shall be subject to, the Fairfax County Construction Resolution, as adopted by the Fairfax County Board of Supervisors on December 8, 2003, and as excepted and modified below:

- A. It shall be required that each bid submitted for a contractor for construction, alteration, and/or repairs, or any other construction, shall include a list of all the following actions which have become final in the three years prior to the bid submission.
 - Willful violations, violations for failure to abate, or repeated violations, for which
 the bidder was cited by (a) the United States Occupational Safety and Health
 Administration; (b) the Virginia Occupational Safety and Health Administration; or
 (c) the occupational safety and health plan for any other state; or
 - 2. Three (3) or more serious construction safety violations for which the bidder was cited by the (a) United States Occupational Safety and Health Administration; (b) the Virginia Occupational Safety and Health Administration; or (c) the occupational safety and health plan from any other state.
 - 3. Termination of a contract between the Contractor and the County by the purchasing agent of his designee for safety violations.
- B. If the bidder has not received or been the subject of any such violations in the three years prior to the bid submission, then the bidder shall so indicate by certification of Safety

Violations. The bidder will also be indicated on this form each state in which work was performed in the three (3) years prior to the bid submission.

- C. No construction contract, as discussed above, may be bid on by any bidder or Contractor who has been the subject of any citations for the type and number of violations listed in Paragraph A, above, which have become final within three (3) years prior to bid submission.
 - Notwithstanding the language of Paragraph C, above, any bidder or Contractor
 who has been the subject of a violation, as described in Paragraph A(1), which
 has become final within three (3) years prior to bid submission, may bid, after a
 mandatory waiting period of twelve (12) months from the date the violation
 became final, if the bidder or Contractor satisfactorily passes eligibility evaluation.
 - 2. Notwithstanding the language of Paragraph C, any bidder or Contractor who has been the subject of the type and number of violations as described in Paragraph A (2), which have become final within three (3) years prior to bid submission, may bid, after a mandatory waiting period of twelve (12) months from the date the last such violation became final, if the bidder or Contractor satisfactorily passes an eligibility evaluation.
 - 3. Notwithstanding the language of Paragraph C, above, any bidder or Contractor who has previously been terminated from a County contract, as described in Paragraph A(3), within three (3) years prior to the bid submission, may bid, after a mandatory waiting period of twelve (12) months from the date of termination, if the bidder or Contractor satisfactorily passes an eligibility evaluation.
- D. Prior to bidding on a project under the provisions of Paragraph C above, a Contractor may request that a determination be made regarding its eligibility to submit a bid on a contract under the terms of this resolution. However, this request for determination and any subsequent adjudication process must be completed prior to submitting a bid on any project and the request for determination must be received no later than twenty-one (21) days before bids are due, unless otherwise stated in the Advertisement for Bid.
- E. No Contractor or Subcontractor contracting for any part of the contract work shall require any laborer, mechanic, or other person employed in the performance of the Contract to work in surroundings or under working conditions which are hazardous or dangerous to his safety, as determined under construction safety standards promulgated by the U.S. Department of Labor, or the Virginia Department of Labor and Industry.
- F. No Contractor awarded a County construction contract shall knowingly employ or contract with any person, company, or corporation for services pursuant to that contract if such person, company or corporation could not have been awarded such contract due to the restrictions above.
- G. The Contractor shall also certify in writing that all safety related information provided in accordance with the Safety Resolution and contract requirements are complete, accurate and truthful.
- H. The failure to provide information requested pursuant to this Resolution or the failure to conform to the certification requirements of this Resolution shall be grounds for disqualifying a prospective bidder.

22. COMPLIANCE WITH LAWS:

The successful bidder shall be required to comply with all local, state and federal laws, rules, regulations and ordinances (collectively, the "Laws and Regulations") applicable to the Contract and to the work contemplated thereby. Each and every provision of Laws and Regulations required to be included in this IFB shall be read and enforced as though such provisions were included herein and if, through mistake or otherwise, any such provision of Laws and Regulations is not included herein and if, through mistake or otherwise, any such provision of Laws and Regulations is not included or is not correctly included, then upon application of either party the Contract shall forthwith be physically amended to make such insertion.

23. CANCELLATION, REJECTION OF BIDS; WAIVER OF INFORMALITIES:

The Owner reserves the right to cancel this solicitation, to accept or reject any or all bids submitted hereunder, or to waive any informality in any one or all bids received.

END OF SECTION

BID FORM		
	BID FORM	
Name of Contractor		-
Address	7	-
Date		
FAIRFAX COUNT DEPARTMENT O		ON SERVICES
Gentlemen:		
The undersigned, having e	examined the Documents, Drawings, a	nd Specifications entitled:
	Window Replacement – Pha at Lorton Center	ase A
the work, hereby proposes	s and agrees to furnish all labor, materi complete the entire work in strict accord	
BASE BID AMOU	NT FOR:	
A. Lorton Center	:	

\$______Dollars
*MANUFACTURER:

- *The undersigned agrees to list <u>only one approved manufacturer</u> and shall furnish and install only the above indicated manufacturer's product.
- 1. Certain Agreements of the Bidder: The undersigned Bidder hereby makes the following representations, warranties and covenants to the Owner, which representations, warranties and covenants are intended to be relied upon by the Owner in making an award of the above-referenced Contract:
 - (a) Bidder has included in its bid all costs due to the Commonwealth of Virginia and County of Fairfax Sales and Use Taxes.

B	ID	FO	R	M
	_		1	w

(b)	The undersigned bidder is cognizant of Conflict of Interest provisions in the Virginia Code
	and specified in General Conditions, Paragraph 2.

- (c) The undersigned bidder agrees, if awarded the Contract, to perform Substantial and Final Completion of the Work on or before the respective Substantial and Final Completion Dates established in Summary of Work.
- (d) The Owner reserves the right to accept or reject any or all bids or to waive any informality in any one or all bids received.
- (e) The undersigned bidder acknowledges receipt of any and all Addenda which may have been issued by the Owner, and acknowledges that the cost, if any, of revisions set forth therein has been included in the bidder's prices.
- (f) The Owner reserves the right to defer award of Contract for a period of forty-five (45) days after due date of bids and the undersigned agrees that this Bid Form will remain open and binding during such period of time.
- (g) The undersigned bidder hereby acknowledges that time is of the essence to the Contract and agrees to commence the Work in compliance with the response times established in accordance herewith and to fully complete the Project within the specified time, including normal inclement weather delays. The undersigned hereby covenants and agrees to achieve timely completion of all services described herein and to comply with all emergency and non-emergency response times established pursuant to the Contract.
- 2. **Minority or small business firm's information:** Please check the following information relevant to your firm: (See Instructions to Bidders, Paragraph 19 for definitions)

SWaM Certification Type:		V-2	
Minority Business Firm Small Business Firm	Yes Yes	No	
Women-Owned Firm	Yes	No	
The above information is will receive equal conside		stical purposes only. A	All bidders tendering responses
	as adopted by the	Fairfax County Board	t to, the Fairfax County of Supervisors on December 8 (see, Paragraph 21 the "Safety
	ant to Cafat Dans		2).
Bidder's disclosure pursu	ant to Safety Reso	olution (as stated above	- 7).

4. Incorporation by Reference: This solicitation and any contract awarded hereunder are subject to all Laws and Regulations (as defined in the Instructions to Bidders).

DI	D	0		N A
DI	LJ.	u	$\overline{}$	w

3. E	a) the undersigned has not years prior to this Bid Stabove. b) neither the undersigned contact with students has molestation or physical contact with students has molestationery, neither the undirect contact with students.	fications: By as follows: treceived or bubmission and Bidder nor areas been convidor sexual abused in an attacndersigned Bi	chment to this Bid on the Bidder's letterhead
(; (;	confirms, certifies, and agrees a a) the undersigned has not years prior to this Bid Stabove. b) neither the undersigned contact with students ha molestation or physical contact with students has molestation or physical contact with students the undersigned unless expressly discloss stationery, neither the underect contact with students.	t received or bubmission and Bidder nor areas been convidor sexual abused in an attacndersigned Bi	been the subject of safety violations in the three (3 d is in compliance with the requirements of Item 3 my employee of the Bidder who will have direct cted of a felony or any offense involving the sexual se or rape of a child; chment to this Bid on the Bidder's letterhead
(years prior to this Bid Su above. b) neither the undersigned contact with students ha molestation or physical c) unless expressly disclos stationery, neither the u direct contact with students	Bidder nor are some seen convictor sexual abused in an attacender signed Bi	d is in compliance with the requirements of Item 3 by employee of the Bidder who will have direct cted of a felony or any offense involving the sexual se or rape of a child; chment to this Bid on the Bidder's letterhead
(b) neither the undersigned contact with students ha molestation or physical unless expressly disclos stationery, neither the u direct contact with students.	as been convider or sexual abused sed in an attac ndersigned Bi	cted of a felony or any offense involving the sexual se or rape of a child; chment to this Bid on the Bidder's letterhead
	 unless expressly discloss stationery, neither the u direct contact with stude 	sed in an attac ndersigned Bi	chment to this Bid on the Bidder's letterhead
(idder nor any employee of the Bidder who will have
		ot and shall no	convicted of a crime of moral turpitude; ot during the performance of the contract for good f Virginia; knowingly employ an unauthorized alie
(Reform and Control Act of 1986; and pt or reject any proposed subcontractor or supplied
	in response to this IFB.		ued to Bidder by the Owner under any contract
Contract	or	_	Email Address
Address		_	Telephone Number
Principal	's Name (Signature)	-	Facsimile Number
Principal	's Name (Printed)	_	Title
	County Business/Professional ion License Number (BPOL)#	-	Virginia Contractors License No.

(BIDS \$100,000 OR HIGHER)

BID BOND

KNOW	ALL	MEN	BY	THESE	PRESENTS,	that	we,		V	of
	1				(hereinafter				"Principal"),	and
				====0	, a coi	rporation	on orga	anized and	existing under the	laws of
the State	e of			, v					, and authoriz	
busines	s in the	Comm	onwea	alth of Virg	inia as a surety	(herei	nafter o	called the "S	Surety"), are held a	nd firmly
bound u	into FA	AIRFAX	COU	NTY SCH	OOL BOARD (I	nereina	after ca	alled the "O	bligee") in the full	and just
									term is defined be	
									l Bid"), in good ar	
									ee, for the payment	
sum wel	ll and t	ruly to b	e mad	de, the Pri	ncipal and the S	Surety	bind th	emselves, t	heir respective suc	cessors,
									Total Bid is the ag	
amount	(includ	ling amo	unts	set forth w	ith respect to ar	ny and	all Alte	ernates) set	t forth on the Princi	pal's Bid
Form fo	r perfo	rmance	of the	work des	cribed below, as	s subn	nitted to	and maint	tained by the Oblig	ee (such
Bid Forr	n refer	red to h	erein	as the "Bid	d"). The Surety	hereb	y ackno	owledges a	nd agrees that the	Bid shall
be deen	ned to	be incor	porate	ed by refer	ence in this Bid	Bond	to the	same exten	t as if set forth fully	herein.
WHERE	AS, th	e Princi	ipal ir	tends to	submit, or has s	submit	ted to	the Obligee	e, a Bid for the Pri	ncipal to
perform	work fo	or the O	blige	e, designat	ted as:			A.T.A.		
										Ť (e)
(hereina	after ca	lled the	"Proje	ect") and						

WHEREAS, the Principal desires to provide this Bid Bond in lieu of a certified check or cash escrow otherwise required to accompany the Principal's Bid.

NOW THEREFORE, THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT, if the Bid be accepted by the Obligee, and if the Principal shall, within ten days after the date of receipt of a written Notice of Award from the Obligee or any agency or department thereof, (i) execute a Contract in accordance with the Bid and upon the terms, conditions and price set forth therein, in the form and manner required by the Obligee, (ii) execute a sufficient and satisfactory Performance Bond in the amount of 100% of the total Contract Sum and a sufficient and satisfactory Payment Bond in the amount of 100% of the total Contract Sum, each payable to the Obligee, on a form prescribed by Obligee and with a surety satisfactory to Obligee, and (iii) provide the Obligee with copies of all required insurance policies, then this obligation is to be void; otherwise this obligation shall be and remain in full force and in the event of the failure of any or all of the foregoing requirements to be satisfied within the time period specified above, the Principal and the Surety immediately shall pay to the Obligee, upon demand, the lesser of: (a) the amount hereof and (b) the difference between the Bid and the next low bid for the Project, in each case in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

Based upon the Surety's present knowledge and information, the Surety knows of no reason why it would not issue payment and performance bonds on behalf of the Principal for the above-referenced Project. The foregoing statement shall not be construed as a commitment on the part of the Surety to issue either or both of such bonds on behalf of the Principal.

