

FORT CHERRY SCHOOL DISTRICT

110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA 15057



MASONRY RESTORATION PROJECT PROJECT MANUAL

FEBRUARY 3RD, 2025

FORT CHERRY SCHOOL DISTRICT

110 Fort Cherry Road

McDonald, Pennsylvania 15057

NOTICE OF BID

Sealed bids for a MASONRY RESTORATION will be received by Fort Cherry School District, 110 Fort Cherry Road, McDonald, PA 15057 until **11:30 AM**, prevailing local time, **February 19th, 2025**. All envelopes containing bid proposals shall be sealed and clearly marked "Masonry Restoration Project". Bids received before the bid submission deadline will be opened publicly and read aloud at 11:45 AM on February 19th, 2025. Bids received after the scheduled closing time for the receipt of bids will be returned unopened to the bidders.

A **mandatory** pre-bid meeting will take place at **11:00 AM on February 5th, 2025** at the Fort Cherry Junior/Senior High School Auditorium, 110 Fort Cherry Road, McDonald, PA 15057. The purpose of this meeting is to review the bid specifications and site conditions. Contractors failing to attend the pre-bid meeting will not be permitted to bid.

Copies of the specifications will be available for download at <https://www.fortcherry.org/RequestforProposalsBids.aspx> at 10:00 AM on February 3rd, 2025.

The character and amount of security to be furnished by each bidder are stated in the above-mentioned contract documents. Participating contractors must be able to provide Criminal Background Checks, FBI Fingerprinting, and Child Abuse Clearances for all employees working on or around the property. All bidders must be an approved contractor of The Garland Company, Inc.

All applicable federal, state and local laws, rules and regulations apply. The Fort Cherry School District reserves the right to reject any or all bids, and/or to waive any informality, infirmity, omission, defect, irregularity and/or disqualifying error in any bid.

Fort Cherry School District

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INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Project Description
 2. Contract Requirements
 3. Submittal of Bids
 4. Additional Requirements

1.2 PROJECT INFORMATION

- A. Project Identification: Fort Cherry School District Masonry Restoration Project
1. Address: 110 Fort Cherry Road, McDonald, PA 15057
 2. The project's scope is a district wide masonry restoration project targeted for the Summer of 2025.
- B. Owner: Fort Cherry School District
1. Mary Burford, Business Manager, Fort Cherry School District
 2. Bob Finney, Facility Director, Fort Cherry School District
- C. Owner's Representative: The Garland Company
1. Grant Kandabarow, Territory Manager, The Garland Company
 2. Bernie Poskey, Quality Inspector, The Garland Company

- 1.3 Copies of the proposed Contract documents may be obtained at:
<https://www.fortcherry.org/RequestforProposalsBids.aspx>

1.4 CONTRACT REQUIREMENTS

- A. BID BOND: A bid bond, or certified check, for an amount not less than ten percent (10%) of the amount of the bid, shall accompany each bid. The check or bond from each unsuccessful bidder will be returned within thirty (30) days after the project has been awarded. Failure of any accepted bidder to enter into a contract to complete the specified work may cause the forfeiture of its bid security.
- B. The successful contractor will be required to furnish a Performance Bond and a Labor & Materials Bond within thirty (30) days after the official notification of award of each contract. The premium for these bonds shall be included in each Contractor's bid.
1. Performance and Labor and Material Payment Bonds: the contractor shall provide a performance bond and a labor and material payment bond, each in the amount of 100% of the contract price, before the award of the contract. (Sections 756 and 757 of the Public School Code of 1949, as amended, and the Public Works Contractors Bond Law of 1967).
- C. The form of the bonds and sureties shall be acceptable to the owner and for the following amounts:
1. Performance Bond for the full amount (100%) of the contract insuring the faithful performance of all provisions of the contract and satisfactory completion of the specified work, within the time agreed upon and covering all guarantees against defective material and workmanship in any work under the contract for a period of three (3) years after the work has been accepted (Final Completion) by the Owner.

2. A Labor and Material Bond for the full amount (100%) of the contract will also be required for the protection of all Subcontractors and material suppliers. Bonds shall bear the same date as that of the contract.
- D. All on-site employees of the Contractor must provide the following clearances to the Owner prior to the start of the project:
 1. PA Child Abuse
 2. PA Criminal Background Check
 3. FBI Fingerprinting
 - E. To qualify for bidding, the Contractor must be an Authorized Garland Applicator at the first date of advertisement. Contractors must attend the pre-bid meeting. Any contractor not attending the pre-bid meeting will not be permitted to submit a bid.
 - F. The Owner is not obligated it to accept the lowest or any bids, and particularly reserves the right to reject any or all bids and to waive any informalities in the bidding process.

1.5 PRE-BID CONFERENCE

- A. A mandatory pre-bid conference shall be held on February 5th, 2025 at 11:00 AM EST. The meeting will be conducted at the Fort Cherry Junior/Senior High School Auditorium, 2351 PA-981, McDonald, Pennsylvania 15057. The purpose of this meeting is to review site conditions and the contents of this project manual. Contractors failing to attend the pre-bid conference will be disqualified from submitting a bid.
- B. No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.
- C. An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.
- D. All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in but are charged with knowing all matters discussed at the pre-bid.
- E. Questions submitted at least 24-hours prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

1.6 RESPONSIBILITY FOR MEASUREMENTS AND QUANTITIES

- A. The Bidding Contractors shall be solely responsible for all accuracy of all measurements and for estimating the material required to satisfy these specifications.
- B. It is the intent of the Owner in conjunction with the "Base Bid" to purchase materials for the "Fort Cherry School District Masonry Restoration Project" located at directly from

Garland/DBS, Inc., based upon the Agency's participation in the OMNIA Partners, Public Sector (U.S. Communities™) Government Purchasing Alliance's program for Roofing Supplies and Related Products and Services, as priced by and awarded to Garland/DBS, resulting from the competitively solicited Sealed Bid # PW1925 issued by the Racine County, WI Board of Commissioners.

1. It is understood that quantities indicated in the specifications are estimates of our needs and that these quantities may be increased or decreased by the Owner at the time orders are placed.
2. It is understood that the bidder agrees to deliver all materials prepaid, F.O.B., McDonald, PA. Each item must have the shipping prices included in the unit price. The Owner will not be responsible for payment of collected shipping charges nor any shipping charges not included in the bid. Deviation from this condition will not be acceptable.
3. This condition is for all materials except those listed on "Bid Form Exhibit A".
4. It is understood that the bidder agrees to furnish according to specifications all items for which a quotation is offered. The Owner will consider all items offered as "or equal" when offered at the same or at a lower price, but reserves the right to determine which is strictly "or equal" taking into consideration that which appears to best serve the purpose of the project. If a substitution is intended for any item, the bidder must clearly indicate its offering including manufacturer and product number in the body of the specifications and submit details.

1.7 BID QUESTIONS

- A. Bidders may submit questions relating to this solicitation. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.
- B. Deadline for Questions: 4:00 PM E.S.T. on February 14, 2025
 1. Questions to be submitted to:
Mary Burford, Business Manager
110 Fort Cherry Road, McDonald, PA 15057
mburford@fortcherry.org (EMAIL PREFERRED)

1.8 VERBAL COMMUNICATION

- A. Any verbal communication between the bidder and personnel of Fort Cherry School District is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Owner's Representative is binding.

1.9 DISCREPANCIES AND ADDENDA

- A. Should a Bidder find any discrepancies in the Drawings and Specifications, be in doubt as to their meaning, or feels that the Drawings or Specifications conflict with good construction practices, it shall notify the Owner's Representative at once, who will send a written Addendum to all Bidders concerned. Oral instructions or decisions, unless confirmed by Addenda, will not be considered valid, legal or binding.
- B. No extras will be authorized because of the Contractor's failure to include work called for in the Addenda in the bid.

- C. It shall be the responsibility of all Bidders to call to the Owner's Representative's attention at the pre bid meeting, any discrepancies which may exist between or with any of the contract documents, or any questions which may arise as to their true meaning.
- D. Modifications to the specifications (if necessary) will be followed by an addendum; no verbal discussions or agreements shall be recognized.

1.10 SUBMITTAL OF BIDS

- A. Documents Required for Submitting a Formal Bid for this Project:
 - 1. Standard Form of Bid
 - 2. Non-Collusion Affidavit
 - 3. Bid Bond or Certified Check
 - 4. Contractor's Qualification Questionnaire
- B. Sealed envelopes containing bids should be clearly marked or "MASONRY BID" and shall be sent or delivered to the address listed on the "Standard Form of Bid" as prepared and included in the Project Manual.
- C. Bid Form Completion
 - 1. No bid will be recorded unless the Standard Form of Bid is completed and signed by the bidder.
 - 2. Bidders must acknowledge receipt of all addendums they have received
 - 3. Bidders are encouraged to bid all lump sump base bid items, alternates, and unit prices, but shall "no-bid" any bid items on the bid form. Failure to submit lump sum pricing for all bid items and unit prices may result in bid disqualification.
 - 4. It is understood that the stated unit prices on the standard form of bid, shall prevail over the extended price and that the price per unit shall be the unit specifically indicated by the Owner. In the case of a price discrepancy, the indicated unit price, when multiplied by the number of units desired, shall be the acceptable bid price.
 - 5. Bidders are required to disclose any known subcontractors that account for more than 10% of the total project cost at the time of bid.
 - 6. The Solicitation contains the specifications that shall form the basis of a contractual agreement. Bidders shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.
- D. All bids will be effective for 60 days from the date of the bid opening and no bid may be withdrawn during that period except as permitted by law.
- E. By submission of its proposal, the Contractor acknowledges that the Contract Documents are full and complete, are sufficient to have enabled it to determine the cost of the Work and that the Drawings, Specifications and all addenda are sufficient to enable the Contractor to construct the Work outlined therein in accordance with applicable laws, statutes, ordinances, building codes, and regulations, and otherwise to fulfill all of its obligations under the Contract Documents.
 - 1. Having carefully studied and compared the Contract Documents with each other and with information furnished by the Owner and inspected the location of the Work and satisfied itself as to the condition thereof, except as to any reported error, inconsistency or omission, by executing the form of agreement, the Contractor represents the following:
 - a. Contractor has received all information it needs concerning the condition of the Project Site.
 - b. Contractor has satisfied itself as to the condition of the location of the Work, including, without limitation, all structural, surface and subsurface conditions.

- c. Contract sum is just and reasonable compensation for all Work, including all risk, hazards and difficulties in connection therewith.
- d. Contract time is adequate for the performance of the Work.
- e. Contractor shall have no claims for surface or subsurface conditions encountered.
- f. Contract Documents are sufficiently complete and detailed for Contractor to perform the Work required to produce the results intended by the Contract Documents and to comply with all requirements of the Contract Documents.
- g. Work required by the Contract Documents, including, without limitation, all construction details, means, methods, procedures and techniques necessary to perform the Work, use of materials, selection of equipment, and requirements of product manufacturers are consistent with (i) good and sound practices within the construction industry, (ii) generally prevailing and accepted industry standards applicable to the Work, (iii) requirements of any warranties applicable to the Work, and (iv) all laws, ordinances, regulations, rules and orders which bear upon the Contractor's performance of the Work.