The obligations evidenced hereby shall constitute the joint and several obligations of the Principal, the Surety, and their respective successors and permitted assigns.

Unless the context requires otherwise, capitalized terms not otherwise defined in this Bond shall have the meanings assigned to them in the Contract Documents.

BID BOND		
× , , , , , , ,		× 8 2
	DEGE	
, 20_	REOF, we have hereu , all pursuant to due a	unto set our signatures and seals this day of authorization.
	х	Principal
(SEAL)		Ву:
(02,12)		Name:
		Title:
		Address:
		t t
		Surety
(SEAL)		Rv:
(GLAL)		By:Attorney-in-Fact (Attach Copy
		of Power of Attorney)
		No.
		Name:
		Title:
		Address:
Countersigned for the	9	
Commonwealth of Vi	rginia:	
Ву:		
Resident Agent		
Address:		
, tadioos		

END OF SECTION

ALL

effect.

MEN

KNOW

(BIDS \$100,000 OR HIGHER)

PERFORMANCE BOND

THESE

PRESENTS,

that

we,

BY

(hereinafter called BOARD (hereinafte money of the United and the Surety bind	and authorized to transact the " <u>Surety</u> "), are held a er called the " <u>Obligee</u> ") in d States of America for the d themselves, their heirs, frmly by these presents, to p	, with its pring business in the Commonweal and firmly bound unto the FAIF the sum of Depayment of which well and truly executors, administrators, successerform all Work in accordance were	th of Virginia as a surety RFAX COUNTY SCHOOL Pollars (\$) lawful by to be made, the Principal essors, and assigns, jointly
	, 20,	ertain written agreement with the hereinafter called the "Contract is by reference materials."	ontract"), for
	incipal is obligated to furnis der the Contract; and	h security with respect to its obl	igation to perform the work
	rincipal desires to furnish t equired to be provided to th	nis Performance Bond in lieu o e Obligee.	f a certified check or cash
	E, THE CONDITIONS OF ccessors or assigns, or any	THE ABOVE OBLIGATIONS of them shall:	ARE SUCH THAT, if the
per wa cor per	rformed the Contract, and rranties, and provisions to nformity with the plans an riod specified therein, all as	ufficient, and workmanlike manneach and every of the covenar be performed by the Principad specifications, and complete may be amended from time to harmless the Obligee from all completes.	nts, promises, agreements, I set forth therein, in strict the same within the time time by the parties thereto,

PROVIDED, HOWEVER, that this bond is subject to the following conditions and limitations:

(a) In no event shall the Surety, or its successors or assigns be liable hereunder for a greater sum than the amount of this bond.

may suffer by reason of the Principal's failure to do so and fully reimburse and repay the Obligee all costs and expenses which it may incur in making good any such default, then these obligations shall be null and void, otherwise they shall remain in full force and

(b) No action on this bond shall be brought unless within one year after: (i) completion of the Contract, including the expiration of all warranties and guarantees; or (ii) discovery of the defect or breach of warranty, if the action be for such, in all other cases.

The Surety, for value received, on behalf of itself and its successors and assigns, hereby stipulates and agrees that the obligations of the Surety and of its successors and assigns under this bond shall not in any manner be impaired or affected by: (a) any extension of time, modification, omission, addition or

amendment of or to the Contract or the work to be performed thereunder; (b) any payment thereunder before the time required therein; (c) any waiver of any provision thereof; or (d) any assignment, subletting or other transfer of all or of any part thereof or of any work to be performed or of any moneys due or to become due thereunder; and the Surety, for itself and its successors and assigns, does hereby waive any right to receive notice of any and all of such extensions, modifications, omissions, additions, amendments, payments, waivers, assignments, subcontracts and transfers.

The Surety hereby stipulates and agrees that, in the event that the Obligee declares the Principal to be in default, the Surety will promptly, at the Obligee's election: (a) perform and complete the work to be performed under the Contract in accordance with the terms, conditions and covenants set forth therein with a duly licensed and qualified contractor designated by Obligee; (b) obtain bids from qualified contractors for completing the work to be performed under the Contract in accordance with the terms, conditions and covenants set forth therein and, upon determination by the Obligee and the Surety of the lowest responsible and responsible bidder, (i) arrange for a contract between such bidder and the Obligee and (ii) make funds available directly to the Obligee, or to such contractor(s) as the Obligee shall designate, to pay the costs of completion less the balance of the contract price as such may have been adjusted by change order (such amount, including other costs and damages for which the Surety may be liable hereunder, not to exceed the penal sum set forth in the first paragraph hereof); or (c) remedy the default. The Surety further stipulates and agrees that, within 45 days after its receipt of written notice from the Obligee specifying the Obligee's election of (a), (b) or (c) above, the Surety shall have resumed performance of the work or shall have caused the performance of the work to have been resumed, in accordance with the Obligee's election. In the event the Surety fails to resume the Work within such 45 day period, the Obligee may elect to perform or arrange for the performance of the Work at the sole cost and expense of the Surety in addition to any other rights and remedies available to Obligee. As employed herein, the phrases (i) "balance of the contract price" shall mean the total amount payable by the Obligee to the Principal under the Contract after all proper adjustments have been made, less the aggregate of all amounts paid by the Obligee to the Principal thereunder and (ii) "resume the Work" shall mean the commencement and diligent performance of actual work activities at the site, as demonstrated by discernable daily progress at the rate contemplated by the Contract. All payments to be made by the Surety hereunder shall be paid within thirty (30) days after the Surety's receipt of a request or demand therefor.

The Obligee's omission to call upon the Surety in any instance shall in no event release the Surety from any obligation hereunder.

All notices, requests, demands and other communications which are provided hereunder, shall be in writing and shall be deemed to have been duly given upon the hand delivery thereof during business hours, or upon the earlier of receipt or three (3) days after posting by registered mail or certified mail, return receipt requested, or on the next business day following delivery to a reliable overnight delivery service, if to the Principal or the Obligee, to the addresses set forth in the Contract, and if to the Surety, to the address set forth beneath its signature.

The obligations evidenced hereby shall constitute the joint and several obligations of the Contractor, the Surety, and their respective heirs, executors, administrators, successors and assigns.

Unless the context requires otherwise, capitalized terms not otherwise defined in this Bond shall have the meanings assigned to them in the Contract Documents.

[SIGNATURES ON FOLLOWING PAGE]

PERFORMANCE BOND	
IN WITNESS WHEREOF, the Princip sealed by their duly authorized repres	oal and Surety have caused this Performance Bond to be signed and sentatives as of the day of, 20
	Principal
(SEAL)	By: Name: Title:
	Address:
	Surety
(SEAL)	By: Attorney-in-Fact (Attach Copy of Power of Attorney)
	Name: Title:
	Address:
Countersigned for the Commonwealth of Virginia:	
Ву:	
By: Resident Agent	
Address:	

END OF SECTION

(BIDS \$100,000 OR HIGHER)

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we,	of
(hereinafter called the "Principal"), and	, a corporation created and
(hereinafter called the "Principal"), andexisting under the laws of the State of	, and having its principal office in the
City ofand authorized	to transact business in the Commonwealth of
Virginia as Surety (hereinafter called the "Surety)" are he	ld and firmly bound unto FAIRFAX COUNTY
SCHOOL BOARD (hereinafter called the "Obligee" in the	
money of the United States of America, for the payment	
Principal binds itself and its successors and assigns, and	
and assigns, all jointly and severally, firmly by these prese	
furnished in accordance with the Contract Documents for the	e Project.
WHEREAS, the Principal has entered into a certain writter day of, 20 (here	einafter called the " <u>Contract</u>)", for
, which Contract is by reference	e made a part hereof.
WHEREAS, the Principal is obligated to furnish security w performed and material furnished pursuant to the Contract;	
WHEREAS, the Principal desires to furnish this Payment B otherwise required to be provided to the Obligee.	ond in lieu of a certified check or cash escrow
NOW, THEREFORE, THE CONDITIONS OF THE ABOY	VE OBLIGATIONS ARE SUCH THAT, if the

NOW, THEREFORE, THE CONDITIONS OF THE ABOVE OBLIGATIONS ARE SUCH THAT, if the Principal and its successors or assigns, or any or either of them shall:

Pay or cause to be paid the wages and compensation for labor performed and services rendered of all persons engaged in the prosecution of the work provided for therein, whether such persons be agents, servants or employees of the Principal, and of its successors or assigns, or of any subcontractor or any assignee thereof, including all persons so engaged who perform the work of laborers or of mechanics regardless of any contractual relationship between the Principal, or its assigns, or any subcontractor or any assignee thereof, and such laborers or mechanics, but not including office employees not regularly stationed at the site of the work, and further, shall pay or cause to be paid all lawful claims of subcontractors and of materialmen and other third persons arising out of or in connection with the Contract and the work, labor, services, supplies and materials furnished in and about the performance and completion thereof, then these obligations shall be null and void, otherwise they shall remain in full force and effect.

PROVIDED, however, that this bond is subject to the following conditions and limitations:

a. All persons who have performed or rendered services, as aforesaid, all subcontractors, and all persons, firms, corporations, including materialmen and third persons, as aforesaid, furnishing work, labor, services, supplies and material under or in connection with the Contract or in or about the performance and completion thereof, shall have a direct right of action (subject to the prior right of the Obligee under any claim which it may assert against the Principal and its successors, and assigns and/or the Surety and its successors and assigns) against the Principal and its successors, and assigns and/or the Surety and its successors and assigns on this bond, which right of action shall be asserted in proceedings instituted in the State in which such work, labor, services,

supplies or material was performed, rendered or furnished, or where work, labor, services, supplies or material has been performed, rendered or furnished, as aforesaid, in more than one State, then in any such State. Insofar as permitted by the laws of such State, such right of action shall be asserted in a proceeding instituted in the name of the Obligee to the use and benefit of the person, firm or corporation instituting such action and of all other persons, firms and corporations having claims hereunder, and any other person, firm or corporation having a claim hereunder shall have the right to be made a party to such proceedings (but not later than one year after the performance of the Contract including the expiration of any warranty or guarantee) and to have such claim adjudicated in such action and judgment tendered thereof. Prior to the institution of such a proceeding by a person, firm or corporation in the name of the Obligee, as aforesaid, such person, firm or corporation shall furnish the Obligee with a bond of indemnity for costs, which bond shall be in a form and in an amount satisfactory to the Obligee.

- Neither the Surety nor its successors or assigns shall be liable hereunder for any damages or compensation recoverable under any worker's compensation or employer's liability statute.
- c. In no event shall the Surety, or its successors or assigns be liable hereunder for a greater sum than the amount of this bond, or subject to any suit, action or proceeding thereon that is instituted by any person, firm or corporation under the provisions of the above section(s), later than one year after such person last performed labor or last furnished or supplied materials.

And the Surety, for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligations of the Surety and of its successors and assigns, and this bond shall in no way be impaired or affected by any extension of time, modification, omission, addition or change in or to the Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by a waiver of any provision thereof, or by an assignment, subletting or other transfer thereof, or of any part thereof, or of any work to be performed or of any moneys due or to become due thereunder; and the Surety, for itself and its successors and assigns, does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby stipulates and agrees that any and all things done and omitted to be done by and in relation to executors, administrators, successors, assignees, subcontractors, and other transferees, shall have the same effect as to the Surety and its successors and assigns, as though done or omitted to be done by and in relation to the Principal.

The Principal, for itself and its successors and assigns, and the Surety, for itself and its successors and assigns, do hereby expressly waive any objection that might be interposed as to the right of the Obligee to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either of them might interpose to an action brought hereon by any person, firm, or corporation, including subcontractors, materialmen and third persons, for work, labor services, supplies or material, performed, rendered or furnished as aforesaid, upon the ground that there is no law authorizing the Obligee to require the foregoing provisions to be placed in this bond.

Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Principal shall promptly furnish a copy of this Bond or shall permit a copy to be made on behalf of such potential beneficiary.

The obligations evidenced hereby shall constitute the joint and several obligations of the Contractor, the Surety, and their respective heirs, executors, administrators, successors and assigns.

PAYMENT BOND	
meanings assigned to them in the Contract Docume	set our signatures and seals this day of
	Principal
(SEAL)	By: Name: Title:
	Address:
	Surety
(SEAL)	By: Attorney-in-Fact (Attach Copy of Power of Attorney)
	Name:
	Address:
Countersigned for the Commonwealth of Virginia:	
By: Resident Agent	
Address:	

END OF SECTION

GENERAL CONDITIONS

1. DEFINITIONS:

- A. Architect. The duly licensed individual or entity who has been engaged by the Owner to observe performance of the Work and to consult with and advise the Owner during the construction process. As employed herein, the term "Architect" may refer to an individual, an organization or to the Architect's authorized representative.
- B. Change Order. A written order to the Contractor signed by the Owner, the Architect, and the Contractor, which authorizes a change in the Work, an adjustment to the Contract Sum, and/or an adjustment to the Contract Period. The latest edition of AIA Standard Form G701 shall be utilized.
- C. Construction Schedule. The schedule for completion of the Work. The Construction Schedule shall be developed utilizing a Critical Path method of scheduling, indicating time periods allotted for the performance of all constituent parts of the Work within the Contract Period.
- D. Contract or Contract Documents. The terms "Contract" and "Contract Documents" shall be used interchangeably herein and shall consist of the following:
 - 1. The signed Agreement
 - 2. The General Conditions of the Contract, which appear herein;
 - The Drawings and Specifications;
 - The Supplementary Conditions;
 - 5. Any Addenda issued prior to execution of the Agreement;
 - 6. The Notice of Award issued by the Owner to the Contractor;
 - 7. The Notice to Proceed issued by the Owner to the Contractor:
 - Any modifications which are issued subsequent to the execution of the Agreement and which may take the form of a Work Order, a Change Order, or written interpretations issued by the Architect;
 - 9. The Contractor's Payment and Performance Bonds;
 - The Bidding Documents, which shall include the Contractor's completed Bid Proposal Form and the Instructions to Bidders; and
 - All provisions required by Law or Regulation to be incorporated herein, regardless of whether any such provision is referred to or set forth expressly in these Contract Documents.

- E. Contract Period. The period of time allotted in the Contract Documents for completion of the Work, as such period may be adjusted from time to time in the manner prescribed herein.
- F. Contract Sum. The total amount payable to the Contractor for performance of the Work. The Contract Sum is stated in the Contract Documents and shall be subject to adjustments in the manner specified herein.
- G. Contractor. The corporation, limited liability company, partnership or other person or entity that contracts with the Owner to perform the Work. As employed herein, the term "Contractor" may refer to an individual, an organization, or to the Contractor's authorized representative.
- H. Critical Path. The logical and necessary sequence through which all Work items must be completed within their respective timeframes or the completion date for the Project will change. A delay in the completion of any Work item that is on the Critical Path necessarily causes a corresponding delay to the Date of Substantial Completion.
- Date of Final Completion. The date certified by the Owner/Architect as the date upon which the Work is completely finished, which event shall be achieved by the Contractor within the time period specified in Schedule of Completion. Work consisting of the completion of punch-list items, submission of O&M Manuals, any and all other Contract requirements being completed by the Contractor.
- J. Date of Substantial Completion. The date certified by the Owner/Architect as the date upon which the Work has been sufficiently completed to allow the Work to be utilized by the Owner for the purpose for which it was intended. Such event shall be achieved by the Contractor within the time period specified in Schedule of Completion.
- K. Day. The term "day" shall mean "calendar day."
- L. Defective. An item described herein as "defective" shall be deemed to be unsatisfactory, faulty, or deficient in that it does not conform to the requirements of the Contract Documents, or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents, or has been damaged prior to the Date of Final Completion of the Work (unless responsibility for the protection thereof has been assumed by the Owner as of an earlier date).
- M. Director, Office of Facilities Management. The official in charge of day to day construction matters for the Owner. The Director may designate a representative to act on his or her behalf.
- N. Float. The period of time between the early start date and the late start date, or the early finish date and the late finish date of any of the activities set forth on the Construction Schedule. The Owner shall have and retain exclusive ownership of the Float.
- O. Laws and/or Regulations. Any and all federal, state, and local laws, rules, regulations, ordinances, codes, and/or orders of any and all governmental bodies, agencies, authorities, and/or courts, which are applicable to the Work (or any aspect thereof) and are in effect at any time or from time to time during the Contract Period.

- P. Notice. Notice shall mean written notice. Written notice shall be deemed to have been duly served on the Contractor if delivered by U.S. Mail, hand delivery, or facsimile transmission to the Contractor's office at the Project or to the business address or fax number of the Contractor as stated in its Bid Form Proposal; or if delivered in person to the Contractor, to the Contractor's foreman or superintendent for the Project, or any officer or director of the Contractor. Unless otherwise specified herein, Notice shall be deemed to have been duly served on the Owner if delivered by U.S. Mail, hand delivery, or facsimile transmission (with a duplicate copy transmitted by another means of delivery authorized hereunder) to the Office of Facilities Management, Fairfax County Public Schools, 5025 Sideburn Road, Fairfax, Virginia 22030, fax number (703) 239-0462.
- Q. Notice to Proceed. A written notice from the Owner to the Contractor, which gives consent for commencement of the Work. Unless otherwise provided, Work shall commence on the date specified in the Notice to Proceed.
- R. Overhead. All costs of administration, field office and home office costs (including extended costs), general superintendence, office engineering and estimating costs, other required insurance, materials used in temporary structures (not including form work), additional premiums on the Performance and Payment Bonds of the Contractor, the use of small tools, scheduling costs, cumulative impact costs and all other costs incidental to the performance of a change in the Work or to the cost of doing business. Small tools are defined as any tool with a replacement value less than \$1,000.
- S. Owner. The School Board of Fairfax County, Virginia, its authorized representatives and employees.
- T. Project. The entire improvement of which this Contract and the Work contemplated hereby forms a part. The Project may include construction and/or other activities that are to be performed by the Owner or by one or more Separate Contractors.
- U. Separate Contractor. Any corporation, limited liability company, partnership or other person or entity that contracts with the Owner to perform one or more portions of the Project, other than the Work.
- V. Shop Drawings. All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for the Contractor and are submitted by the Contractor to illustrate a portion of the Work. Shop Drawings are not Contract Documents.
- W. Site. The area upon or in which the Contractor's operations are performed and such other areas adjacent thereto as may be designated as such by the Architect. The Site may be shared by the Contractor with the Owner and with Separate Contractors and their subcontractors.
- X. Subcontractor. Any corporation, limited liability company, partnership or other person or entity, other than an employee of the Contractor, who contracts with the Contractor to furnish or who actually furnishes labor, materials, services or equipment, or any combination thereof to the Contractor in connection with the Work.
- Y. Submittal Schedule. A schedule for submission to the Architect of all required shop drawings, equipment data, and the like, which reflects lead times of critical submittals and is coordinated with the Construction Schedule for timely progress.

- Z. Sub-Subcontractor. Any corporation, limited liability company, partnership or other person or entity, other than an employee of a Subcontractor, who contracts with a Subcontractor to furnish, or who actually furnishes labor, materials, service or equipment, or any combination thereof to a Subcontractor in connection with the Work.
- AA. Surety. Any entity that has executed as Surety the Contractor's performance and/or payment bonds securing performance of the Work contemplated by this Contract and/or providing for protection of claimants who have and fulfill contracts to supply labor or materials to the Contractor in connection with the Work.
- BB. Work. Everything explicitly or implicitly required to be furnished or performed under the Contract Documents. The Work may represent the whole, or a necessary and interdependent part of, the Project.

Number and Gender of Words. Whenever the Contract so admits or requires, all references to one number shall be deemed to extend to and include the other number, whether singular of plural, and the use of any gender shall be applicable to all genders.

INDEMNIFICATION:

The Contractor hereby assumes all liability for and agrees to indemnify and hold harmless the Owner and its Members, officers, authorized representatives and employees (each of whom shall be referred to herein as an "Indemnified Party") from and against any and all claims, losses, costs, damages, penalties, liabilities and fees (including reasonable attorneys' fees) and expenses resulting from: (i) any material breach of the representations, warranties, covenants and agreements of the Contractor contained in the Contract Documents; (ii) any injuries to persons or property caused by the negligence or other wrongful conduct of the Contractor, any Subcontractor, or any of its or their respective employees or authorized representatives; (iii) any claims filed by the Contractor (or by a Subcontractor, if permitted by law) that are adjudicated in favor of the Owner; or (iv) any other claim arising in any other manner-out of or in connection with the performance of this Contract by or on behalf of the Contractor.

Notwithstanding the foregoing, the Contractor will in no event be obligated hereunder to indemnify or hold harmless any Indemnified Party against liability for damage arising out of bodily injury to persons or damage to property suffered in the course of the Work, caused by or resulting solely from the negligence of such Indemnified Party.

CONFLICT OF INTEREST:

The provisions of the State and Local Government Conflict of Interests Act (Va. Code § 2.2-3100, et seq.) and Article IV of the Virginia Public Procurement Act entitle "Ethics in Public Contracting" (Va. Code § 2.2-4367 et seq.) are incorporated herein by reference. The Contractor shall incorporate the above conflict-of-interest clause in each subcontract entered into hereunder.

4. EXAMINATION OF SITE:

Bidders are required to visit the site, compare the Drawings and Specifications with any work in place, and inform themselves of all conditions, including other work, if any, being performed. Failure to visit the site in no way relieves the successful bidder from the necessity of furnishing any materials or performing any work that may be required to complete work in accordance with Drawings and Specifications without additional cost to the Owner.

INSURANCE:

A. Contractor's Statutory and Legal Liability Insurance

During the Contract Period, the Contractor shall, at its own expense, purchase and maintain insurance to provide coverage for claims resulting from the Contractor's performance of the work. Such coverage shall extend to work performance by Subcontractors, persons or organizations directly or indirectly hired by the Contractor or any subcontractor in connection with the work, or any other person or organization who may cause liability to be incurred by the Contractor or any Subcontractor. Such coverage shall include, but not be limited to, the following:

- 1. Claims arising under workers' compensation, disability, or other related benefits programs.
- Claims resulting from bodily injury, occupational illness or death of any employees performing the work.
- Claims resulting from bodily injury, illness disease or death of any persons in contact with the work, but who are not engaged as employees.
- Claims arising under personal injury liability coverage for injury to any employees, which are directly or indirectly attributable to his employment for performance of the work.
- 5. Claims arising under personal injury liability coverage for injury to any person not an employee which are attributable to performance of the work.
- Claims arising for damage or destruction of tangible property, including loss of use of the affected property as a result.
- 7. Claims arising from pollution, including Loading and Unloading Cargo, Cargo Intransit, Site Pollution Clean-up Operations, and On-Going Contamination.
- B. During the term of the Contract, the Contractor must maintain the following insurance with companies authorized to do business in Virginia. The Owner shall be designated on each policy as "The Fairfax County School Board" as an additional insured except for workers' compensation.
 - Workers Compensation including Occupational Disease and Employer's Liability Insurance: Statutory coverage as required by the District of Columbia, Maryland, and Virginia Workers Compensation Law, including provision for voluntary D.C. benefits as required in labor union agreements.
 - 2. Employer's Liability:

Bodily Injury by Accident -- \$100,000 Each Accident Bodily Injury by Disease -- \$500,000 Policy Limit Bodily Injury by Disease -- \$100,000 Each Employee

 Commercial General Liability Insurance written on ISO occurrence form CG 00 01 10 01 (or a substitute form providing equivalent coverage) with limits of \$1 million per occurrence and \$2 million aggregate per project to include the following: Contractual liability as required by the indemnification provision of Paragraph 1. Personal injury liability, including offenses related to employment. Coverage of explosion, collapse, or underground hazards. Broad form property damage liability, including completed operations coverage.

- 4. Business Auto Liability Insurance: including owned, non-owned and hired vehicles with policy limits of \$1,000,000 combined single limit per accident.
- 5. Pollution Liability Insurance covering the Contractor's completed operations. This insurance must include sudden and gradual coverage for third-party liability including defense costs and completed operations. The coverage must be maintained during the term of the contract and at least three years following ins completion/termination.
- 6. Umbrella/Excess Liability Insurance with coverage limits of \$5,000,000.

C. Additional Requirements:

- 1. The limits of liability of the insurance described may be superseded if the limits prescribed by law are greater.
- 2. If any insurance has been issued on a "claims made" basis, then Contractor must comply with either of the following conditions.
 - a. Provide insurance for all required coverage for a period of two (2) years
 after final completion. Such coverage shall be subject to a retroactive date
 that is not later than the commencement of performance under the Contract,
 or
 - b. Procure insurance for the extended reporting period endorsement for the policy or policies in force during the term of the Contract.
- 3. Notice of Insurance: Proof of insurance for each type of coverage listed herein shall be provided within ten (10) days after the Contractor's receipt of the Award Letter, and no work shall proceed unless all such insurance is in effect. The Contractor shall not allow any Subcontractor to commence work on its subcontract until all such insurance of the Subcontractor has been obtained and approved by the Contractor and found to be in accordance with the Contract. The Contractor certifies by commencement of the Work that its insurance and that of its Subcontractors is in effect and meets the requirements set forth herein.
- 4. Notice of Cancellation: The Contractor will give thirty (30) days prior written notice to the Owner if the policies are to be terminated or if any changes are made during the life of the Contract which will affect in any way the insurance requirements in the contract.
- 5. Copies of Insurance Policies: Upon demand, the Contractor shall provide the Owner with a copy of each policy, which the Contractor and each of its Subcontractors carry to meet the insurance requirements of the Contract, together with receipted bills evidencing proof of premium payment.