1.11 BID OPENINGS

- A. All bids are due to the Fort Cherry Administration Office located at the Fort Cherry Elementary School Management Office at 110 Fort Cherry Road, McDonald, PA 15057; Attention Mary Burford / Business Management Office, **by 11:30 AM (prevailing time), February 19th, 2025**. The bids will be opened and read aloud at that time.

1.12 COMPETENCY OF THE BIDDERS

- A. In addition to the Contractor Qualification Questionnaire that is to be completed and submitted as part of the bidder's formal bid submission, the low Bidder shall, when requested by the Owner, furnish the information indicated below, which shall be sworn to under oath by the Bidder or by a properly authorized representative of the Bidder.
 - 1. The address and description of the Bidder's plant & place of business.
 - 2. The name and/or Articles of co-partnership or incorporation.
 - 3. Itemized list of equipment available for use on the project.
 - 4. A certified or authenticated financial statement, dated within sixty (60) days prior to the opening of the bids. The Owner may require that any items of such statements be further verified.
 - 5. A list of present contracts, including dollar values, percentages of completion and names of all owners involved.
 - 6. A list of projects completed during the previous twelve (12) months, including the contract values and names of the owners involved.
 - 7. A statement regarding any past, present or pending litigation with an Owner.
 - 8. Such additional information as may be requested that will satisfy the Owner that the Bidder is adequately prepared in technical experience, or otherwise to fulfill the contract.
 - 9. Sufficient documents to ensure that the Contractor is in compliance with current Fair Employment Practice requirements of the Owner.

1.13 DISQUALIFICATION OF BIDDERS

- A. Any one or more of the following causes may be considered sufficient for the disqualification of a Bidder and the rejection of its bid(s):
 - 1. Failure to attend the pre bid meeting;
 - 2. Evidence of collusion among Bidders;
 - 3. Lack of responsibility as revealed by either financial, experience or equipment statements, as submitted;

4. Lack of expertise as shown by past work, and judged from the standpoint of workmanship and performance history;
5. Uncompleted work under other contracts which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work if awarded; or
6. Being in arrears on existing contracts, in litigation with an Owner, or having defaulted on a previous contract.

1.14 WITHDRAWAL OR MODIFICATION OF BID

- A. Any Bidder may withdraw its bid at any time before the scheduled closing date of the bid by appearing in person or by sending an authorized representative of the Bidder. An appointment should first be scheduled by calling the Owner's Representative. The Bidder or its representative shall be asked to sign, in writing that the bid was returned after the withdrawal from the contract, the Bidding Contractor may not resubmit them.

1.15 NOTICE OF AWARD

- A. The award of this contract for the work is contingent upon receipt of an acceptable bid. Any part of or all bids may be rejected. All bids shall be good for a period of sixty (60) days following the date the bids are due. The contract shall be deemed as having been awarded when the formal notice of acceptance of the bid has been duly served upon the intended awardee by an authorized officer or agent of the Owner.

1.16 CONSTRUCTION TIME AND LIQUIDATED DAMAGES

- A. Contractor must substantially complete the specified work between June 9th, 2025 and August 19th 2025. Work may be completed during second shift while school is in session but must be coordinated and agreed upon with the Fort Cherry School District.
- B. The Agreement will include a stipulation that Liquidated Damages will be established in the amount of \$500.00 per calendar day for each calendar day after the agreed completion date that the Work is not fully certified by the Owner's Representative as being substantially complete.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

**SECTION 00 41 00
BID FORM**

2/3/2025

Owners Information: Fort Cherry School District 110 Fort Cherry Road McDonald, Pennsylvania 15057 Attn: Mary Burford Business Manager P: 724.796.1551 x5003mburford@fortcherry.org	Bidder Information: Contractor: _____ Address: _____ City: _____ State/Zip: _____ Name: _____ Position: _____ Phone: _____ Email: _____
--	--

Description of Work: Masonry Restoration Project

Bid Due Date : 2/19/2025 @ 11:30 AM

Bid Items:
All bid pricing must be written in "WORDS AND NUMBERS." In the event of a difference between the written word amount and the number amount, the written word amount shall prevail.

Base Bid #1: Fort Cherry Junior / Senior High School Masonry Restoration

Numeric Amount: \$ _____

Written Amount: _____

Additional Alternate #1: Fort Cherry Elementary School Masonry Restoration

Numeric Amount: \$ _____

Written Amount: _____

Additional Alternate #2: Fort Cherry Elementary School – Retaining Wall Reconstruction

Numeric Amount: \$ _____

Written Amount: _____

Contractor: _____ Initials: _____

"Standard Form of Bid" Page 1 of 4

Unit Price for Additions to Contract:

Brick Replacement

Numeric Amount: \$ _____ / brick

Written Amount: _____ / brick

Block Replacement

Numeric Amount: \$ _____ / block

Written Amount: _____ / block

Spot Pointing

Numeric Amount: \$ _____ / sq. ft.

Written Amount: _____ / sq. ft.

Steel Lintel Replacement

Numeric Amount: \$ _____ / linear foot

Written Amount: _____ / linear foot

Bidder's List of Subcontractors:

List all subcontractors that will be utilized for more than \$25,000.00 of work to complete the project:

Subcontractor Company Name: _____

Subcontractor's trade: _____

Contact Name & Phone Number: _____

Subcontractor Company Name: _____

Subcontractor's trade: _____

Contact Name & Phone Number: _____

Subcontractor Company Name: _____

Subcontractor's trade: _____

Contact Name & Phone Number: _____

Contractor: _____ Initials: _____

In submitting this Bid, the Bidder represents, as more fully set forth in the Agreement that:

1. The undersigned agrees that the proposal is based on material and standards of construction of the makes or types called for in the project manual of Fort Cherry School District. Any use of alternate materials without prior written approval will not be permitted.
2. It is hereby certified that the undersigned is the only person(s) interested in this proposal as a principal, and that the proposal is made without collusion with any person, firm, or corporation.
3. Bidder guarantees that, if awarded Contract, he will furnish and deliver all materials, tools, equipment, light, heat, tests, transportation, secure all permits, bonds and licenses, perform all labor, superintendence and all means of construction, pay all fees and do all incidental work, and to execute, construct, and finish in accordance with the procedures outlined in the "Project Manual" to the complete satisfaction and acceptance of the Owner for the price(s) stated on page 1 "Bid Items" & page 2 "Unit Price for Additions to Contract".
4. It is understood that the Owner reserves the right to reject any or all proposals, or part thereof or items therein, and waive technicalities required for the best interests of the Owner. It is further understood that competency and responsibility of bidders will receive consideration before the award of the Contract.
5. Bidder submits this proposal with the understanding and agreement that the work shall be completed according to the following schedule, unless other arrangements are agreed upon with the Fort Cherry School District:
 - Substantial completion of roof construction by August 19th, 2025
6. By executing this "Standard Form of Bid", the bidder is certifying that he has reviewed and understands the contents of this project manual and has received and understands any or all "addenda" that were issued during the course of the bid process and agrees to abide by same. It is the sole responsibility of the bidder to verify he has received all addenda. The contractor must acknowledge receipt of all addenda in the space provided on page 4 of 4 on this "Standard Form of Bid / Contract".
7. The Bidder has given the Owner's representative written notice of all conflicts, errors, or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by Owner and Owner's Representative is acceptable to the Bidder.
8. The Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders. The Bidder promises and agrees that this Bid will remain subject to acceptance for 60 days after the day of Bid opening. The Bidder will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within 30 days after the date of the Owner's Notice of Award.

Bidder's exceptions and clarifications:

Contractor: _____ Initials: _____

Bidder acknowledges receipt of the following addenda:

Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Mark a check next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Addenda No. 1 _____ Addenda No. 2 _____ Addenda No. 3 _____ Addenda No. 4 _____

Addenda No. 5 _____ Addenda No. 6 _____ Addenda No. 7 _____ Addenda No. 8 _____

I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc. I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Bidder's representatives and Owner's personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Company Name

Name of Authorized Bid Preparer

Date

Authorized Signature

Execution of Bid Form:

As an officer of the company submitting this bid to the Owner, I certify that I (we) have thoroughly read and understand the contents of the project manual and addenda and are faithfully executing this "Standard Form of Bid / Contract" for the Owner's consideration:

Company Name

Name of Authorized Bid Preparer

Address

Authorized Signature

City

Position Held

State & Zip

Witness Name

Phone

Witness Signature

Contractor: _____

Initials: _____

SECTION 00 72 00
GENERAL CONDITIONS

PART 1 — GENERAL

1.1 DEFINITIONS

- A. The contract document consists of the AGREEMENT, the GENERAL CONDITIONS of the contract, the DRAWINGS and the SPECIFICATIONS, including all revisions hereto.
- B. The Owner, the Contractor and the Owner's Representative shall be indicated as such throughout these documents. The term Contractor as used herein shall designate the successful bidder to whom the contract is awarded.
- C. The term OWNER shall be understood to be the Fort Cherry School District.
- D. The CONTRACTOR is the individual, group, partnership or corporation undertaking to do the work herein specified (including his or their heirs, legal representatives, successors or assigns) and is the party of second part of the contract contained herein.
- E. A SUB-CONTRACTOR is an individual group, partnership or corporation, having a direct contract with the Contractor to furnish a special service, labor or material towards the completion for the Contractors contract.
- F. The term OWNER'S REPRESENTATIVE shall be understood to mean the representative of the primary material manufacturer.
- G. The term INSPECTOR is an authorized representative of the Owner's Representative, assigned to inspect work performed and the materials supplied by the Contractor as to compliance with the Contract Documents.
- H. The CONTRACT DOCUMENTS consist of the Advertisement, Instructions to Bidders, Standard Form of Bid, General Conditions, Construction Specifications, Form of Agreement, Form of Bond, Construction Drawings, Standard Details and the plans.
- I. The term WORK, used herein, includes all labor and/or materials, equipment and any other facilities necessary for the Contractor to complete the contract.
- J. The term APPROVED, used herein, shall be held to mean as approved by the Owner's Representative.
- K. The term SUBSTANTIAL COMPLETION used herein shall be held to mean construction that is sufficiently completed in accordance with the Contract Documents and certified by the Engineer of the Borough, as modified by change orders agreed to by the parties, so that a project can be used, occupied or operated for its intended use. In no event shall a project be certified as substantially complete until at least 90% of the work on the project is completed.