- 6. Owner's Liability Insurance: The Owner may, at its own expense, purchase and maintain its own liability insurance to protect against claims which may arise in connection with the work, or the Owner may self-insure such risks.
- 7. No Waiver: Nothing contained herein shall have the effect of waiving or shall be deemed to affect a waiver of the Owner's sovereign immunity under law.

6. COMPLIANCE WITH LAWS; PERMITS, FEES, AND NOTICES:

The successful bidder shall be required to comply with all local, state and federal laws, rules, regulations and ordinances (collectively, the "Laws and Regulations") applicable to the Contract and to the work contemplated thereby. The successful bidder shall be required to obtain, at its expense, all permits, licenses and other authorizations necessary for the performance of the services, except that the Owner shall obtain, at its expense, all Building Permits that are required for completion of the Project. The successful bidder shall be responsible for giving all required notices and certifications, and for complying with all laws, ordinances, rules, regulations and directives of any public authority bearing on the performance of the work, regardless of whether those notices, certifications, laws, ordinances, rules, regulations and directives are expressly referenced in the Contract.

OCCUPIED AREA:

- A. The Contractor hereby certifies that: (i) neither the Contractor nor any employee of the Contractor who will have direct contact with students has been convicted of a felony or any offense involving the sexual molestation or physical or sexual abuse or rape of a child; and (ii) absent prior Notice to the Owner, neither the Contractor nor any employee of the Contractor who will have direct contact with students has been convicted of a crime of moral turpitude. The foregoing certification shall be binding upon the Contractor throughout the Contract Period and the Contractor hereby covenants and agrees to provide the Owner with immediate Notice of any event or circumstance that renders such certification untrue. The Contractor hereby covenants and agrees that it will require this certification to be included in every subcontract of every tier in order that the provisions contained herein will be binding upon each Subcontractor and Sub-subcontractor. The Contractor will ensure that no worker shall perform Work in occupied areas during school hours unless prior written approval has been granted by the Owner and proper safety precautions have been exercised to isolate the area of the Work.
- B. Alcoholic beverages, illegal drugs, and weapons are prohibited on the Site and shall constitute grounds for immediate removal from the Site of the Project. The Contractor shall ensure that neither its employees nor those of any Subcontractor shall fraternize in any manner with any student of Fairfax County Public Schools at the Site of the Work. The Owner shall have the right to remove from the job Site any person whose presence the Owner deems detrimental to the best interests of the Fairfax County Public Schools. Any individual who is removed from the Site pursuant to this paragraph may not return to such Site or to that of any other project of Owner without the prior written permission of the Owner.
- C. Drug-Free Workplace. During the performance of the Contract, the Contractor agrees to (i) provide a drug-free workplace for the contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such

prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the contractor that the contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions will be binding upon each subcontractor or vendor. As employed herein, the term "drug-free workplace" shall mean each site for the performance of work hereunder.

8. CLEANING:

The Contractor shall be totally responsible for periodic cleaning up of the building and premises daily. In addition to general broom cleaning, the Contractor shall remove all refuse, waste materials and debris of any kind regardless as to who may have left same. All such refuse shall be removed from the property of the Owner and disposed of in a legal manner to the end that at all times the building and premises shall present a neat, orderly and workmanlike appearance. The definition of "periodic" shall mean - "as necessary and/or at the direction of the Owner or his representative."

SUBCONTRACTORS:

Unless otherwise specified in the Contract Documents, within ten (10) days after the award of the Contract, the Contractor must submit a written statement to the Owner setting forth the name and address, and telephone number of each proposed Subcontractor and Sub-subcontractor and the portion of the Work and materials for which each such Subcontractor or Sub-subcontractor is responsible.

ASSIGNMENT AND LEGAL REPRESENTATIVES:

The Contract Documents shall not be assigned, sublet or transferred, in whole or in part, by operation of law or otherwise, by either of the parties hereto except with the prior written consent of the other. Unless specifically stated to the contrary in any written consent to an assignment, no assignment shall operate to release or discharge the assignor from any duty or responsibility under this Agreement.

11. TIME OF START:

The Contractor shall commence work within ten (10) calendar days after the date stated as the date to proceed in the Notice to Proceed. All work shall be performed during regular school business hours (7am – 5pm) only. Work performed outside of regular school business hours must be approved by the FCPS project manager or an FCPS representative prior to the work being performed.

12. EXTENSION OF TIME - NO WAIVER:

The Contractor shall be entitled to an extension of time for delay in completion of the Work only if obstructed or delayed in the commencement, prosecution or completion of any part of the work by any act or delay of the Owner, or by riot, insurrection, war, pestilence, acts of public authorities, fire, earthquakes, or by strikes, or other causes, which causes of delay mentioned in this Paragraph, in the opinion of the Owner, are entirely beyond the expectation and control of the Contractor. In such event, the period specified in any Notice to Proceed or Purchase Order for the completion of the work shall be extended by such time as shall be determined by the Owner.

The parties agree that no extension beyond the date of completion fixed by the terms of the Contract shall be effective unless granted in writing and signed by the Owner.

13. LIQUIDATED DAMAGES:

The Owner and the Contractor hereby acknowledge and agree that time is of the essence with respect to this Contract and in the event the Contractor fails to complete any work within the established timeframe, the Owner will incur actual monetary damage. The amount of \$500.00 per day is set forth as the liquidated damages for each day that the time consumed in completing the work exceeds the time allowed. This amount shall in no event be considered as a penalty or otherwise than as the liquidated and adjusted damages to the Owner because of the delay.

14. UNTIMELY PERFORMANCE BY CONTRACTOR:

The Owner and the Contractor hereby acknowledge and agree that time is of the essence with respect to the performance of the Work. In the event the Contractor fails to complete the Work within the established timeframe, the Owner as well as Community Users will incur actual and direct harm. This includes, but is not limited to, the disruption or loss of scheduled classes, disruption or loss of school activities, loss of revenue from these cancelled activities, disruption or loss of intermural academic and athletic tournaments, loss of revenue from these cancelled events, disruption or loss of scheduled community use of the schools and facilities.

In addition to the Owner's assessment of liquidated damages, unapproved project delays also can result in the Contractor's loss of eligibility for award of future FCPS Office of Facilities Management projects for a period of three years or more as determined by FCPS Office of Facilities Management.

15. PROGRESS SCHEDULE:

Prior to the first request for payment, submit Progress Schedule in such form as to readily indicate status of work as planned, scheduled, and so arranged so that at weekly intervals it may be clearly determined whether actual state of work is in accord with schedule to Owner as indicate actual progress thereon weekly. Contractor shall update schedule to show substantial completion of project and final completion as necessary when delays or change orders are agreed upon and issued.

16. SCHEDULE OF COMPLETION:

- A. All work shall be substantially completed and certified according to the following schedule:
 - Onsite work shall begin on June 18, 2024.
 - 2. Substantial Completion on or before August 26, 2024. (See Definition)
 - 3. Final Completion on or before September 6, 2024. (See Definition)
- B. Phasing of the project within the completion date will be jointly prepared by the Contractor, Office of Facilities Management, and school personnel to afford the least amount of disruption to school operations.
- C. Construction and alteration will be performed while the building is in use and therefore, the Contractor shall give full cooperation to the school authorities in scheduling and

performing the work. Contractor shall give forty-eight hours advance written notice to school authorities when work is to be performed.

17. CONSTRUCTION SCHEDULES:

- A. The Contractor, promptly after receipt of the Award Letter, shall prepare and submit to the Owner, for approval, a construction schedule for the Work. The Construction Schedule, as approved, shall not exceed the time limits provided in the Contract Documents, shall be revised at appropriate intervals as required by conditions of the Work and the Project, shall be related to the entire Project to the extent required by the Contract Documents and shall provide for the expeditious execution of the Work within the Contract Period.
- B. The Contractor shall prepare and keep current, for the Owner's review and approval, a schedule of submittals which is coordinated with the Construction Schedule and is maintained both on the job site and available for the Owners review.

18. SHOP DRAWINGS:

- A. The Contractor shall submit Shop Drawings and similar submittals required by the Contract Documents with reasonable promptness and in accordance with the Submittal Schedule as to cause no delay in the Work or in the activities of the Owner or of separate contractors.
- B. The Contractor shall perform no portion of the Work requiring submittal and review of Shop Drawings or similar submittals until the Owner has approved the respective submittal. Such Work shall be performed in accordance with the approved submittals.
- Delays in submission of shop drawings do not qualify for extension(s) in completion of the contract.
- D. Contractor is responsible for reviewing shop drawings from subcontractors and suppliers to verify that they meet the project requirements prior to submitting them to the Owner. The Contractor shall mark on the shop drawings the name of the reviewer and the date reviewed.
- E. Shop drawings must have an approval block, the FCPS project number, and the specification section reference or plan sheet number.

19. CHANGE ORDERS:

19.1 PRELIMINARY PROCEDURES:

- A. Owner may initiate changes by submitting Proposed Modification to Contractor. Request will include:
 - Detailed description of the Change, Products, and location of the change in the Project.
 - Supplementary or revised Drawings and Specifications.
 - 3. A specific period of time during which the requested price will be considered valid, which shall be 90 calendar days, unless otherwise stated.
 - 4. The specific action to be initiated by the Contractor.
 - 5. The amounts of the unit prices to be:

- a. Those stated in the Agreement and the Bid Form.
- b. Those mutually agreed upon between Owner and Contractor.
- B. Contractor may initiate changes by submitting a written notice to Owner containing:
 - Description of the proposed changes.
 - 2. Statement of the reason for making the changes.
 - Statement of the effect on the Contract Sum and the Contract Time.
 - 4. Statement of the effect on the work.
 - 5. Documentation supporting any changes in Contract Sum or Contract Time, as appropriate.
- C. All claims by the Contractor arising out of or relating to the performance of the work or any termination hereunder shall be made in writing and shall be decided by the Director of the Office of Facilities Management or his designated representative. All claims must be filed with the Office of Facilities Management within five (5) calendar days after sustaining the injury underlying the claim. Failure to comply with this provision shall constitute an absolute waiver of such claim. The Director or the Office of Facilities Management or his designated representative shall issue his written decision within thirty (30) days of his receipt of the written claim which decision shall be final.

19.2 DOCUMENTATION OF BIDS AND CLAIMS:

- A. Support each quotation for a lump-sum bid, and for each unit price, which has not previously been established, with sufficient substantiating data to allow Owner to evaluate the quotation.
 - Bid costs attributable to labor shall be based upon labor rates for each category of personnel. A list of labor rates shall be submitted to the Owner for review and concurrence within 30 calendar days of the Notice to Proceed. See paragraph B2 below for allowable inclusions for establishment of labor rates.
- B. Provide data for lump sum bids in accordance with the following criteria:
 - 1. The Contractor's bid shall be itemized and segregated by labor, equipment, and materials for the various components of the Change in the Work (no aggregate labor total will be acceptable) and shall be accompanied by signed bids of any Subcontractors who shall perform any portion of the Change in the Work and of any entities who shall furnish materials or equipment for incorporation therein.
 - The portion of the bid relating to labor, whether by the Contractor's forces or the forces of any of its Subcontractors, shall include anticipated gross wages of Job Site labor, including foremen, who shall be directly involved in the Change in the Work (for such time as they will be so involved), plus payroll costs (including premium costs of overtime labor, if overtime is authorized, Social Security, Federal or State unemployment insurance taxes and fringe benefits required by collective bargaining agreements entered into by the Contractor or any such Subcontractor in connection with such labor).
 - The portion of the bid relating to materials may include the reasonable anticipated direct costs to the Contractor or to any of its Subcontractors of materials shall be purchased for incorporation in the Change in the Work, plus transportation and applicable sales or use taxes.

- 4. The bid may further include the Contractor's and any of his Subcontractor's reasonable anticipated equipment rental costs, except small hand tools, in connection with the Change in the Work. For rented equipment an hourly rental rate shall be used which shall be determined by using the monthly rental rates taken from the current edition of the Rental Rate Blue Book for construction Equipment and dividing it by 176. An allowance shall be made for operating costs for each and every hour the equipment is actually operating in accordance with the rates listed in the aforesaid Rental Book. The Contractor shall be allowed no more than 65% of the rental rate on Contractor owned equipment.
- 5. Base Cost is defined as the total of labor, material, and equipment rentals as described in Subparagraphs 17.2.B3 and 17.2.B4. The actual net cost in money to the Owner for the Change in the Work shall be computed as follows:
 - a. Contractor overhead and profit: If the Contractor performs the Change in the Work, his compensation shall be the Base Costs as described above, plus a mark-up of 20% on Base Costs less than or equal to \$10,000. If the Base Costs exceed \$10,000, his compensation shall be the Base Cost, plus a mark-up of 20% on Base Costs less than or equal to \$10,000, and a mark-up of 15% on Base Costs above \$10,000.
 - b. Subcontractor overhead and profit: If the work is performed by a Subcontractor, his compensation shall be the Base Costs as described above plus a mark-up as described in Paragraph 5.a. above for overhead and profit. The Contractor's compensation shall be a mark-up of ten percent (10%) of the Subcontractors Base Costs.
 - c. Sub-subcontractor overhead and profit: If the work is performed by a Sub-subcontractor, his compensation shall be the Base Costs as herein described plus a mark-up as described in paragraph 5.a. above for overhead and profit. The Subcontractors compensation shall be a mark-up of ten percent (10%) of the Sub-subcontractor's Base Costs for his overhead. The Contractor's compensation will be a mark-up of ten percent (10%) of the Sub-subcontractor Base Costs.
- 6. The mark-up on the cost of labor, materials, and equipment described in above Paragraphs 5.a., 5.b., and 5.c. above shall compensate the Contractor, Subcontractor or Sub-subcontractor for all indirect costs associated with or relating to the Change in the Work including, but not limited to, labor and/or equipment inefficiency, changes in sequence, delays, interference, impact on unchanged work, gross receipts tax, superintendent, small tools, reproduction, administration, insurance, unrelated safety requirements, temporary structures and offices, all other general and administrative, home office, and field office expenses.
 - a. The mark-up on the cost of labor, materials, and equipment described in above Paragraphs 5.b. and 5.c. above shall compensate the contractor or Subcontractor for all indirect costs associated with or relating to the change in the Work including but not limited to, gross receipt tax, superintendent, reproduction, administration, and insurance.
- C. Support each claim for additional costs, and for work done on a time-and-material basis, with documentation as required for a lump-sum bid, plus additional information:

- 1. Name of the Owner's authorized agent who ordered the work, and date of the order. Include copies of written authorization when applicable.
- Dates and times that work was performed, and by whom, verified and signed by Owner's Authorized Representative.
- 3. Time record, summary of hours worked, and hourly rates paid.
- 4. Receipts and invoices for:
 - a. Equipment used, listing dates and times of use.
 - b. Products used, including listing of quantities.
 - c. Subcontracts.
- C. Document requests for substitutions of Products as specified in Instructions to Bidders Section 16.

19.3 PREPARATION OF CHANGE ORDERS:

- A. Owner will prepare each Change Order. Two copies shall be prepared, each with original signature.
- B. Form: Change Order AIA Document G701.
- C. Change Order will describe changes in the work, both additions, deletions and any voided proposed modifications.
- D. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.
- D. Upon completion of work under a Change Order, enters the pertinent changes in Record Documents.

19.4 CHANGE ORDER CONTENTS:

- A. Contents of Change Orders will be based on, either:
 - Owner's proposed Modification and Contractor's responsive Bid as mutually agreed between Owner and Contractor.
 - Contractor's Bid for a change as mutually agreed between Owner and Contractor.
- B. Owner will sign and date the Change Order as authorization for the Contractor to proceed with the changes.
- E. Contractor will sign and date the Change Order to indicate agreement with the terms therein.

20. CHANGES IN WORK:

20.1 MINOR CHANGES:

- A. Owner's Right to Make Changes. The Owner reserves the right to make such additions, deletions, or changes to the Work as may be necessary in its sole and absolute discretion to complete the Work; provided, however, that no such additions, deletions or changes shall materially affect the substance hereof or materially change the Contract Sum. This Contract shall in no way be invalidated by any such additions, deletions or changes. No claim shall be made by the Contractor for loss of anticipated profits resulting from any such addition, deletion, or change to the Work.
- B. Construction Conditions. Construction conditions may require minor changes in the location and installation of the Work and equipment to be furnished and other Work to be performed hereunder. The Contractor, when ordered by the Architect, shall make such adjustments and changes in the locations and Work as may be necessary without additional cost to the Owner, provided such adjustments and changes do not materially alter the character and quantity of the Work as a whole, or the Contract Sum, and provided further that Drawings and Specifications showing such adjustments and changes are given to the Contractor by the Owner or Architect within a reasonable time before work involving such adjustment and changes is begun. The Owner and the Architect shall be the sole judges of what constitutes a minor change for which no additional compensation shall be allowed.
- C. Time Extension for Minor Changes. The Contractor shall be entitled to an extension of time for such minor changes only for the number of days which the Architect may determine to be necessary to complete such changes and only to the extent that such changes actually delay the completion of the Project, and then only if the Contractor shall have strictly complied with all the requirements of the Contract Documents.

20.2 EXTRA WORK:

- A. The Owner may, in its sole discretion, at any time by a Proposed Modification or Change Order and without notice to the Sureties require the performance of such Extra Work as it deems necessary or desirable.
- B. A Work Order or a Change Order covering Extra Work shall be valid only if issued in writing and signed by the Owner and the Contractor, and the Extra Work so ordered must be performed by the Contractor and reflects the amount of compensation to be paid to the Contractor
- C. The amount of compensation to be paid to the Contractor for any Extra Work so ordered shall be determined as follows:
 - 1. By such applicable unit prices as set forth in the Contract; or
 - 2. If no such unit prices are set forth, then by a lump sum or other prices mutually agreed upon by the Owner and the Contractor.

21. CORRECTION OF WORK:

A. The Contractor shall promptly correct any work, which fails to conform to the requirements of the Contract Documents (the "Rejected Work"), whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs associated with the correction of any Rejected Work.

B. The Contractor's obligation to correct defective or non-complying work shall continue for a period of two (2) years after the date of Substantial Completion. The time period of this obligation may be extended by terms of warranties or other circumstances where required by law.

22. RIGHT TO SUPPLEMENT CONTRACTOR'S WORK FORCE:

In the event that the Contractor fails (in the opinion of the Owner) within 3 days following Notice from the Owner: (a) to correct defective Work; or (b) to supply labor, materials, or equipment that is necessary to complete the Work in strict accordance with the requirements of the Contract Documents, then the Owner shall have the right to (i) order the Contractor to stop the Work or a designated portion thereof; and/or (ii) supplement the Contractor's forces, in each case to the extent deemed necessary and advisable by the Owner and until such time as, in the opinion of the Owner, the cause of the order or action shall have been corrected. The Owner shall have the right to: (a) correct the deficiencies set forth in the Notice, either with its own forces or with a separate contractor engaged by the Owner to perform such corrections; (b) deduct the cost of correcting such deficiencies (including costs for additional services in connection therewith) from amounts then or thereafter due the Contractor under the Contract Documents; and (c) order the Contractor to re-start at a designated time all or any portion of the Work stopped by the Owner. If the amounts then or thereafter due the Contractor are insufficient to cover the cost of correcting the deficiencies, then the difference shall be payable by the Contractor to the Owner upon written demand. The Architect's determination of cost hereunder shall be final and binding upon the parties. The Owner's exercise of the right to correct deficiencies shall be in addition to, and shall in no way prejudice or limit, any other remedies available to the Owner. In the event that it is determined for any reason that grounds for stopping all or any portion of the Work did not exist, then, at the election of the Owner, the rights and obligations of the parties hereunder shall be the same as if the Notice directing the Contractor to stop the Work had been delivered under the provisions of Paragraph 23 hereof; provided, however, that the Contractor in such event shall be deemed to have received seven days prior written Notice of termination. Any compensation determined to be due the Contractor pursuant to Paragraph 23 shall be offset by the cost of correcting the Work. The Contractor shall in no event be entitled to receive anticipated profits or consequential damages of any kind in connection with any termination or action hereunder.

23. DISPUTED WORK:

If the Contractor is of the opinion that any work required by the Owner violates the terms and provisions of this Contract, then it shall, within four (4) days of commencing such work or action, notify the Owner of the asserted violation in writing. The Owner's Division Superintendent or Designee will make a determination within ten (10) days of the written request. Failure of the Contractor to so notify the Owner shall constitute a waiver and release of the Contractor's right to claim compensation for any work or damages resulting from such compliance.

24. CONTRACTOR CLAIMS:

- A. The Contractor must, within five (5) days after the occurrence of the event giving rise to a claim, deliver to the Owner's Division Superintendent or Designee a written statement specifying that the Contractor has sustained such damage, and detailing the basis of the claim against the Owner with a breakdown of the nature and amounts of such damages, duly verified by the Contractor and notarized. This itemized breakdown shall be made to the fullest extent possible, otherwise the claim shall be deemed to be waived.
- B. The Owner's Division Superintendent or Designee shall make a determination within twenty-five (25) days after receipt of the itemized breakdown, which decision shall be the final determination of the Owner.

C. No claim by the Contractor shall be made for loss of anticipated profits due to delay or extension of contract completion time. The Contractor shall be entitled to an extension of time for such minor changes only for the number of days which the Owner determines to be necessary to complete such changes and only to the extent the changes actually delay the completion of the project, and then only if the Contractor shall have strictly complied with all the requirements of the Contract Documents.

25. OWNER'S RIGHT TO TERMINATE FOR CONVENIENCE

The Owner shall have the right to terminate this Contract at its own convenience for any reason by giving seven (7) days prior written notice of termination to the Contractor. The Contractor shall be paid an amount equal to the lesser of: (1) the actual cost of any work, labor or materials actually performed or in place and the actual cost of any labor, equipment or materials ordered in good faith which could not be canceled, less the salvage value thereof, plus ten percent (10%) or (2) the pro rata percentage of completion based upon the Bid Breakdown plus the actual cost of any labor, equipment or materials ordered in good faith which could not be canceled, less the salvage value thereof.

26. CONTRACTOR'S DEFAULT AND TERMINATION:

- A. The parties agree that:
 - 1. if the Contractor is not prosecuting the Work with reasonable speed and diligence or is delaying the progress of the Work unreasonably or unnecessarily; or
 - 2. If the Contractor fails to begin the Work when required to do so; or
 - if the force of workers or the quality or quantity of material furnished is not sufficient to insure completion of the Work within the specified time in the Contract Documents; or
 - 4. if the Contractor fails in any manner of substance to observe the provisions of this Contract: or
 - 5. if any of the Work, machinery, or equipment is defective and is not replaced; or
 - 6. if the Contractor fails to make prompt payments to suppliers or to Subcontractors for Work performed in connection with the Contract; or
 - 7. if the Contractor fails to cooperate in good faith with the Owner;

than the Owner, without prejudice to any other rights or remedies it may have hereunder, shall have the right to declare the Contractor in default, in whole or in part.

- B. In the event the Owner elects to declare the Contractor in default, the Owner shall notify the Contractor and his Sureties by written notice describing the nature of the default and providing the Contractor a right to cure such default within three (3) calendar days after the date of the notice, or within such longer period as the Owner, in its sole and absolute discretion, may prescribe. In the event the default is not cured within the time period specified by the Owner, the Owner shall have the right to take any actions necessary to contract or complete the Work.
- C. Any costs incurred in connection with completing or correcting the Work shall be deducted from the amounts then or thereafter due the Contractor. In the event such amounts are not sufficient to cover the costs incurred in connection with

completing or correcting the Work, the Contractor and his Surety shall pay to the Owner the amount of any deficiency.

D. If, after issuance of a Notice of termination of the Contract under the provisions of this Paragraph, it is determined for any reason that the Contractor was not in default under the provisions of Paragraph 24(A)(1) through 24(A)(7), or that cause for such termination otherwise did not exist under the provisions of Paragraph 24(A)(1) through 24(A)(7), then the rights and obligations of the parties shall be the same as if the Notice of termination had been delivered under the provisions of Paragraph 23 hereof; provided, however, that the Contractor in such event shall be deemed to have received seven (7) days prior written Notice of termination. Any compensation thereupon owing to the Contractor under Paragraph 23 shall be offset by the cost of remedying any defective Work performed by or on behalf the Contractor. In no event shall the Contractor be entitled to recover anticipated profits or consequential damages of any kind in connection with any termination of these Contract Documents.

27. SUBSTANTIAL COMPLETION:

- A. When the Contractor considers that the Work is substantially complete, the Contractor shall provide the Owner written notification of such fact. The Owner shall prepare a comprehensive punch list of items to be completed and/or corrected. The Contractor shall proceed promptly to complete and correct the items on the punch list. Failure to include an item on the punch list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.
- D. It is the Contractor's responsibility to examine the work of all trades, to correct any deficiencies found, and to verify that all equipment is operating prior to notifying the Owner of Substantial Completion.
- E. "Substantially complete" means that all work described in the specifications or shown on the drawings is done, with only minor items needed to fully complete the work. Typical work that should be done in order to be considered substantially complete include: all equipment installed, piped, electrically connected, and tested with any problems corrected; control systems completed, calibrated and functioning as intended, insulation installed. Equipment should be fully functional and ready for use.