1.2 OWNER'S REPRESENTATIVE STATUS

- A. The Owner's Representative shall have general Rights of Inspection of the work and is the agent of the Owner in all matters pertaining to the work as provided in the Contract Documents. The Owner's Representative has the authority to stop work whenever such stoppage may be necessary to ensure the proper execution of the contract and shall have authority to reject any and all materials, whether worked or unworked, if such materials are not in accordance with the plans and specifications.

1.3 CONTRACT DOCUMENTS

- A. Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with all existing site conditions, site access, physical characteristics of the site and other relevant local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents. Contractor acknowledges and agrees that Contract Documents have been thoroughly reviewed and inspected, that it has had the opportunity to seek, and has sought, clarification or explanation of any perceived ambiguity, discrepancy, error or omission in the Contract Documents, and that the Contract Documents are adequate and sufficient to provide for the completion of the Work. Furthermore Contract Documents include all Work, whether or not shown or described, which reasonably may be inferred to be required or useful for the completion of the Work in accordance with all applicable laws, codes and professional standards.

1.4 CONDITION OF SITE

- A. The bidders shall visit the site before submitting their bids and determine the field conditions affecting their work. In considering the bids, the Owner will assume that the bidders are aware of all items, pertinent to their work and have made allowance for same in their bids.

1.5 VERIFICATION OF DIMENSIONS AND ELEVATIONS

- A. Dimensions and elevations indicated on the drawings in reference to existing structures or utilities are the best available data but are not guaranteed by the Owner or its representatives and the Owner or its representatives will not be responsible for their accuracy. Before bidding on any paperwork dependent upon the data involved, the Contractor shall field check and verify all dimensions, grades, lines, levels or other conditions of limitations at the site to avoid construction errors. If any work is performed by the Contractor or any of its Subcontractors prior to adequate verification or applicable data, any resultant extra cost for adjustment of work as required to conform to existing limitations, shall be assumed by the Contractor without reimbursement or compensation by the Owner.

1.6 PROTECTION OF OWNER'S OPERATIONS

- A. The Contractor shall erect such barriers, tarpaulins, doors, etc., as may be necessary to protect the Owner's operations while work is in progress. Any such openings that are essential to carrying on the work shall be securely closed by the Contractor when not in use to protect the Owner's operations.

1.7 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall maintain adequate protection of all in progress or completed Work from damage and shall protect the Owner's and adjacent property from injury or loss arising from this contract. Contractor shall provide and maintain at all times any danger signs, guards and/or obstructions necessary to protect the public and workmen from any dangers inherent with or created by the work in progress. Contractor shall hold the Owner harmless from any loss arising due to injury or accident to the public or workmen, or from theft of materials stored at the job site.
- B. Should the Contractor suffer injury or damage to person or property because of an act or omission of the Owner or of any of the Owner's employees or agents for whose act the Owner is legally liable, the claim shall be made in writing to the Owner within thirty (30) days after the first observance of such injury or damage, otherwise such claim shall be waived. This clause shall not allow claims for injury or damages, which are otherwise precluded by these Contract Documents. Owner shall not be responsible for actions or inactions of other Contractors.
- C. Any areas of the building or grounds which have become stained or damaged in any way shall be repaired or replaced by the Contractor prior to the final inspections. The method of repair used must be acceptable to both the Owner and the Owner's Representative.

- D. The contractor shall preserve and protect all trees, shrubs and grass on or adjacent to the site which do not reasonably interfere with the construction as may be determined by the Owner's representative and the contractor shall be responsible for all unauthorized cutting or damaging of trees and shrubs, including damage due to careless operation of equipment, stockpiling of materials or tracking of grass areas by equipment. The Contractor shall remove only those trees designated by the Owner to be removed, however the Owner will be responsible for any costs associated with tree or shrub removal if found absolutely necessary to perform work.

1.8 MATERIAL STORAGE AND CLEAN-UP

- A. The Contractor shall keep the premises free from rubbish at all times and shall arrange material storage so as not to interfere with the Owner's operations. At the completion of the job, all the unused material and rubbish shall be removed from the site. The ground shall be raked clean, and the building shall be broom cleaned.
- B. If the Contractor refuses at any time to remove Work debris from the premises, or to keep the working area clean, such cleaning will be completed by the Owner and deducted from the balance due the Contractor provided twenty-four (24) hours written notice by the Owner.
- C. The Contractor shall also remove drippage of mortar, paints, sealants, and adhesive from all walls, windows, roofs, ladders and finished surfaces. Failure to do so will result in the work being done by others and the cost shall be deducted from the balance due the Contractor.
- D. Materials must be delivered with manufacturer's label intact and legible. Labels must be affixed to the outside of the package stating the type of product, name and address of the manufacturer. All materials shall be stored and protected against weather, vandalism, and theft. Any materials found to be damaged or missing shall be replaced by the Contractor at no cost to the Owner.

1.9 INSPECTION OF WORK

- A. Where the drawings or specifications require the inspection and approval of any work in progress by the Owner's Representative, the Contractor shall give that Representative ample notice to allow for scheduling the inspection, which shall be made promptly to avoid delay of work. If work has progressed without the required inspections or approval by the Owner's Representative, it shall be uncovered for inspection at the Contractor's expense.
- B. Uncovering of work not originally inspected or uncovering questioned work may be ordered by the Owner's Representative and it shall be done by the Contractor. If examination proves such work to be incorrectly done or not done in accordance with the plans and specifications, the Contractor shall bear all cost of the reexamination. If the work is proven correctly installed, all such expense shall be borne by the Owner.

1.10 INSPECTION OF WORK IN PROGRESS AND UPON COMPLETION

- A. Noncompliance with the terms of this specification and ensuing contract can result in either the cancellation of the contract, or complete replacement of the defective areas at the Contractor's expense. In the event of cancellation, the Owner will not be obligated to compensate the Contractor for any work undertaken in a defective manner.
- B. If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents or fails to carry out Work in accordance with the Contract Documents, the Owner, by written order signed personally or by an agent specifically so empowered by the Owner in writing may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

- C. If the Contractor fails within twenty-four hours after receipt of written notice from the Owner to commence and continue correction of any default or neglect to Work as required in the Contract Documents, the Owner may, without prejudice to other remedies the Owner may have, commence and continue to carry out or correct deficiencies in the Work. In such case, the Contract Sum shall be adjusted for all costs incurred by the Owner in the correction of such deficiencies. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. The right of the Owner to correct the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.
- D. The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after completion and whether or not fabricated, installed or completed. The Contractor shall bear costs of correcting such rejected Work, including additional testing and inspection services and expenses made necessary thereby.
- E. Damages caused by water infiltration resulting from the failure of the Contractor to secure each day's work in a weather tight manner, will be corrected at the Contractor's expense. Included as damages will be all labor costs incurred by the Owner as a result of such water infiltration.
- F. The Owner will require the Owner's Representative to examine the work in progress, as well as upon completion, in order to ascertain the extent to which the materials and procedures conform to the requirements of these specifications and to the published instructions of the Manufacturer.
- G. The authorized Owner's Representative shall be responsible for:
 - 1. Keeping the Owner informed on a periodic basis as to the progress and quality of the work.
 - 2. Calling to the attention of the Contractor those matters is considered to be in violation of the contract requirements.
 - 3. Reporting to the Owner any failure or refusal of the Contractor to correct unacceptable practices.
 - 4. Conducting preliminary and subsequent job-site meetings with the Contractor's official job representative.
 - 5. Supervising the taking of test cuts, and the restoration of such areas.
 - 6. Rendering any other inspection services which the Owner may designate; and
 - 7. Certifying, after completion of the work, the extent to which the Contractor has complied with these specifications as well as to the published instructions of the Manufacturing Company.
- H. The presence and activities of the Owner's Representative shall in no way relieve the Contractor of contractual responsibilities.
- I. Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority. Contractor shall bear all related costs of such tests, inspections and approvals, including the cost of retesting for verification of compliance with the requirements of the Contract Documents, and all such costs shall be included in the Contract Sum.

1.1 MISCELLANEOUS UTILITIES

- A. Electrical power will be furnished by the Owner for small tools only. All connections to the electrical system will be furnished by the Contractor.

- B. Water for concrete, mortar, washing and drinking purposes will be furnished by the Owner. Any connections to the water system shall be completed by the Contractor.
- C. At the completion of the work, or when the above connections are no longer required, the Contractor shall remove all connections and leave the facilities in a condition at least as satisfactory as prior to the commencement of Work.
- D. Toilet facilities will be provided by the Contractor. The Contractor will be responsible for supplying a portable toilet on the job-site. The Contractor's personnel are not permitted to enter the building without proper authorization from the Owner or Owner's Representative.

1.11 CHANGES OR EXTRA WORK

- A. The Owner may, without invalidating the original contract, order such changes or additions as may from time to time be deemed desirable. In so doing, the contract price shall be adjusted, as stated below, with all work being done under the conditions of the original contract except for such adjustments in extension of time as may be acceptable to the Owner. The value of such extra work shall be determined in one of the following ways:
 - 1. By firm adjustment.
 - 2. By cost plus with a guaranteed maximum.
 - 3. By cost with a fixed fee; or
 - 4. By unit cost.
- B. If agreement is reached that the extra cost shall be handled as per methods 2, 3, or 4, the Contractor shall keep and compile a correct amount of the cost together with such vouchers, etc., as may be necessary to substantiate same for presentation to the Owner. The Owner's Representative shall have authority to make minor job changes or additions as may be necessary to expedite the job providing such changes do not involve additional material cost. No major change or addition shall be made except upon receipt by the Contractor of a signed order from the Owner authorizing such a change. No claims for an extra to the contract price shall be valid unless so authorized.
- C. All work covered by unit prices submitted by the Contractor in the Bid must be covered by a written work order. The Owner's Representative will prepare the work order in triplicate covering the quantity of work and the total cost of the work. The work order which will be written at the end of each day, will be signed by the Owner's Representative and the Contractor's foreman and/or superintendent.

1.12 CORRECTION OF WORK PRIOR TO FINAL PAYMENT

- A. The Contractor shall promptly remove any work that does not meet the requirements of the plans and specifications or is incorrectly installed or otherwise disapproved by the Owner or the Owner's Representative as failing to meet the intent of the plans and specifications. The Contractor shall promptly replace any such work without expense to the Owner and shall bear the cost of making good all work of other contractors, or the Owner, destroyed or damaged by such removal or replacement.

1.13 CORRECTION OF WORK AFTER FINAL PAYMENT

- A. The Contractor shall promptly remove any work that does not meet the requirements of the drawings and specifications or is incorrectly installed or otherwise disapproved by the Owner or the Owner's Representative as failing to meet the intent of the plans and specifications. The Contractor shall promptly replace any such work without expense to the Owner and shall bear the cost of making good all work of other contractors, or the Owner, destroyed or damaged by such removal or replacement.

1.14 DEDUCTION FOR UNCORRECTED WORK

- A. If the Owner deems it unacceptable to have the Contractor correct work which has been incorrectly done, a deduction from the contract price shall be agreed upon, therefore. Such a deduction from the contract price shall in no way affect the Contractor's responsibility for defects that may occur nor its ability for correcting them, and damage caused by them.