28. FINAL INSPECTION:

Upon written notification by the Contractor that the Work is finally complete, and upon the Contractor's submission of a final application for payment, the Owner will conduct a final inspection of the Work. When the Owner determines that the Work has been satisfactorily completed and the Contract Documents fully performed, including the submission of Operation and Maintenance Data as required in Section 34, he shall promptly prepare and issue a Final Certificate for Payment.

29. PAYMENTS AND COMPLETION:

For the Contractor's complete performance of the Work, the Owner agrees to pay, and the Contractor agrees to accept, subject to the terms and conditions hereof, the Contract Sum, taking into consideration any deductions based on award of a combination of alternates, if applicable, plus the amount required to be paid for Extra Work less credit for any Work omitted.

30. SCHEDULE OF VALUES:

- A. At the start of the Contract the Contractor shall provide a schedule of values for the work for the Owner's approval. The form shall be completed in detail including quantities and unit costs.
- B. Submit three (3) copies to the project engineer for <u>approval</u> within 5 days of receipt of the Notice to Proceed.
- C. The schedule of values shall be completed in detail including quantities and unit costs. Identify Schedule with:
 - 1. Complete title of Project and Location
 - 2. Contract number
 - Name and address of Contractor
 - Date of Submission
 - 5. Labor per item to install (lump sum labor will not be acceptable)
 - 6. Total Contract Sum
- D. Organize the Content of Schedule into columns with headings as follows:
 - 1. Item Number (Column No. 1)
 - 2. Description of Item (Column No. 2)
 - Quantity (Column No. 3)
 - 4. Unit of Measure (Column No. 4)
 - 5. Cost per unit (Column No. 5)
 - Total cost of Item (Column No. 6)
- E. Each item shall include a directly proportional amount of the Contractors overhead and profit.

31. REQUESTS FOR PAYMENTS AND PARTIAL PAYMENTS:

- A. On or about the first of each month, the Contractor shall make and certify an estimate of the amount and fair value of the Work performed based on the schedule of values and may apply for partial payment. Invoice must have the FCPS contract number clearly indicated on it. The Contractor shall submit the request for payment on AIA Document G702 or equal detailing the schedule of values, work completed, retainage, etc.
- B. The Owner will retain five percent (5%) of the amount of each estimate until final completion and acceptance of all work covered by this Contract, and (10%) of all equipment delivered and properly stored on the site.

C. Send all invoices to:

Fairfax County Public Schools
Department of Facilities and Transportation Services
Office of Facilities Management
Sideburn Support Center
5025 Sideburn Road
Fairfax, VA 22032-2637
Attention: Project Manager

32. CONTRACTUAL DISPUTES:

- A. Any dispute arising hereunder or in connection herewith which is not otherwise resolved by the parties shall be decided by the Owner's Division Superintendent or Designee who shall reduce his decision to writing and mail or otherwise forward a copy thereof to the Contractor within thirty (30) days. The decision of the Owner's Division Superintendent or Designee shall be final and conclusive unless the Contractor appeals within six (6) months of the date of the final written decision by instituting legal action as provided in the Code of Virginia. A Contractor may not institute legal action, prior to receipt of the public body's decision on the claim, unless the public body fails to render such decision within the time specified.
- B. Contractual claims, whether for money or other relief, shall be submitted in writing no later than sixty (60) days after final payment; however, written notice of the Contractor's intention to file such claim shall have been given at the time of the occurrence or beginning of the work upon which the claim is based. Nothing herein shall preclude a contract from requiring submission of an invoice for final payment within a certain time after completion and acceptance of the work or acceptance of the goods. Pendency of claims shall not delay payment of amounts agreed due in the final payment.

33. LEGAL ACTION:

No bidder, offeror, potential bidder or offeror, or Contractor shall institute any legal action until all statutory requirements have been met.

34. OPERATION AND MAINTENANCE DATA:

The Contractor shall compile data and related information appropriate for the Owner's record, maintenance and operation of products, equipment, materials and systems furnished under the Contract. This shall include as-built drawings.

- A. Provide two (2) complete copies of the Record and Information Booklet and one (1) copy of Record and Information in a CD format and delivered to the Owner. Booklet shall be a commercial quality three-ring binder with durable and cleanable plastic cover.
- B. The Contractor must include the Final Approved Equipment Submittal in the Booklet. The Contractor must provide a Warranty Letter indicating the warranty expiration date and a balancing report (if project is Mechanical/HVAC related) must be included in the Booklet.
- C. Neatly typewritten table of contents for each volume, arranged in a systematic order by specification divisions. Indicate contractor, name of project, contract number and address of project on the face of the binder. On the end of the binder the school name shall be printed with a permanent readable label.

D. As-built drawings shall be red lined to show location and routing of any items not installed as shown on the original drawings.

35. BUILDING PERMITS:

Necessary building permits will be obtained by the Owner. Trade permits shall be obtained by the Contractor for all work prior to start of the project.

36. RIGHT OF AUDIT:

The Owner and its authorized representatives shall, until the expiration of three years from the date of final payment under these Contract Documents, have the right to examine and copy those books, records, accounts, documents, papers and other supporting data which involve transactions related to this Contract or which otherwise permit adequate evaluation of the cost or pricing data submitted, along with the computations and projections used therein (the "Records"), and the Contractor hereby covenants to maintain the Records in good order for such time and to deliver promptly the Records to the Owner within 5 days after its written request. In the event that the Contractor fails to comply with this Paragraph, then the Owner, in addition to any other available remedies, shall have the right to withhold payment of amounts otherwise due the Contractor until such time as the Contractor shall have complied fully with the obligations set forth herein.

37. NOTICES:

All notices required or permitted hereunder shall be in writing and delivered in the manner prescribed herein. Written notice shall be deemed to have been duly served on the Contractor if delivered by U.S. Mail, hand delivery, or facsimile transmission to the Contractor's office at any Project or to the business address or fax number of the Contractor as stated in its Bid Form; or if delivered in person to the Contractor, to the Contractor's foreman or superintendent for the Project, or any officer or director of the Contractor. Unless otherwise specified herein, Notice shall be deemed to have been duly served on the Owner if delivered by U.S. Mail, hand delivery, or facsimile transmission (with a duplicate copy transmitted by another means of delivery authorized hereunder) to the Office of Facilities Management, Fairfax County Public Schools, 5025 Sideburn Road, Fairfax, Virginia 22032, fax number (703) 239-0462.

38. ORDER OF PRECEDENCE:

The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work, including without limitation, all labor, materials, equipment and furnishings required in connectiontherewith. The Contract Documents are complimentary, and what is required by one shall be as binding as if required by all. In the event or any conflict, error or ambiguity in or among the various Contract Documents, such documents shall be accorded the following order of precedence:

- A. Change Orders;
- B. Notice to Proceed;
- C. Notice of Award;
- D. Special Provision;
- E. General Conditions;

GENERAL CONDITIONS

- F. Agreement;
- G. Addenda;
- H. Drawings and Specifications;
- I. Payment and Performance Bonds; and
- J. The Bidding Documents, which shall include the Contractor's completed Bid Form and the Instructions to Bidders

END OF SECTION

GENERAL REQUIREMENTS

CONFLICT OF PROVISIONS:

Any provision of the Conditions of the Contract or of any other document incorporated herein by reference, which is in conflict or inconsistent with "Instructions to Bidders," except such provisions as are required by applicable codes, laws or regulations, shall be void to the extent of such conflict or inconsistency.

SITE CONDITIONS:

The Contractor is expected to have become familiar with, and taken into consideration, site conditions which may affect the work and to have checked all dimensions at the site.

A. No plea of ignorance of conditions that exist or may hereafter exist on the work site, or difficulties that may be encountered in execution of the work as a result of failure to make necessary investigations and examinations, will be accepted as an excuse for any failure or omission on the part of the Contractor to fulfill in every detail all the requirements of the Contract documents and to complete the work for the consideration set forth therein, or as a basis for any claim whatsoever.

GENERAL:

Minor details not usually shown or specified but necessary for the proper installation and operation shall be included in the work and in the Contractor's bid, the same as if herein specified or shown.

- A. With submission of bid, the Contractor shall give written notice to the Owner of any materials or apparatus believed inadequate or unsuitable, in violation of Federal, State and Local Laws, Codes, Ordinances, and any necessary items of the work omitted. In the absence of such written notice, it is mutually agreed the Contractor has included the cost of all required items in his bid and that he will be responsible for the approved satisfactory functioning of the entire system without extra compensation.
- B. All Contractors and subcontractors shall have current Virginia and Fairfax County licenses to do this kind of work.
- C. A copy of these plans and specifications shall be kept at the job site for the duration of the project. If the Contractor requires additional copies of the plans and specifications it will be the Contractors responsibility to request up to two (2) additional copies from the Owner at no cost to the Contractor. If additional copies are requested these will be supplied to the Contractor at a cost of \$50 per set by the Owner. Owner will NOT perform any inspections, punch lists, or progress payments unless a copy of plans and specifications are on the job site.
- D. Successful bidder shall meet the Owner's Representative at the site or at the Owner's Representative's Office for a pre-construction meeting. After receipt of the Notice to Proceed the Contractor will contact the Owner's Representative to arrange the date, time and location of the meeting.
- E. It is the intention of the specifications and drawings to call for finished work, tested and ready for operation. Whenever the word "provide" is used, it shall mean "provide and

install complete and ready for use."

- F. Any apparatus, appliance, material or work not indicated in the drawings but mentioned in the specifications, or vice versa or any incidental accessories necessary to make the work complete and perfect in all respects and ready for operation, even if not particularly specified, shall be furnished, delivered and installed by the Contractor without additional expense to the Owner.
- G. Contractor shall install all equipment, materials in accordance with the Manufacturer's instructions, the drawings and these specifications.
- H. Contractor shall include in the work, without additional cost to the Owner, any labor, materials, services, apparatus, drawings (in addition to the Contract Documents), required to comply with all applicable laws, ordinances, rules and regulations, whether or not shown or specified.
- I. For security purposes, all personnel working at this building shall check in and check out at the building's office each day and wear any identification badges required by the building. Contractor employees/representatives are required to have photo identification and be able to present upon request. Contractor shall further supply all personnel with a form of identification as to company, name of employee and photographic likeness.
- J. All work shall comply with current County, City, State and/or Federal codes and standards, whichever may apply.
- K. The Contractor shall obtain Owner's approval for any revisions items specified prior to incorporation into the work.
- L. Contractor shall inform all employees that Fairfax County has a NO SMOKING policy on school grounds. Therefore workers shall comply with this policy when students/school personnel are present.

SCAFFOLDING, RIGGING AND HOISTING:

- A. Contractor shall furnish all scaffolding, rigging, hoisting, shoring and services necessary for erection and delivery into the premises, for equipment and apparatus furnished and removal of same from premises when no longer required.
- B. No crane work will be done during regular school hours. The work area around cranes shall be protected with barricades, warning signs, and the Contractor shall provide personnel as necessary to prevent access to the work area by children or adults.
- C. At no time the units shall be placed on the roof and rolled across the roof. Units shall be lifted directly onto the existing structural support on the roof.

5. ASBESTOS INSULATION:

- A. The Owner will provide upon request copies of asbestos inspections/reports if necessary in the performance of this Contract.
- B. If the Contractor encounters any suspected asbestos he shall immediately stop work and inform the Owner of the conditions.
- C. The Owner will be responsible for testing and if necessary removal of any asbestos

containing material encountered in the performance of this Contract.

D. No materials or equipment containing asbestos shall be utilized in the construction of the project.

SITE PROTECTION:

- A. While work is in progress, new materials and work area appurtenances shall be covered or protected from dust, debris or damage.
- B. The Contractor shall maintain the job site in a clean, safe, orderly working condition and shall leave the premises completely clean each day.
- C. The Contractor shall be responsible for the repair or replacement of any roof, grass, asphalt pavement, building, or building contents damaged during the course of this Contract. In addition, any fencing removed by the Contractor shall be re-installed without any damage and to the satisfaction of the Owner.
- D. The Contractor shall provide all necessary manpower, barricades, safety signs and protection needed to safely perform the required work during the Contract.
- E. All openings in building components required for installation of piping or wiring shall be cut, patched and repaired.
- F. All items (lights, pipes, fencing, etc.) that have to be removed during the course of this work shall be reinstalled or relocated as necessary to complete the project.
- G. Contractor shall protect all contents and infrastructure located within the work space and adjacent to the work areas. These shall include but not limited to bleachers, floor plates, lighting, sports padding, walls and ceiling. Gymnasium shall be left clean and free of all dust and debris.
- H. Smoke dust and any construction odors shall not be allowed to enter the occupied building. Contractor shall provide exhaust fans, ducts, seal openings into the school, and if necessary, schedule work during off-hours to prevent problems during the times that students and teachers are in the building.

WARRANTY:

Contractor shall warrant the workmanship and materials against defects for a period of two (2) years from the date of final acceptance after all tests and inspections are complete. Manufacturer's warranty individual equipment shall be for two (2) years.

- A. Any portion of the work supplied or performed by the Contractor, which fails within the warranty period shall be repaired or replaced by the Contractor without additional cost to the Owner. Repairs will be initiated within 24 hours of receiving a call from the Owner during the warranty period.
- B. One (1) month prior to the expiration of the warranty, Contractor shall revisit the project with the Owner's representative to determine if any items require correction or if any items previously reported have not been corrected. If necessary, Contractor shall correct noted items even if correction work extends beyond the warranty expiration date.

8. INSTRUCTION OF OWNER'S REPRESENTATIVE:

- A. The Contractor shall furnish, without additional expense to the Owner, full instruction in the care, adjustment, and operation of all parts and controls to the Owner's employees.
- B. The instruction shall be given at a mutually agreed upon time with the Owner during the regular workweek after the equipment has been accepted and turned over to the Owner for regular operation. Where significant changes or modifications in equipment are made under the terms of guarantee, additional information shall be provided as may be necessary to acquaint the operating personnel with the changes or modifications.

OWNER'S REPRESENTATIVE:

The Director of the Office of Facilities Management, 5025 Sideburn Road, Fairfax, Virginia 22032, has designated **Ed Sutherland** as the point of contact (571) 279-4383. The Director, Office of Facilities Management, may designate such other individual(s) as he deems necessary to assist in the administration of this Contract. These individuals shall have the authority to inspect the Contractor's performance.

10. RELEASE OF BONDS:

The Surety Corporation providing the bonds for this project shall obtain a written release from the Owner prior to the expiration date of the bonds.

11. LOCKOUT AND TAGOUT:

The Contractor shall have an established lockout/tagout procedure, which meets the requirements of VOSH Standard 29 CFR Part 1910, Subpart J, Subsection 147, entitled Control of Hazardous Energy Sources. The Contractor shall coordinate with the Owner's Representative to conform to the Owner's lockout/tagout program requirements.

12. BARRICADES, WARNING SIGNS AND LIGHTS:

Comply with recognized standards and code requirements for the erection of substantial, structurally adequate barricades where needed to prevent accidents and losses. Paint with appropriate colors, graphics and warning signs to inform personnel at the site and the public of the hazard being protected against. Provide lighting where appropriate and needed, including flashing yellow lights where appropriate.

13. CONFINED SPACES:

The Contractor shall have an established confined space procedure that meets the requirements of VOSH Standard 29 CFR 1910, Subpart J, §146, titled "Permit-Required Confined Spaces." The Contractor is responsible to provide confined space air monitoring and rescue equipment, as well as any other required devices or equipment on site to all employees. The Contractor must be able to provide safety training records of its employees performing work in a confined space to the Owner upon request. The Contractor shall coordinate with the Owner's representative to ensure the Contractor conforms to all confined space program requirement.

END OF SECTION

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 QUALITY ASSURANCE

- Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - Construction Elements: Do not cut and patch other construction elements or components in a
 manner that could change their load-carrying capacity, that results in reducing their capacity to
 perform as intended, or that results in increased maintenance or decreased operational life or
 safety.
 - Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

EXECUTION 017300 - 1

PART 3 - EXECUTION

3.1 EXAMINATION

A. Before cutting, examine the surfaces to be cut and patched and the conditions under which the work is to be performed. If unsafe or otherwise unsatisfactory conditions are encountered, take corrective action before proceeding with the work.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.
- B. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect.

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated. Make vertical work plumb and make horizontal work level.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

EXECUTION 017300 - 2

- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.

3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Temporary Support: Provide temporary support of work to be cut.
- C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- F. Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed.
 Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 4. Proceed with patching after construction operations requiring cutting are complete.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.

- Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
- 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
- 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
- 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition and ensures thermal and moisture integrity of building enclosure.
- H. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

END OF SECTION 017300

EXECUTION 017300 - 5

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

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

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.4 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - Review and finalize selective demolition schedule and verify availability of materials, demolition
 personnel, equipment, and facilities needed to make progress and avoid delays.
 - 3. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 4. Review areas where existing construction is to remain and requires protection.

1.5 INFORMATIONAL SUBMITTALS

A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for dust control and, for noise control. Indicate proposed locations and construction of barriers.

- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations. Submit before Work begins.

1.6 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Review Project Record Documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- B. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 1. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - Provide temporary weather protection, during interval between selective demolition of existing
 construction on exterior surfaces and new construction, to prevent water leakage and damage to
 structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."
- B. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - Proceed with selective demolition systematically, from higher to lower level. Complete selective
 demolition operations above each floor or tier before disturbing supporting members on the next
 lower level.

- Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods
 least likely to damage construction to remain or adjoining construction. Use hand tools or small
 power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover
 openings to remain.
- 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
- 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
- 5. Maintain fire watch during and for at least 1 hour after flame-cutting operations.
- 6. Maintain adequate ventilation when using cutting torches.
- 7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
- 8. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.

3.6 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.7 SELECTIVE DEMOLITION SCHEDULE

A. Provide Owner with marked up elevations and plans and a sequence of demolition and installation of new work and associated interior work.

LORTON CENTER WINDOW REPLACEMENT

FAIRFAX COUNTY PUBLIC SCHOOLS

END OF SECTION 024119

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - Include data for wood-preservative treatment from chemical treatment manufacturer and certification
 by treating plant that treated materials comply with requirements. Indicate type of preservative used
 and net amount of preservative retained.
 - 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 - For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
 - 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.3 QUALITY ASSURANCE

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

1.4 DELIVERY, STORAGE, AND HANDLING

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

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2.
 - Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all miscellaneous carpentry unless otherwise indicated.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction.
- B. Dimension Lumber Items: Construction or No. 2 grade lumber of any species.
- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.5 FASTENERS

- General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 ICC-ES AC58 ICC-ES AC193 or ICC-ES AC308 as appropriate for the substrate.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
 - 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction.

- Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- D. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- E. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - ICC-ES evaluation report for fastener.
- G. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD BLOCKING AND NAILER INSTALLATION

- A. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- B. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 ACTION SUBMITTALS

- Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Joint-Sealant Schedule: Include the following information:
 - Joint-sealant application, joint location, and designation.
 - Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- C. Sample Warranties: For special warranties.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Source Limitations: Obtain each kind of joint sealant from single manufacturer.

1.5 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
 - 2. When joint substrates are wet.

JOINT SEALANTS 079200 - 1

- Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
- Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.6 WARRANTY

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

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by jointsealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Silicone, S, NS, 50, NT: Single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

JOINT SEALANTS 079200 - 2

- a. Dow Corning Corporation.
- b. GE Construction Sealants; Momentive Performance Materials Inc.
- c. Pecora Corporation.
- Sika Corporation; Joint Sealants.

2.3 JOINT-SEALANT BACKING

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

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

3.3 INSTALLATION OF JOINT SEALANTS

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

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

3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
 - 1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 5 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate.
 - Perform one test for each 1000 feet of joint length thereafter or one test per each floor per elevation.
 - 2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
 - a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
 - 3. Inspect tested joints and report on the following:
 - Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion complies with sealant manufacturer's field-adhesion hand-pull test criteria.
 - 4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints

JOINT SEALANTS 079200 - 5

- were primed, adhesion results and percent elongations, sealant material, sealant configuration, and sealant dimensions.
- Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

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

3.6 PROTECTION

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

END OF SECTION 079200

JOINT SEALANTS 079200 - 6

SECTION 085113 - ALUMINUM WINDOWS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for aluminum windows.
- B. Shop Drawings: For aluminum windows.
 - 1. Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
- C. Product Schedule: For aluminum windows. Use same designations indicated on Drawings.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer and Installer.
- B. Product Test Reports: For each type of aluminum window, for tests performed by a qualified testing agency.
- C. Sample Warranties: For manufacturer's warranties.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A manufacturer capable of fabricating aluminum windows that meet or exceed performance requirements indicated and of documenting this performance by test reports and calculations.
- B. Installer Qualifications: An installer acceptable to aluminum window manufacturer for installation of units required for this Project.

1.5 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to repair or replace aluminum windows that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Failure to meet performance requirements.
 - Structural failures including excessive deflection, water leakage, condensation, and air infiltration.
 - c. Faulty operation of movable sash and hardware.
 - d. Deterioration of materials and finishes beyond normal weathering.
 - e. Failure of insulating glass.

2. Warranty Period:

- Window: 10 years from date of Substantial Completion.
- b. Glazing Units: 10 years from date of Substantial Completion.
- c. Aluminum Finish: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain aluminum windows from single source from single manufacturer.

2.2 WINDOW PERFORMANCE REQUIREMENTS

- A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.
 - 1. Window Certification: AAMA certified with label attached to each window.
- B. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440 as follows:
 - 1. Minimum Performance Class: LC.
 - 2. Minimum Performance Grade: 25.
- C. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.45 Btu/sq. ft. x h x deg F.
- D. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.27.
- E. Condensation-Resistance Factor (CRF): Provide aluminum windows tested for thermal performance according to AAMA 1503, showing a CRF of 52.

- F. Thermal Movements: Provide aluminum windows, including anchorage, that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 120 deg F ambient; 180 deg F material surfaces.
- G. Sound Transmission Class (STC): Rated for not less than 30 STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.

2.3 ALUMINUM WINDOWS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. EFCO Corporation.
 - Kawneer
 - 3. Thermal Windows, Inc.
 - 4. YKK AP America Inc.
- B. Operating Types: Provide the following operating types in locations indicated on Drawings:
 - 1. Hopper: Project in.
 - 2. Fixed.
- C. Frames: Aluminum extrusions complying with AAMA/WDMA/CSA 101/I.S.2/A440.
 - 1. Thermally Improved Construction: Fabricate frames with an integral, concealed, low-conductance thermal barrier located between exterior materials and window members exposed on interior side in a manner that eliminates direct metal-to-metal contact.
- D. Insulating-Glass Units: ASTM E 2190.
 - 1. Glass: ASTM C 1036, Type 1, Class 1, q3.
 - a. Tint: Gray.
 - b. Kind: Fully tempered.
 - c. Provide obscure glass where indicated on drawings.
 - 2. Lites: Two.
 - 3. Filling: Fill space between glass lites with argon.
 - 4. Low-E Coating: Manufacturer's standard.
- E. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.
- F. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material

compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.

 Exposed Hardware Color and Finish: As selected by Architect from manufacturer's full range.

G. Projected Window Hardware:

- 1. Hinges: Non-friction type, not less than two per sash.
- 2. Lock: Lever handle and cam-action lock with keeper Dual lever handles, tie rod, and cam-action lock with keepers.
- 3. Limit Devices: Concealed support arms with adjustable, limited, hold-open limit devices designed to restrict sash opening.
 - a. Limit clear opening to 6 inches for ventilation; with custodial key release.
- H. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.
- Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
 - 1. Exposed Fasteners: Do not use exposed fasteners to greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

2.4 ACCESSORIES

- A. Dividers (False Muntins): Provide manufacturer's standard extruded-aluminum divider grilles in designs indicated for each lite.
 - 1. Type: Permanently located between insulating-glass lites.
 - 2. Pattern: As indicated on Drawings.
 - Profile: Flat.
- B. Subsills: Thermally broken, extruded-aluminum subsills in configurations indicated on Drawings.
- C. Interior Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.
- D. Panning Trim: Extruded-aluminum profiles in sizes and configurations indicated on Drawings.
- E. Receptor System: Two-piece, snap-together, thermally broken, extruded-aluminum receptor system that anchors windows in place.

2.5 INSECT SCREENS

A. General: Fabricate insect screens to integrate with window frame. Provide screen for each operable exterior sash. Screen wickets are not permitted.

- B. Aluminum Frames: Manufacturer's standard aluminum alloy complying with SMA 1004 or SMA 1201. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
 - 1. Tubular Framing Sections and Cross Braces: Roll formed from aluminum sheet.
- C. Glass-Fiber Mesh Fabric: 18-by-14 or 18-by-16 mesh of PVC-coated, glass-fiber threads; woven and fused to form a fabric mesh resistant to corrosion, shrinkage, stretch, impact damage, and weather deterioration. Comply with ASTM D 3656/D 3656M.
 - Mesh Color: Silver gray.