1.15 LIENS

- A. Neither the Contractor nor anyone furnishing labor or materials to the Contractor in connection with the Work shall have the right to file or otherwise assert any mechanic's or materialman's lien or other lien against the Work or the premises upon which the Work is to be located or against any other property of the Owner. The Contractor agrees to indemnify and hold harmless the Owner from all costs, attorneys' fees and other damages arising from any lien filed by anyone claiming by, on behalf of or through the Contractor and, upon notification from Owner of the filing of a lien, Contractor shall promptly take all necessary action to discharge or remove such lien.

1.16 SAFETY

- A. Contractor shall conform to requirements as designated by the United States Federal Government (O.S.H.A.). Contractor shall abide by all regulations as outlined in the O.S.H.A. handbook and shall have a handbook on location at all times.
- B. Contractors hereby acknowledged that all its workmen have undergone Safety Training and shall at all times act in compliance with all NRCA recommended safety compliance rules and regulations.
- C. All on-site employees of the Contractor must provide the following clearances to the Fort Cherry School District prior to the start of the project:
 - 1. PA Child Abuse
 - 2. PA Criminal Background Check
 - 3. FBI Fingerprinting

1.17 INSURANCE

- A. The following standard indemnity agreement and minimum insurance requirements are incorporated in the Specifications for all work performed by Contractors for the Owner, its affiliated and associated organizations or subsidiaries, hereinafter referred to as Owner.
 - 1. THE CONTRACTOR AGREES TO INDEMNIFY AND SAVE THE OWNER AND OWNER'S REPRESENTATIVE HARMLESS FROM AND AGAINST ANY AND ALL COSTS, LOSS AND EXPENSE, LIABILITY DAMAGES, OR CLAIMS FOR DAMAGES, INCLUDING COST FOR DEFENDING ANY ACTION, ON ACCOUNT OF ANY INJURY TO PERSONS (INCLUDING DEATH) OR DAMAGE TO OR DESTRUCTION OF PROPERTY OF THE OWNER, ARISING OR RESULTING FROM THE WORK PROVIDED FOR OR PERFORMED, OR FROM ANY ACT, OMISSION, OR NEGLIGENCE OF THE CONTRACTOR, SUBCONTRACTOR AND ITS AGENTS OR EMPLOYEES. THE FOREGOING PROVISIONS SHALL IN NO WAY BE DEEMED RELEASED, WAIVED OR MODIFIED IN ANY RESPECT BY REASON OF ANY INSURANCE OR SURETY PROVIDED BY THE CONTRACTOR.
 - 2. All Subcontractors are required to file Certificates of Insurance properly completed and signed by an authorized insurance company representative before Work commences on the job or job site. No monies will be paid until the acceptable certificates are on file with the Contractor. Such certificates shall provide that there will be no cancellation, reduction or modification of coverage without thirty (30) days prior written notice to the Contractor. In the event such certificates are not provided to the Contractor prior to commencement of work, Contractor's failure to demand such certificates shall not be deemed a waiver of Subcontractor's requirement to obtain the subject insurance.

3. The Contractor shall provide and maintain standard fire, extended coverage perils, vandalism and malicious mischief insurance to protect the interest of both the Contractor and the Owner for materials brought into the job or stored on the premises. Such insurance shall be for 100% of the insurable value of Work to be performed including all items of labor and materials incorporated therein, materials stored at the job-site to be used in completing Work, and such other supplies and equipment incidental to Work as are not owned or rented by the Contractor, the cost of which are included in the direct cost of the work. This insurance shall not cover any tools, derricks, machinery, tar buckets, ladders, engines, workmen's quarters, boilers, pumps, wagons, scaffolds, forms, compressors, shanties, or other items owned or rented by the Contractor, the cost of which are not included in the direct cost of the work.
4. In accordance with this Section, the Contractor and Subcontractor(s) shall maintain the following insurance:
 - a. Workmen's Compensation and Employer's Liability Insurance affording:
 - 1) Protection under the Workmen's Compensation Law of the States in which Work is performed; and
 - 2) Employer's Liability protection subject to a minimum limit of \$1,000,000.
 - b. Comprehensive General Liability Insurance in amounts not less than:
 - 1) General Aggregate: \$3,000,000
 - 2) Products/Completed Operations Aggregate: \$1,000,000
 - 3) Personal Injury: \$1,000,000 per occurrence
 - 4) Property Damage: \$1,000,000 per occurrence
 - c. Comprehensive Automobile Liability Insurance in the following minimum amounts:
 - 1) Combined Single Limit: \$1,000,000 per occurrence
 - d. This insurance shall:
 - 1) Include coverage for the liability assumed by the Contractor under this section (section 1.18.A.1) (Indemnity);
 - 2) Include Southmoreland School District and its employees as additional insureds under the Comprehensive General Liability policy.
 - 3) Includes coverage for:
 - a) Premises, operations and mobile equipment liability
 - b) Completed operations and products liability.
 - c) Contractual liability insuring the obligation assumed by the Subcontractor in this agreement.
 - d) Liability which Subcontractor may incur as a result of the operations, acts or omissions of Subcontractors, suppliers or material men and its agents or employees; and
 - e) Automobile liability including owned, non-owned and hired automobile.
 - e. All coverage will be on an occurrence basis and on a form acceptable to the Contractor.
 - 1) Include completed operation coverage which is to be kept in force by the Contractor for a period of not less than one year after completion of the work provided for or performed under these specifications;
 - 2) Not be subject to any of the special property damage liability exclusions commonly referred to as the exclusions pertaining to blasting or explosion, collapse or structural damage and underground property;
 - 3) Not be subject to any exclusion of property used by the insured or property in the case, custody or control of the insured or property as to which the insured for any purpose is exercising physical control; and
 - 4) The Certificate of Insurance furnished by the Contractor shall show specific reference that each of the foregoing items have been provided for.

5. The Certificates of Insurance furnished by the Contractor as evidence of the Insurance maintained shall include a clause obligating the Insurer to give the Owner thirty (30) days prior written notice or cancellation of any material change in the insurance.

1.18 WORK HOURS AND DAYS

- A. When the Contract is awarded, the Contractor will contact the Owner's Representative to arrange the work schedule and the hours of the day that the workmen may be on the building. The job is to be bid under the assumption that all work will be performed on a straight time basis.
- B. The Owner may restrict the Contractor's work hours so that all work must be performed during "second shift" or outside of the Owner's normal operational hours.

1.19 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.
- B. It is the responsibility of the Contractor to determine what local ordinances, if any, will affect its work. The Contractor shall check for any county, city, borough or township ordinances, rules or regulations applicable to the area in which the Project is being constructed, and in addition, for any rules or regulations of other organizations having jurisdiction, such as chambers of commerce, planning commissions, industries or utility companies. Any cost of compliance with local control shall have been included in the Contract Sum as bid, notwithstanding that such local controls may not have been identified in the Contract Documents.
- C. It shall be the obligation of the Contractor to notify the Owner of any discrepancy between the Contract Documents and applicable building codes and regulations of which the Contractor has knowledge or should be reasonably able to determine. The Contractor shall not violate any requirements of applicable laws, codes and ordinances, or of any recorded covenants of which the Contractor has knowledge. If the Contractor observes that portions of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, rules or regulations, the Contractor promptly shall notify the Owner in writing, and necessary changes shall be accomplished by appropriate modification.
- D. The Contractor at all times shall observe, comply with, and post as required all Federal, State, and Local laws, ordinances, and regulations in any manner affecting the conduct of the work or applying to employees on the project, as well as all orders or decrees which have been or may be promulgated or enacted by any legal bodies or tribunals having authority or jurisdiction over the work, materials, employees, or Contract. The Contractor shall defend, hold harmless and indemnify the Owner and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or its employees.
- E. The Contract shall be governed by the law of the Commonwealth of Pennsylvania. The venue of any legal proceedings arising from this project shall be the Court of Common Pleas of the jurisdiction governing the project site.
 1. Claims and Dispute Resolution:
 - a. Claims, disputes and other matters in question between the Contractor and the Owner relating to the execution or progress of the Work or the interpretation of the Contract Documents including those alleging an error or omission shall be subject to dispute resolution.

- 1) A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims must be made by written notice, shall be identified as a Claim with a title or caption stating "Notice of Claim" and shall state in detail the nature of the Claim. The responsibility to substantiate Claims shall rest with the party making the Claim.
 - 2) Except as otherwise provided in the Contract Documents, the Contractor will be deemed to have waived any Claim against the Owner unless Contractor gives written notice of such Claim within twenty (20) days of the time that Contractor has knowledge or should have had knowledge of the facts giving rise to the Claim.
 - 3) Claims for Additional Cost: If the Contractor believes that additional cost is merited as a result of: (1) any written interpretation issued by the Owner; (2) any written order for a minor change to the Work issued by the Owner; or (3) other reasonable grounds where the Contractor was not at fault, the Contractor shall give written notice of such Claim as provided herein. Such notice of Claim shall be given before proceeding to execute the applicable Work.
 - 4) Claims for Additional Time: If the Contractor wishes to make a claim for an increase in the Contract Time, written notice as provided above shall be given. In the case of a continuing delay, only one claim is necessary. An increase in the Contract Time shall be the sole recourse for delays, disruptions and/or hindrances in the progress of the Work, as against Owner and shall not act an entitlement to Contractor for damages against Owner.
- b. Any claim, dispute or other matter that has been referred to the Owner shall be subject to litigation in the Court of Common Pleas, and shall not be subject to arbitration, except for compulsory arbitration as provided by the applicable Rules of Civil Procedure.
 - c. In any event, claims, disputes or other matters and questions between the parties to the Contract arising out of or relating to the Contract or breach thereof, shall be exclusively litigated in the Court of Common Pleas.
 - d. All litigation shall be governed by the laws and statutes of the Commonwealth of Pennsylvania.
 - e. Pending final resolution of any claim or dispute, the Contractor shall proceed diligently with performance of the Contract, except as otherwise agreed in writing by the parties, and any failure to proceed diligently shall constitute a default.
 - f. To the extent the Contractor commences litigation against the Owner, and the Owner prevails, partially or completely, on any or all of its own claims or defenses to the Contractor's claims, leaving the Contractor with less than one hundred percent (100%) recovery, Owner shall be entitled to payment by Contractor of all reasonable professional fees, including attorneys' fees, architectural fees, engineering fees, and consulting fees, together with all other costs or expenses, including the cost of any of Owner's employees' time, associated with analyzing any claim, pursuing litigation or defending the claim or litigation, which Owner may incur in connection with said litigation. This provision shall create no right to the Contractor or any other person or entity for payment of such costs or expenses.
 - g. Upon receipt of a claim against the Contractor or at any time thereafter, the Owner may, but is not obligated to, notify the Contractor's surety of the nature and amount of the claim. If the claim relates to a possibility of a Contractor's

default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

- h. The Contractor waives claims against Owner for consequential damages arising out of or relating to this Contract. This waiver includes damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation and for loss of profit except anticipated profit arising directly from the Work. This waiver is applicable, without limitation, to all consequential damages due to Owner's termination of Contractor.

1.20 OWNER'S RULES

- A. The Contractor and all its personnel/agent(s) shall abide by all rules created by the Owner. The Contractor must contact the Owner's Representative for specific information regarding the rules governing all operations of the project.
- B. The Contractor shall properly notify all employees of conditions relating to masonry areas with very poor condition and upon which there will be Work. After such notification, the Contractor must take all necessary precautions to ensure the safety of its employees as well as the building personnel.
- C. The Contractor shall "Hold Harmless" the Owner's Representative against any litigation arising from any accidents during the course of the contract.

1.21 CONCURRENT OPERATIONS

- A. Other Activities may be going on during the same time as the Work covered within these specifications. The Contractor shall cooperate with the Owner and its representatives to ensure that all Work does not interfere with other activities, within reason in regards to Work requirements.

1.22 SAFETY AND ECOLOGY

- A. The Contractor(s) shall conform to the requirements as designated by the United States Federal Governments (e.g., O.S.H.A).
- B. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract, including special safety precautions and programs for the protection of staff, visitors and others who use the premises.
- C. The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety, and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

1.23 HUMAN RELATIONS ACT

- A. *The provision of the Pennsylvania Human Relations Act, Act 222 of October 27, 1955 (P.L. 744) (43 P.S. Section 951, Et. Seq.) of the Commonwealth of Pennsylvania prohibit discrimination because of race, color, religious creed, ancestry, age, sex, national origin, handicap or disability, by employers, employment agencies, labor organizations, contractors and others. The Contractor shall agree to comply with the provisions of this Act as amended that is made part of this specification. Your attention is directed to the language of the Commonwealth's non-discrimination clause in 16 PA. code 49.101.*

1.24 ANTI-DISCRIMINATION IN EMPLOYMENT

- A. Contractors and Subcontractors shall not discriminate against any employees or applicant for employment, to be employed in performance of its contract, with respect to potential hire, tenure, terms, conditions or privileges of employment because of race, color, gender, sexual preference, religion, national origin, or ancestry.
- B. According to 62, Pa. C.S.A. § 3701, the contractor agrees that:
 - 1. In hiring of employees for performance of work under the contract, or any subcontract, no contractor, subcontractor or any person acting on behalf of the contractor or subcontractor shall by reason of gender, race, creed or color discriminate against any citizen of this Commonwealth who is qualified and available to perform the work to which the employment relates.
 - 2. That no contractor, sub-contractor, or any person on their behalf shall in any manner discriminate against or intimidate any employee hired for the performance of work under the contract on account of gender, race, creed or color.
 - 3. This contract may be canceled or terminated by the government agency, and all money due or to become due under the contract may be forfeited for a violation of the term or conditions of that portion of the contracts

1.25 SUBCONTRACTORS

- A. The Contractor shall not contract with any Subcontractor or any person or organization (including those who are to furnish materials or equipment fabricated to a special design) proposed for portions of the Work who has been rejected by the Owner. The Contractor will not be required to contract with any Subcontractor or person or organization against which it has a reasonable objection.
- B. If the Owner refuses to accept any Subcontractor, or person or organization on a list submitted by the Contractor in response to the requirements of the Contract Documents, the Contractor shall submit an acceptable substitute. No increase in the Contract Sum shall be allowed for any such substitution, provided the Owner shall have made reasonably prompt written objection of such proposed Subcontractor, person, or organization to the Contractor.
- C. The Owner shall not be a party to a claim, dispute or other matter in question between a Contractor and Subcontractor.

1.26 START AND COMPLETION DATE

- A. Work shall begin on June 9, 2025 or anytime thereafter on approval of the Owner. The Owner reserves the right to request an earlier/later start date should contract approval come prior/later than anticipated.
- B. All specified work should be completed by August 19th, 2025, unless otherwise agreed to by all parties to the Contract in writing.
- C. The Contractor is responsible for supplying trained workmen in proper numbers and for scheduling and laying out the Work, so that it will be started and completed in a professional manner within the time period indicated on the bid form.
- D. Time limits stated in the Contract Documents are of the essence of the Contract. By bidding and executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.
- E. If the Contractor sets equipment onto the job-site without commencing work immediately, the action will be considered "Spiking the job" which is unacceptable and will be considered a breach of contract by the Contractor; thereby, the contract will be terminated and the

Contractor at no cost to the Owner, must remove its equipment and possessions from the job-site upon notification by the Owner.

1.27 PROHIBITION ON CASH ALLOWANCES

- A. No cash allowances for any purposes are included in the specifications of this project.

1.28 CONDITION OF WAGES

- A. Projects where the total estimated cost is at least \$25,000, paid for in whole or in part out of funds of a public body, except for maintenance work or work performed under a rehabilitation program or manpower-training program, must specify "Prevailing Wages". Further information on implementation of the act, definition of maintenance work and prevailing wage rates may be requested from the Division of Prevailing Wage in the department of Labor and Industry (800-932-0665 or 717-787-4763). When applicable, use Davis-Bacon wage rates for federally assisted projects.
- B. Pennsylvania Prevailing Wage Rates: This regulation and the Pennsylvania prevailing minimum wage rates, (Act 422 of 1961, P.L. 987, amended by Act 342 of 1963, P.L. 653) as determined by the secretary of Labor and Industry, which shall be paid for each craft or classification of all workers needed to perform the contract during the anticipated term therefore in the locality in which public work is performed, are made part of this specification.

1.29 COMPETENT WORKMEN

- A. No workman shall be regarded as competent first class, within the meaning of this Act, except those who are duly skilled in their respective branches of labor, and who shall be paid not less than such rates of wages and for such hours work as shall be established and current rates of wages paid for such hours by employers or organized labor in doing of similar work in the district where work is being done.

1.30 COMPLIANCE WITH STEEL PRODUCTS PROCUREMENT ACT

- A. Provision For The Use of Steel and Steel Products Made In the U.S. in accordance with Act 3 of the 1978 General Assembly of the Commonwealth of Pennsylvania, if any steel or steel products are to be used or supplied in the performance of the contract, only those products produced in the United States as defined therein shall be used or supplied in the performance of the contract or any subcontracts thereunder.
- B. In accordance with Act 161 of 1982, cast iron products shall also be included and produced in the United States. Act 141 of 1984 further defines "steel products" to include machinery and equipment. The act also provides clarifications and penalties.

1.31 TAXES

- A. Contractor must comply with all Federal, State and Local taxes. The Contractor shall accept sole and exclusive responsibility for any and all taxes with respect to Social Security, old age benefits, unemployment benefits, withholding taxes and sales taxes.
- B. The Contractor shall pay all wage and occupation taxes as required by the local municipality at the Project Site.
- C. The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contractor hereby assigns and transfers to the Owner any and all rights to refunds of sales and use tax that may be paid for materials purchased in connection with this contract.

The Contractor further agrees that it will not file a claim for refund for any sales or use tax that is the subject of this assignment. The Owner or its representative shall be afforded access to all the Contractor's records relating to this contract that may be reasonably necessary to the Owner's pursuit of sales and use tax refunds and, for such purpose, the Contractor shall preserve all such records for a period of three years after the date of final payment.

1.32 PAYMENT

- A. To be done in accordance with section 01 29 00.
- B. The Contractor's applications for payment shall be presented to the Owner between the first (1st) and the fifth (5th) day of each calendar month. Applications received prior to the first day of the month or subsequent to the fifth day of the month shall be deemed to have been received by the Owner as of the fifth (5th) day of the following calendar month. Payments are due and payable sixty (60) days from the date of receipt of the application. Amounts unpaid sixty (60) days after the invoice date shall bear interest at the rate prevailing from time to time at the Pennsylvania Local Government Investment Trust (PLGIT).
- C. The contractor shall submit one invoice for materials and mobilization, after the Owner or its representatives have verified in writing, that all materials and equipment are on site and conform to the requirements set forth in this project manual. This invoice shall not exceed 50% of the total value of the contract.
- D. Additional invoices will be submitted on a monthly basis and will be considered a request for "progress payments". Progress payments will not be released until the Owner or its representatives have approved and verified the amount of work completed is commensurate with the payment request.
- E. A 10% retainage will be held until the contractor attains fifty-percent (50%) completion of installation, whereupon the retainage shall be reduced to five percent (5%) and held until all punch list items are completed; provided, however, that the Owner shall be entitled to withhold up to one and one-half times such amount as is required to complete or correct any remaining, uncompleted or non-conforming work.

1.33 WARRANTY

- A. A written warranty, commencing from date of acceptance by the Manufacturer, must be supplied with the masonry restoration. This warranty will cover all defects in workmanship and materials. Damages caused by storm, vandalism and other trades are not included in the warranty. This warranty shall be from the Manufacturer.
- B. A three (3) year workmanship warranty is required from the Contractor for all remedial maintenance done under the terms of this contract.

1.34 TERMINATION BY THE OWNER FOR CAUSE

- A. The Owner may terminate the contract and finish the work by whatever reasonable method it deems expedient if the Contractor:
 - 1. Persistently or repeatedly refuses to supply specified materials or to provide enough skilled workers to ensure the project will be completed within the time period indicated on the bid form;
 - 2. Fails to make payment to Subcontractors and/or suppliers for labor and materials as stipulated in the contract documents; or
 - 3. Is guilty of substantial breach of a provision of the contract documents.

- B. When the Owner terminates the contract for any of the above reasons, the Contractor shall not be entitled to receive further payment until the Work is finished. If the unpaid balance of the contract sum exceeds the cost of finishing the Work, it will be paid to the Contractor. If the cost to finish the Work exceeds the unpaid balance, the Contractor shall pay the difference to the Owner.

1.35 CONTRACTOR'S LICENSE

- A. All pertinent State and Local licenses will be required.

1.36 CLEARANCES

- A. All workmen on this project must have Pennsylvania State Police **Act 24, 34, 114, & 151** Clearance Affidavits. Attesting to that Clearance should be carried by each individual workman when on the premises or in the building. A copy of the Affidavit must be filed with the Owner, prior to workmen performing Work on the site. The cost of obtaining this "Clearance" shall be the responsibility of the Bidder.

1.37 BUILDING PERMITS

- A. The acquisition of the applicable permits and associated costs to obtain said permits is the responsibility of the Contractor.

1.38 JOB COORDINATION

- A. Contractor is responsible for daily communication with the Owner or Owner's Representative relating to areas of work in that the Owner may adequately protect tenant's personal belongings, and the people themselves against possible damage or injury. Contractor is also responsible for policing and protecting areas involving removal and replacement of masonry projections, defective structural components or other work involving facade penetration.
- B. Seventy-Two (72) hours prior to starting of the project and/or delivery of materials, the Contractor shall notify Robert Finney.