2.6 FABRICATION

- A. Fabricate aluminum windows in sizes indicated. Include a complete system for assembling components and anchoring windows.
- B. Glaze aluminum windows in the factory where practical.
- C. Weather strip each operable sash to provide weathertight installation.
- D. Weep Holes: Provide weep holes and internal passages to conduct infiltrating water to exterior.
- E. Provide water-shed members above side-hinged sashes and similar lines of natural water penetration.
- F. Mullions: Provide mullions and cover plates, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections. Provide mullions and cover plates capable of withstanding design wind loads of window units.
- G. Window Assemblies: Provide operating and fixed units in configuration indicated. Provide window frames, subframes, sashes, hardware, and other trim and components necessary for a complete, secure, and weathertight installation, including the following:
 - Angled mullion posts with interior and exterior trim.
 - 2. Angled interior and exterior extension and trim.
 - 3. Exterior head and sill casings and trim.
- H. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation.

2.7 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual" for recommendations for applying and designating finishes.

- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ALUMINUM FINISHES

- A. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
 - 1. Color: White.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.
- C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
- B. Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.
- C. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.
- D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

3.3 FIELD QUALITY CONTROL

- A. Testing Agency: Owner may engage a qualified testing agency to perform tests and inspections.
 - 1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.
- B. Testing Services: Air-Infiltration Testing and Water-Resistance Testing as requested by Owner.
 - Testing Methodology: Testing of windows for air infiltration and water resistance shall be performed according to AAMA 502.
- C. Windows will be considered defective if they do not pass tests and inspections.

3.4 ADJUSTING, CLEANING, AND PROTECTION

- A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
- B. Clean exposed surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
 - 1. Keep protective films and coverings in place until final cleaning.
- C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION 085113

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 90 deg F.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Benjamin Moore & Co.
 - 2. PPG Architectural Finishes, Inc.
 - 3. Sherwin-Williams Company (The).
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Exterior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Colors: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Masonry (Clay and CMUs): 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- E. Steel Substrates that have not been shop-primed: Remove rust and loose mill scale if any. Clean using methods recommended in writing by paint manufacturer, but not less than the following:
 - SSPC-SP 7/NACE No. 4.
- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

H. Wood Substrates:

- 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
- 2. Sand surfaces that will be exposed to view, and dust off.
- 3. Prime edges, ends, faces, undersides, and backsides of wood.
- 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

I. Previously Painted Surfaces:

 A representative from the approved paint manufacturer shall visit the site and, together with the Owner's Representative and Contractor shall inspect existing painted surfaces prior to preparation and repainting.

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- 2. Thoroughly clean all surfaces in accordance with this Section, and the recommendations of the Paint Manufacturer's Representative.
- 3. Remove all loose or peeling paint by scraping or by means of low or non-VOC containing stripping system approved by the Owner and Architect.

4. Prepare existing epoxy surfaces by scuff sanding. Remove all loose particles.

- 5. Where new coatings are to be applied over existing oil-based paint, the surface shall be scrubbed clean and dried. The gloss shall be dulled using sand paper or wire brushing. Remove all dust or other loose particles.
- 6. All previously painted surfaces shall be completely re-primed, using a primer recommended by Paint Manufacturer for type of substrate and compatible with new top coats.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 - 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

A. CMU Substrates:

- 1. Latex over Alkali-Resistant Primer System MPI EXT 4.2L:
 - a. Prime Coat: Primer, alkali resistant, water based, MPI #3.
 - 1) Benjamin Moore; Super Spec Interior/Exterior High-Build Masonry Primer NO68.
 - 2) PPG Architectural; Perma-Crete Interior/Exterior Alkali Resistant Primer.
 - 3) Sherwin-Williams; Loxon Exterior Masonry Acrylic Primer A24W300.
 - b. Intermediate Coat: Latex, exterior, matching topcoat.
 - c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
 - 1) Benjamin Moore; Ultra Spec Waterborne Exterior Gloss N449/K449.
 - PPG Architectural; Speedhide Exterior 100% Acrylic Latex Semi-Gloss 6-900XI Line.
 - 3) Sherwin-Williams; A-100 Exterior Latex Gloss A08W00151/A08WQ0151.

B. Steel and Iron Substrates:

- Latex over Alkyd Primer System:
 - Prime Coat: Primer, alkyd, anticorrosive, for metal, MPI #79.
 - 1) Benjamin Moore; Super Spec HP Alkyd Metal Primer P06/KP06.
 - PPG Architectural; Speedhide Interior/Exterior Rust Inhibitive Steel Primers 6-212.
 - 3) Sherwin-Williams: Kem Kromik Universal Metal Primer B50WZ1.
 - b. Prime Coat: Shop primer specified in Section where substrate is specified.
 - c. Intermediate Coat: Latex, exterior, matching topcoat.
 - d. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
 - 1) Benjamin Moore; Ultra Spec Waterborne Exterior Gloss N449/K449.
 - PPG Architectural; Speedhide Exterior 100% Acrylic Latex Semi-Gloss 6-900XI Line.
 - 3) Sherwin-Williams; A-100 Exterior Latex Gloss A08W00151/A08WQ0151.

C. Galvanized-Metal Substrates:

- 1. Latex System MPI EXT 5.3H:
 - a. Prime Coat: Primer, galvanized, water based based, MPI #134.

- 1) Benjamin Moore; Super Spec HP Acrylic Metal Primer P04/KP04
- 2) PPG Architectural; 100% Acrylic DTM Industrial Primer 90-912.
- 3) Sherwin-Williams; DTM Acrylic Primer/Finish B66W1.
- b. Intermediate Coat: Latex, exterior, matching topcoat.
- c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
 - 1) Benjamin Moore; Ultra Spec Waterborne Exterior Gloss N449/K449.
 - PPG Architectural; Speedhide Exterior 100% Acrylic Latex Semi-Gloss 6-900XI Line.
 - 3) Sherwin-Williams; A-100 Exterior Latex Gloss A08W00151/A08WQ0151.

D. Wood Substrates:

- 1. Latex over Latex Primer System MPI EXT 6.3L:
 - a. Prime Coat: Primer, latex for exterior wood, MPI #6.
 - 1) Benjamin Moore; Ultra Spec.
 - 2) Sherwin-Williams; Exterior Latex Wood Primer.
 - 3) PPG Architectural; PPG Pittsburgh Paints Exterior Wood Primer.
 - b. Intermediate Coat: Latex, exterior, matching topcoat.
 - c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
 - 1) Benjamin Moore; Ben 100% Acrylic Exterior Semi-Gloss Finish.
 - 2) PPG Architectural; Dulux Weatherguard; Exterior Acrylic Semi-Gloss Latex.
 - 3) Sherwin-Williams; Resilience; Exterior Acrylic Latex.

END OF SECTION 099113

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. Benjamin Moore & Co.
 - 2. PPG Architectural Finishes, Inc.
 - 3. Sherwin-Williams Company (The).
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Interior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Colors: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Masonry (Clay and CMUs): 12 percent.
 - 2. Gypsum Board: 12 percent.

- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- E. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer, but not less than the following:
 - SSPC-SP 7/NACE No. 4.
- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

H. Wood Substrates:

- 1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
- 2. Sand surfaces that will be exposed to view, and dust off.
- 3. Prime edges, ends, faces, undersides, and backsides of wood.
- 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

I. Previously Painted Surfaces:

- 1. A representative from the approved paint manufacturer shall visit the site and, together with the Owner's Representative and Contractor shall inspect existing painted surfaces prior to preparation and repainting.
- 2. Thoroughly clean all surfaces in accordance with this Section, and the recommendations of the Paint Manufacturer's Representative.
- 3. Remove all loose or peeling paint by scraping or by means of low or non-VOC containing stripping system approved by the Owner and Architect.
- 4. Prepare existing epoxy surfaces by scuff sanding. Remove all loose particles.
- 5. Where new coatings are to be applied over existing oil-based paint, the surface shall be scrubbed clean and dried. The gloss shall be dulled using sand paper or wire brushing. Remove all dust or other loose particles.
- 6. All previously painted surfaces shall be completely re-primed, using a primer recommended by Paint Manufacturer for type of substrate and compatible with new top coats.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR PAINTING SCHEDULE

A. CMU Substrates:

- 1. High-Performance Architectural Latex System:
 - a. Block Filler: Block filler, latex, interior/exterior, MPI #4.
 - 1) Benjamin Moore; Super Spec Interior/Exterior High-Build Block Filler 206/K206.
 - 2) PPG Architectural; Interior/Exterior Masonry HiFill Latex Block Filler 6-15.
 - 3) Sherwin-Williams; PrepRite Interior/Exterior Block Filler B25W00025/B25WQ8025.
 - b. Prime Coat: Primer, alkali resistant, water based, MPI #3.
 - Benjamin Moore; Super Spec Interior/Exterior High-Build Masonry Primer NO68.
 - 2) PPG Architectural; Perma-Crete Interior/Exterior Alkali Resistant Primer.
 - 3) Sherwin-Williams; Loxon Exterior Masonry Acrylic Primer A24W300.
 - c. Intermediate Coat: Latex, exterior, matching topcoat.
 - d. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
 - 1) Benjamin Moore; Ultra Spec Waterborne Exterior Gloss N449/K449.
 - 2) PPG Architectural; Speedhide Exterior 100% Acrylic Latex Semi-Gloss 6-900XI Line.
 - 3) Sherwin-Williams; A-100 Exterior Latex Gloss A08W00151/A08WQ0151.

B. Steel Substrates:

- 1. Latex over Alkyd Primer System:
 - a. Prime Coat: Primer, alkyd, anticorrosive, for metal, MPI #79.
 - 1) Benjamin Moore; Super Spec HP Alkyd Metal Primer P06/KP06.
 - 2) PPG Architectural; Speedhide Interior/Exterior Rust Inhibitive Steel Primers 6-212.
 - 3) Sherwin-Williams: Kem Kromik Universal Metal Primer B50WZ1.

- b. Intermediate Coat: Latex, exterior, matching topcoat.
- c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
 - 1) Benjamin Moore; Ultra Spec Waterborne Exterior Gloss N449/K449.
 - PPG Architectural; Speedhide Exterior 100% Acrylic Latex Semi-Gloss 6-900XI Line.
 - 3) Sherwin-Williams; A-100 Exterior Latex Gloss A08W00151/A08WQ0151.

C. Galvanized-Metal Substrates:

- 1. Latex System MPI EXT 5.3H:
 - a. Prime Coat: Primer, galvanized, water based based, MPI #134...
 - 1) Benjamin Moore; Super Spec HP Acrylic Metal Primer P04/KP04
 - 2) PPG Architectural; 100% Acrylic DTM Industrial Primer 90-912.
 - 3) Sherwin-Williams; DTM Acrylic Primer/Finish B66W1.
 - b. Intermediate Coat: Latex, exterior, matching topcoat.
 - c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
 - 1) Benjamin Moore; Ultra Spec Waterborne Exterior Gloss N449/K449.
 - PPG Architectural; Speedhide Exterior 100% Acrylic Latex Semi-Gloss 6-900XI Line.
 - 3) Sherwin-Williams; A-100 Exterior Latex Gloss A08W00151/A08WQ0151.

D. Gypsum Board Substrates:

- 1. Institutional Low-Odor/VOC Latex System MPI INT 9.2M:
 - a. Prime Coat: Primer sealer, interior, institutional low odor/VOC, MPI #149.
 - 1) Benjamin Moore; Ultra Spec 500 Waterborne Interior Primer N534/K534.
 - 2) PPG Architectural; Speedhide Zero Interior Zero VOC Latex Sealer 6-4900XI.
 - 3) Sherwin-Williams; ProMar 200 Zero Interior Latex Primer B28W02600/B28WQ2600.
 - b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
 - c. Topcoat, Walls: Latex, interior, institutional low odor/VOC, semi-gloss (MPI Gloss Level 5), MPI #147.
 - 1) Benjamin Moore; Ultra Spec 500 Waterborne Interior Gloss N540/K540.
 - PPG Architectural; Speedhide Zero Interior Zero VOC Latex Semi-Gloss 6-4510XI.
 - 3) Sherwin-Williams; Pro Industrial Acrylic Semi-Gloss Coating B66W00651.

E. Wood Substrates:

1. Institutional Low-Odor/VOC Latex System MPI INT 6.3V:

FAIRFAX COUNTY PUBLIC SCHOOLS

- a. Prime Coat: Primer, latex, for interior wood, MPI #39.
 - 1) Benjamin Moore; Fresh Start High Hiding All Purpose Primer.
 - 2) PPG Architectural; PPG Paints Seal Grip Int/Ext Acrylic Universal Primer/Sealer.
 - 3) Sherwin-Williams; Multi-Purpose Latex Primer/Sealer.
- b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
- c. Topcoat: Latex, interior, institutional low odor/VOC, semi-gloss (MPI Gloss Level 5), MPI #147.
 - 1) Benjamin Moore; Aura Waterborne Interior Paint Semi-Gloss Finish.
 - 2) PPG Architectural; Dulux Ultra Zero VOC Interior Latex Semi Gloss.
 - 3) Sherwin-Williams; Emerald Interior Acrylic Latex Semi Gloss.

END OF SECTION 099123