1.39 JOB CONDITIONS

- A. All surfaces to be covered shall be smooth, dry, and free from dirt, debris, and foreign material before any of this Work is installed. Heavy equipment shall be located on the ground at a safe distance from building; the location being subject to the approval of the Owner. The Contractor shall be responsible for guarding against fires and shall provide suitable fire extinguishers conveniently located at the site. Competent operators shall be in attendance at all times equipment is in use. Materials shall be stored neatly in areas designated by the Owner and dispersed so as to present a minimum fire hazard. Loads placed on roof surfaces at any point shall not exceed the safe load for which the roof is designed.
- B. There is NO SMOKING allowed on Owner property and the Contractor shall be responsible for enforcement of this job rule at all times with its personnel.
- C. Ladders: Any ladders used on this project must be in good condition. The ladder must also be secured at all times while in use. All ladders must be O.S.H.A. approved.
- D. No drugs or alcoholic beverages are permitted on the grounds.
- E. The Contractor shall provide and maintain all necessary fences, barricades, and other protective structures for the safety of the public, workers, existing property and equipment as required by the Provincial or Municipal laws and regulations, local ordinances, laws and

other requirements of the Region, County, Province or any other authorities having jurisdiction with regard to safety precautions, operation and fire hazards..

- F. The Contractor will also protect the building structure from damage in the process of the job. In the event that damage does occur to any property or equipment, or the Owner's work in process, notification must be made within two (2) working days of the incidents to the Owner and Owner's Representative.
- G. During the progress of the job, if waste material and rubbish are found or damage resulting from the Contractor's operations is found, or the Contractor does not comply with the requirement by keeping the premises free of accumulations and correct the damage, it shall be the Owner's prerogative to hire qualified personnel to do so; and the cost of this work will be deducted from the balance due the Contractor.
- H. Existing roof top equipment walls, windows, etc. shall be completely protected by masking or other effective methods. Any mastics, sealants, dust, and debris must be cleaned off metal surfaces.
- I. The Contractor is responsible for protecting all materials from the elements.
- J. Anyone guilty of willful destruction or unlawful removal of company property will be dismissed from the job and is subject to prosecution by law.
- K. Any lawns damaged by Contractor vehicles will be restored with a stand of grass at the Contractor's expense. Any damaged pavements will likewise be restored at the Contractor's expense.
- L. The Contractor must verify that all materials can be installed to accommodate the building design, pertinent codes and regulations, and the Manufacturer's current recommendations
- M. The Contractor will ensure that all substances are clean, dry, sound, smooth, and free of dirt, debris, and other contamination before any materials are supplied.

1.40 QUALIFICATIONS

- A. Contractor or Contractor's staff if requirements are inherently limited to individuals rather than corporate entities, shall have the following minimum qualifications:
- B. The contractor's installer technicians must be factory trained, authorized to sell, and install what is specified that is being bid, with five (5) years' experience.
- C. At all times, contractor shall ensure appropriately trained and qualified technicians to do the installation.

1.41 WORKMANSHIP

- A. All materials will be securely fastened and placed in a watertight, neat and workmanlike manner. All workmen shall be thoroughly experienced in the particular class or work upon which they are employed. All work shall be done in accordance with these specifications and shall meet the approval of the Owner and Owner's Representative. The Contractor's representative or job supervisor shall have a complete copy of specifications and drawings on the job-site at all times.
- B. Contractor shall plan and conduct the operations of the work so that each section started on one day is complete and thoroughly protected before the close of work for that day.

1.42 EXPERIENCE

- A. Contractor, or Contractor's supervisory staff assigned to this project, must have successfully completed at least five (5) projects that involved work similar to

that described in these specifications or the Project Plans Manual. Compliance with this experience requirement will be determined prior to contract award by the State through references provided by the Contractor upon request, through knowledge or documentation of the Contractor's past projects, through confirmation of experience requirements from the architect assisting the State in this project, or some other method that the State determines to be acceptable. Contractor must provide any documentation requested by the State to assist in confirmation of compliance with this provision. References, documentation, or other information to confirm compliance with this experience requirement may be requested after bid opening and prior to contract award.

1.43 CLEAN-UP

- A. Accumulated debris shall be removed periodically to assure maximum safety and sanitation at all times. At completion of work, the Contractor shall remove all excess material and debris from the site and leave all facades free from accumulations of dirt, debris and other extraneous materials. The Contractor shall also remove any and all drippage of bituminous materials from the face of the buildings, floor, window, ladders and other finished surfaces.

1.44 SUPERINTENDENT

- A. The Contractor shall keep a competent superintendent, satisfactory to the Owner and Owner's Representative, on the job at all times when work is in progress. The superintendent shall not be changed without notifying the Owner and the Owner's Representative unless the superintendent ceases to be in the employ of the Contractor.
- B. The superintendent shall represent the Contractor and all directions and instructions given to the superintendent shall be as binding as if given directly to the Contractor.
- C. The superintendent shall be responsible for the conduct of all the Contractor's employees on the premises and shall promptly take necessary measures to correct any abuses called to attention by the Owner.

1.45 APPROVED CONTRACTORS

- A. The roof systems must be applied only by those contractors who have received approval from the Material Manufacturer for such installations. No guarantees will be issued when installation has been performed by a non-approved contractor.

PART 2 — PRODUCTS (not used)

PART 3 — EXECUTION (not used)

END OF SECTION 00 72 00

SECTION 01 11 00
SUMMARY OF WORK

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
1. Scope of Work
 2. Additional Requirements

1.3 SCOPE OF WORK

- A. Base Bid #1 – Fort Cherry Junior / Senior High School Masonry Restoration
1. Replace **ALL** cracked brick. Allowance for 845 brick to be included in base bid, all additional to be replaced at unit cost.
 2. Repoint or spot point brick according to schedule SW-1 and SW-2. All additional spot point to be performed at unit cost.
 - a. Pressure clean the entire brick façade including face brick, limestone, concrete, window and door trim.
 - b. Areas with heavy staining or efflorescence to be cleaned with mild acids and masonry cleaner.
 - c. Remove deteriorated mortar joints located in between brick. All silica, dust control standards must be followed.
 - d. Repoint all joints using type N-mortar to match existing mortar color.
 3. Remove existing sealant, install new backer rod, and caulk **ALL** window, door and louver joints on the building with new urethane sealant in owner's choice of color.
 4. Replace or restore all window lintels according to schedule SW-1 and SW-2.
 - a. Replace all window lintels located on the following wall sections:
 - i. EagleView report # 43580086: H, AF & AJ.
 - ii. EagleView report #43535217: AJ
 - b. Restore lintels by sanding, priming, then painting.
 5. Remove existing sealant, install new backer rod, and caulk all expansion joints according to schedule SW-1 and SW-2.
 - a. Replace ALL vertical expansion joints on building except for those located on the following wall sections: EagleView report #43535217: AI, J, AN, P, AR, AZ, AS, W, AK, H & AL.
 6. Restore EIFS wall panel sections.
 - a. Patch all deteriorated EIFS located on the following wall sections: EagleView report # 43580086: G, AG & AK.
 - b. Wash, then apply two-coats of wall coating.
 - c. Paint Fort Cherry "FC" logo on wall section AK.
 7. Prep, Prime and Paint all metal surfaces as indicated on schedule SW-1, SW-2- and drawing set in owner's choice of color.
 8. 30 days after any pointing work, rinse masonry surfaces and Apply water-based masonry sealer to all above-grade masonry surfaces according to schedule SW-1 and SW-2.
- B. Additional Alternate #1 – Fort Cherry Junior / Senior High School Masonry Restoration
1. Replace **ALL** cracked brick. Allowance for 206 brick to be included in bid, all additional to be replaced at unit cost.

2. Repoint or spot point brick according to schedule SW-3. All additional spot point to be performed at unit cost.
 - a. Pressure clean the entire brick façade including face brick, limestone, concrete, window and door trim.
 - b. Areas with heavy staining or efflorescence to be cleaned with mild acids and masonry cleaner.
 - c. Remove deteriorated mortar joints located in between brick. All silica, dust control standards must be followed.
 - d. Repoint all joints using type N-mortar to match existing mortar color.
3. Remove existing sealant, install new backer rod, and caulk **ALL** window, door and louver joints on the building.
 - a. Restore all steel lintels by sanding, priming, then painting.
4. Remove existing sealant, install new backer rod, and caulk **ALL** expansion joints on the building.
 - a. Widen all existing expansion joints found to have a width of less than 1/2".
 - b. Create additional expansion joints at wall section corners according to schedule SW-3.
5. Remove existing cap stones on retaining wall adjacent to wall section AN. Install new flashing membrane and reinstall cap stones.
6. 30 days after any pointing work, rinse masonry surfaces and Apply water-based masonry sealer to all above-grade masonry surfaces according to schedule SW-3.

C. Additional Alternate #2 – Demolish, and install new retaining wall adjacent to wall section AJ.

1.4 ADDITIONAL REQUIREMENTS FOR REPOINTING

- A. Percentage allowances used for spot pointing are provided in schedules SW-1, SW-2 and SW-3 for bidding purposes. Spot pointing locations will be finalized at the pre-construction conference meeting and throughout the duration of the job in coordination with the contractor and Owner's Representative. All spot pointing locations and quantities must be approved prior to commencement of work with the Owner's Representative.
- B. Areas will include those specified on construction drawings as well as cracks that measure deeper than 1/4" and 0.027" wide (to be measured using a 0.027" thick piece of metal).
- C. Other areas include cracks wider than 1/16", hollow joints, worn joints deeper than 1/4" from the face of the wall and joints that have been previously repaired with material other than mortar.
- D. Prior to pointing back with new mortar, repointing construction will be held for approval once all mortar joints are raked, with approvals to be done on a per wall section basis. Once the Owner's representative verifies conditions of the entire wall section, pointing back with new approved mortar may commence.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION – Not Used

END OF SECTION

SECTION 01 22 00
UNIT PRICES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Items that require the use of unit prices, which will adjust the contract amount, must be documented, and approved by Owner prior to Work.
- C. List of Unit Prices: A schedule of unit prices is included in Part 3.

PART 2 PRODUCTS (not used)

PART 3 EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price 1: Brick Replacement
 - 1. Description: Replacement of one brick beyond units included in base bid
 - 2. Unit of measurement: Brick
- B. Unit Price 1: Block Replacement
 - 1. Description: Replacement of one brick beyond units included in base bid
 - 2. Unit of measurement: Block
- C. Unit Price 1: Spot Pointing
 - 1. Description: Replacement of one brick beyond units included in base bid
 - 2. Unit of measurement: Brick
- D. Unit Price 2: Steel Lintel Replacement
 - 1. Description: In-kind replacement of steel window/door lintels
 - 2. Unit of measurement: Linear foot

END OF SECTION

SECTION 01 25 00
SUBSTITUTION PROCEDURES

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 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 60 00 – Product Requirements

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.
 - 3. The following are not considered to be requests for substitutions:
 - a. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
 - b. Revisions to the Contract Documents requested by the Owner or Architect.
 - c. Specified options of products and construction methods included in the Contract Documents.
 - d. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit PDF electronic file or paper copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use facsimile of form provided in Project Manual as an attachment to the end of this Section.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.

- b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within seven (7) calendar days of receipt of a request for substitution. Owner will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) calendar days of receipt of request, or seven (7) calendar days of receipt of additional information or documentation, whichever is later.
- a. The Owner, after evaluation of the submitted documentation and advisement, will decide whether to consider or reject a request for substitution.
 - b. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any proposed substitution.
 - c. Owner will record time required in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not Owner accepts proposed substitution, Owner shall request reimbursement from contractor for the charges of Owner's time for evaluating each proposed substitution.
 - d. Forms of Acceptance: Change Order, Construction Change Directive, or Owner's Supplemental Instructions for minor changes in the Work.

- e. Use product specified if Owner does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) calendar days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not permitted.
- C. The Contractor's submittal and the Owner's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval of any substitution.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00

SECTION 01 26 00
CONTRACT MODIFICATION PROCEDURES

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 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 01 25 00 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Owner will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Owner will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Owner are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or ten (10) days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Owner.

- B. Contractor-Initiated Work Change Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Owner.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - 6. Comply with requirements in Section 01 25 00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 - 7. Work Change Proposal Request Form: Use form acceptable to Owner.

1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Unit-Price Adjustment: See Section 01 22 00 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Owner will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Owner may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 - 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

SECTION 01 29 00
PAYMENT PROCEDURES

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 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.3 Related Requirements:

- A. Section 01 26 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
- B. Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.4 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.5 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
 - a. Application for Payment forms with continuation sheets.
 - b. Submittal schedule.
 - c. Items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Owner at earliest possible date, but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.
 - 3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Name of Owner.
 - c. Owner's project number.
 - d. Contractor's name and address.
 - e. Date of submittal.
 - 2. Arrange schedule of values consistent with format of AIA Document G703.
 - 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division.
 - b. Description of the Work.
 - c. Name of subcontractor.

- d. Name of manufacturer or fabricator.
- e. Name of supplier.
- f. Change Orders (numbers) that affect value.
- g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
- 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five (5) percent of the Contract Sum.
- 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
- 6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
- 7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
- 8. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
- 9. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.6 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Owner and paid for by Owner.
 - 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Submit Application for Payment to Owner by the 25th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. Submit draft copy of Application for Payment a minimum of three (3) days prior to due date for review by Owner.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application for Payment Forms: Use forms acceptable to Owner and Owner for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Owner will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.

2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. **Stored Materials:** Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- G. **Transmittal:** Submit three (3) signed and notarized original copies of each Application for Payment to Owner by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. **Waiver Forms:** Submit executed waivers of lien on forms acceptable to Owner.
- I. **Initial Application for Payment:** Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Products list (preliminary if not final).
 5. Submittal schedule (preliminary if not final).
 6. List of Contractor's staff assignments.
 7. List of Contractor's principal consultants.
 8. Copies of building permits.
 9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 10. Initial progress report.
 11. Report of preconstruction conference.

12. Certificates of insurance and insurance policies.
 13. Performance and payment bonds.
 14. Data needed to acquire Owner's insurance.
- J. Application for Payment at Substantial Completion: After Owner issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."
 5. AIA Document G706A-1994, "Contractor's Affidavit of Release of Liens."
 6. AIA Document G707-1994, "Consent of Surety to Final Payment."
 7. Evidence that claims have been settled.
 8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 9. Final liquidated damages settlement statement.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION

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 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 1. General coordination procedures.
 2. Coordination drawings.
 3. Requests for Interpretation (RFIs).
 4. Project Web site.
 5. Project meetings.
- B. Related Requirements:
 1. Section 01 32 00 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 2. Section 01 77 00 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

- A. RFI: Request, initiated either by the Owner or the Contractor, asking for interpretation of an item in the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within fifteen (15) days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.
 1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of Contractor's construction schedule.
 2. Preparation of the schedule of values.
 3. Installation and removal of temporary facilities and controls.
 4. Delivery and processing of submittals.
 5. Progress meetings.
 6. Preinstallation conferences.
 7. Project closeout activities.
 8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1.6 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely shown on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.
1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:
 - a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
 - b. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.

- c. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
 - d. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
 - e. Indicate required installation sequences.
 - f. Indicate dimensions shown on the Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to owner indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
- B. Coordination Drawing Organization: Organize coordination drawings as follows:
1. Floor Plans and Reflected Ceiling Plans: Show ownerural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
 2. Plenum Space: Indicate subframing for support of ceiling and wall systems, mechanical and electrical equipment, and related Work. Locate components within ceiling plenum to accommodate layout of light fixtures indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
 3. Mechanical Rooms: Provide coordination drawings for mechanical rooms showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
 4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
 5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
 6. Mechanical and Plumbing Work: Show the following:
 - a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
 - b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
 - c. Fire-rated enclosures around ductwork.
 7. Electrical Work: Show the following:
 - a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
 - b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
 - c. Panel board, switch board, switchgear, transformer, busway, generator, and motor control center locations.
 - d. Location of pull boxes and junction boxes, dimensioned from column center lines.
 8. Fire-Protection System: Show the following:
 - a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.
 9. Review: Owner will review coordination drawings to confirm that the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Owner determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Owner will so inform Contractor, who shall make changes as directed and resubmit.

10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 01 33 00 "Submittal Procedures."

1.7 REQUESTS FOR INTERPRETATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 1. Owner will return RFIs submitted to Owner by other entities controlled by Contractor with no response.
 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Frivolous RFIs: A frivolous RFI is an RFI for which the answer is simply a reference to the Drawings or Specifications with no additional input required to clarify or answer the question.
- C. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
 1. Project name.
 2. Project number.
 3. Date.
 4. Name of Contractor.
 5. Name of Owner.
 6. RFI number, numbered sequentially.
 7. RFI subject.
 8. Specification Section number and title and related paragraphs, as appropriate.
 9. Drawing number and detail references, as appropriate.
 10. Field dimensions and conditions, as appropriate.
 11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
 12. Contractor's signature certifying that the request has been researched in the Drawings and Specifications, and is not answered by the Contract Documents.
 13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- D. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Owner.
 1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- E. Owner's Action: Owner will review each RFI, determine action required, and respond. The Owner will respond to RFI's within an average of seven (7) days. It is acknowledged and understood that some RFI's will take longer to respond to than others dependent on the complexity of the specific issue. RFIs received by Owner after 1:00 p.m. will be considered as received the following working day.
 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.

- e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Owner's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 - h. RFIs deemed by the Owner to be frivolous.
- 2. Owner's action may include a request for additional information, in which case Owner's time for response will date from time of receipt of additional information.
 - 3. Owner's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 01 26 00 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Owner in writing within Ten (10) days of receipt of the RFI response.
- F. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Include the following:
- 1. Project name.
 - 2. Name and address of Contractor.
 - 3. Name and address of Owner.
 - 4. RFI number including RFIs that were returned without action or withdrawn.
 - 5. RFI description.
 - 6. Date the RFI was submitted.
 - 7. Date Owner's response was received.
- G. On receipt of Owner's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Owner within seven (7) days if Contractor disagrees with response.
- 1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

1.8 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
- 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Owner of scheduled meeting dates and times.
 - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 - 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Owner, within three (3) days of the meeting
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner, but no later than fifteen (15) days after execution of the Agreement.
- 1. Attendees: Authorized representatives of Owner, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.

- c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Lines of communications.
 - f. Procedures for processing field decisions and Change Orders.
 - g. Procedures for RFIs.
 - h. Procedures for testing and inspecting.
 - i. Procedures for processing Applications for Payment.
 - j. Distribution of the Contract Documents.
 - k. Submittal procedures.
 - l. Preparation of record documents.
 - m. Use of the premises and existing building.
 - n. Work restrictions.
 - o. Working hours.
 - p. Owner's occupancy requirements.
 - q. Responsibility for temporary facilities and controls.
 - r. Procedures for moisture and mold control.
 - s. Procedures for disruptions and shutdowns.
 - t. Construction waste management and recycling.
 - u. Parking availability.
 - v. Office, work, and storage areas.
 - w. Equipment deliveries and priorities.
 - x. First aid.
 - y. Security.
 - z. Progress cleaning.
3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction and where required by the Specifications in individual Sections.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Review of mockups.
 - i. Possible conflicts.
 - j. Compatibility problems.
 - k. Time schedules.
 - l. Weather limitations.
 - m. Manufacturer's written instructions.
 - n. Warranty requirements.
 - o. Compatibility of materials.
 - p. Acceptability of substrates.

- q. Temporary facilities and controls.
 - r. Space and access limitations.
 - s. Regulations of authorities having jurisdiction.
 - t. Testing and inspecting requirements.
 - u. Installation procedures.
 - v. Coordination with other work.
 - w. Required performance results.
 - x. Protection of adjacent work.
 - y. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than ten (10) days prior to the scheduled date of Substantial Completion.
1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of record documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Submittal of written warranties.
 - d. Requirements for preparing operations and maintenance data.
 - e. Requirements for delivery of material samples, attic stock, and spare parts.
 - f. Requirements for demonstration and training.
 - g. Preparation of Contractor's punch list.
 - h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - i. Submittal procedures.
 - j. Owner's partial occupancy requirements.
 - k. Installation of Owner's furniture, fixtures, and equipment.
 - l. Responsibility for removing temporary facilities and controls.
 4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- E. Progress Meetings: Conduct progress meetings at monthly intervals as determined by the Owner.
1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Site safety.
 - 14) Status of RFIs.
 - 15) Status of proposal requests.
 - 16) Pending changes.
 - 17) Status of Change Orders.
 - 18) Pending claims and disputes.
 - 19) Documentation of information for payment requests.
3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

SECTION 013 30 0
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittal schedule requirements.
 - 2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Owner's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Owner's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Owner and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
 - 1. Project name.
 - 2. Date.
 - 3. Name of Owner.
 - 4. Name of Contractor.
 - 5. Name of firm or entity that prepared submittal.
 - 6. Names of subcontractor, manufacturer, and supplier.
 - 7. Category and type of submittal.
 - 8. Submittal purpose and description.
 - 9. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
 - 10. Drawing number and detail references, as appropriate.
 - 11. Indication of full or partial submittal.
 - 12. Location(s) where product is to be installed, as appropriate.
 - 13. Other necessary identification.
 - 14. Remarks.
 - 15. Signature of transmitter.
- B. Options: Identify options requiring selection by Owner.

- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Owner on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Email: Prepare submittals as PDF package, and transmit to Owner by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Owner.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Owner's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Owner will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Resubmittal Review: Allow 15 days for review of each resubmittal
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Owner's action stamp.

1.6 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 - 2. Mark each copy of each submittal to show which products and options are applicable.
 - 3. Include the following information, as applicable:

- a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
4. For equipment, include the following in addition to the above, as applicable:
- a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
- a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
- a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
- a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Owners and owners, and other information specified.

- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
 - 1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 - 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 - 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 - 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
 - 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

1.7 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Owner.

1.8 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Owner.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 - 1. Owner will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 OWNER'S REVIEW

- A. Action Submittals: Owner will review each submittal, indicate corrections or revisions required.
 - 1. PDF Submittals: Owner will indicate, via markup on each submittal, the appropriate action.

- B. Informational Submittals: Owner will review each submittal and will not return it or will return it if it does not comply with requirements. Owner will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Owner.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Owner will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Owner without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 01 40 00
QUALITY REQUIREMENTS

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 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Owner, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Owner.
- C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

- H. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five (5) previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Owner for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Owner for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Schedule of Required Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.

1.6 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.

8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of technical representative making report.
 2. Statement on condition of substrates and their acceptability for installation of product.
 3. Statement that products at Project site comply with requirements.
 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 6. Statement whether conditions, products, and installation will affect warranty.
 7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of factory-authorized service representative making report.
 2. Statement that equipment complies with requirements.
 3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 4. Statement whether conditions, products, and installation will affect warranty.
 5. Other required items indicated in individual Specification Sections.
- D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.7 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of Maryland and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.8 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - 3. Notify testing agencies at least twenty-five (24) hours in advance of time when Work that requires testing or inspecting will be performed.
 - 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 33 00 "Submittal Procedures."
- C. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's

services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Owner and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify Owner and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Owner.
 - 4. Identification of testing agency or special inspector conducting test or inspection.

- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Owner's and Owner's reference during normal working hours.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01 73 00 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 60 00
PRODUCT REQUIREMENTS

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 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 01 25 00 – Substitution Procedures

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Requests can be submitted only by contractors that attended the mandatory pre-bid meeting. Requests from entities not permitted to bid on the project will not be accepted.

2. Requests for consideration must be received 5 business days prior to the bid due date.
3. Include data to indicate compliance with the requirements specified in "Comparable Products" Article. This data should include, but is not limited to:
 - a. Product Data: Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements.
 - b. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
 - c. Roofing Maintenance Instructions: Provide a roof care and maintenance manual of manufacturer's recommendations for maintenance of installed roofing systems.
 - d. Roofing System Manufacturer's Evaluation: Provide a comprehensive written assessment comparing available roofing solutions with validation of why the roofing system selection for the specific project is suitable and appropriate.
 - e. Roofing System Manufacturer's Report Form: Provide a copy of the report form utilized by the roofing system manufacturer for progress inspections to monitor installation and quality.
 - f. Manufacturer's Installation Instructions: Submit installation instructions and recommendations indicating special precautions required for installing the membrane.
 - g. Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual Global, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class [A or B or C] for external fire and meets local or nationally recognized building codes.
 - h. Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
 - i. Written certification from the roofing system manufacturer certifying the applicator is currently authorized for the installation of the specified roof system.
 - j. Field Quality Control: Provide a letter from the manufacturer verifying that they can meet all of the requirements for weekly QA/QC inspections and reporting as outline in the specification.
4. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Owner will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Division 01 Section "Submittal Procedures."
 - b. Use product specified if OWNER does not issue a decision on use of a comparable product request within time allocated.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
 - 5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 7. Protect stored products from damage and liquids from freezing.
 - 8. Coordinate with other contractor's working on the project site that are contracted separately to the Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and requirements and properly executed.

2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 3. Refer to Divisions 02 through 33. Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

PART 2 — PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," owner will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," "or equivalent," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
 7. All products shall be free from asbestos.
- B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
 4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

- b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
- 5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Owner's sample", provide a product that complies with requirements and matches Owner's sample. Owner's decision will be final on whether a proposed product matches.
 - 1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.
- D. Visual Selection Specification: Where Specifications include the phrase "as selected by owner from manufacturer's full range" or similar phrase, select a product that complies with requirements. Owner will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Client will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Client may return requests without action, except to record noncompliance with these requirements:
 - 1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.

PART 3 — EXECUTION (Not Used)

SECTION 01 77 00
CLOSEOUT PROCEDURES

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 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
 - 5. Correction/repair of the Work.
- B. Related Requirements:
 - 1. Section 01 33 00 - Submittals

1.3 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items (Punch List): Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: Final inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items (Punch List): Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

- B. Submittals Prior to Requesting Inspection for Determining Date of Substantial Completion: Complete the following a minimum of ten (10) calendar days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include use and occupancy (U&O) permits, operating certificates, and similar releases.
 2. Submit closeout submittals specified in other Division 01 and Division 07 Sections, including project record documents, operation and maintenance manuals, photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Owner. Label with manufacturer's name and model number where applicable.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner's signature for receipt of submittals.
 5. Submit test/adjust/balance records.
 6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Requesting Inspection for Determining Date of Substantial Completion: Complete the following a minimum of ten (10) calendar days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
 6. Advise Owner of changeover in heat and other utilities.
 7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
 8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 9. Complete final cleaning requirements, including touchup painting.
 10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of ten (10) calendar days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or

additional items identified by Owner, that must be completed or corrected before certificate will be issued.

1.7 FINAL COMPLETION PROCEDURES

- A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:
 - 1. Submit a final Application for Payment according to Section 01 29 00 "Payment Procedures."
 - 2. Certified List of Incomplete Items: Submit certified copy of Owner's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Owner. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
 - 1. Organize list of spaces in sequential order.
 - 2. Organize items applying to each space by major element.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Owner.
 - d. Name of Contractor.
 - e. Page number.
 - 4. Submit list of incomplete items (Punch List) in one of the following formats:
 - a. PDF electronic file. Owner will return annotated file.
 - b. No less than three (3) paper copies unless otherwise indicated. Owner will return two (2) copies.

1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Owner for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.
 - j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.

- k. Remove labels that are not permanent.
- l. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- m. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- n. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- o. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
- p. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- q. Leave Project clean and ready for occupancy.

3.2 CORRECTION/REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Repair components that do not operate properly. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
 - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
- C. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 01 77 00

SECTION 04 01 00
MAINTENANCE OF MASONRY

PART 1 GENERAL

1.1 SECTION INCLUDES: Maintenance of unit masonry consisting of masonry restoration and cleaning as follows:

- A. Repairing unit masonry, including replacing cracked and spalled units
- B. Widening existing vertical control joints
- C. Installing new vertical control joints and expansion joints
- D. Remove/Replace control and expansion joints
- E. Pointing masonry joints
- F. Preliminary cleaning, including removing staining
- G. Cleaning exposed masonry surfaces

1.2 ALLOWANCES

- A. Allowances for clay masonry restoration and cleaning are specified in Section 012100 "Allowances."
 - 1. Perform clay masonry restoration and cleaning work under quantity allowances and only as authorized. Authorized work includes work required by Drawings and Specifications and only work authorized in writing by Architect.
 - 2. Notify Architect weekly of extent of work performed that is attributable to quantity allowances.
 - 3. Perform work that exceeds quantity allowances only as authorized by Change Orders.

1.3 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 01 22 00 "Unit Prices".
 - 1. Unit prices apply to authorized work covered by quantity allowances.
 - 2. Unit prices apply to additions to and deletions from Work as authorized by Change Orders.
 - 3. Unit Prices:
 - a. Unit Price No. 1: Brick Replacement
 - b. Unit Price No. 2: Block Replacement
 - c. Unit Price No. 3: Spot Point – SQFT
 - d. Unit Price No. 4: Steel Lintel Replacement – Linear Foot

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include recommendations for application and use. Include test data substantiating that products comply with requirements.
- B. Samples for Verification: For each type and color of the following:
 - 1. Face brick, in the form of straps of five or more brick
 - 2. Cleaned salvaged bricks
 - 3. Accessories embedded in masonry

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For restoration specialists, including field supervisors and restoration

workers.

- B. Restoration Program.
- C. Cleaning Program.
- D. Material Certificates: Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards. Provide for each type and size of the following:
 - 1. Masonry units.
 - a. For bricks, include size-variation data verifying that actual range of sizes falls within specified tolerances.
 - b. For exposed brick, include material test report for efflorescence according to ASTM C 67.
 - c. For surface-coated brick, include material test report for durability of surface appearance after
 - 2. Cementitious materials. Include brand, type, and name of manufacturer.
 - 3. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
- E. Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

1.6 QUALITY ASSURANCE

- A. Restoration Specialist Qualifications: Engage an experienced, preapproved masonry restoration and cleaning firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience installing standard unit masonry is not sufficient experience for masonry restoration work.
- B. Source Limitations: Obtain each type of material for masonry restoration (face brick, cement, sand, etc.) from one source with resources to provide materials of consistent quality in appearance and physical properties.
- C. Restoration Program: Prepare a written, detailed description of materials, methods, equipment, and sequence of operations to be used for each phase of restoration work including protection of surrounding materials and Project site.
 - 1. Include methods for keeping pointing mortar damp during curing period.
 - 2. If materials and methods other than those indicated are proposed for any phase of restoration work, add a written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.
- D. Cleaning Program: Prepare a written cleaning program that describes cleaning process in detail, including materials, methods, and equipment to be used, protection of surrounding materials, and control of runoff during operations.
 - 1. If materials and methods other than those indicated are proposed for any phase of restoration work, add written description of such materials and methods, including evidence of successful use on comparable projects, and demonstrations to show their effectiveness for this Project and worker's ability to use such materials and methods properly.
- E. Cleaning and Repair Appearance Standard: Cleaned and repaired surfaces are to have a uniform appearance as viewed from 20 feet away by Architect. Perform additional cleaning of small areas that are noticeably different, so that surface blends smoothly into surrounding

areas.

- F. Mock-Ups: Prepare sample areas for each type of masonry material indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than 48 inches in least dimension. Erect sample areas in existing walls unless otherwise indicated, to demonstrate quality of materials, workmanship, and blending with existing work for each repair type.
 - 1. Test cleaners and methods on samples of adjacent materials for possible adverse reactions. Do not use cleaners and methods known to have deleterious effect.
 - a. Allow a waiting period of not less than seven days after completion of sample cleaning to permit a study of sample panels for negative reactions.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-installation conference approximately two weeks before scheduled commencement of sealant installation and associated work.
- B. Require attendance of installers of traffic coating products and other associated work which must precede or follow traffic coating work as well as, Architect, Owner, and traffic coating manufacturer's representative.
- C. Objectives include:
 - 1. Review foreseeable methods and procedures related to masonry work, including set up and mobilization areas for stored material, and phasing.
 - 2. Review safety concerns related to the work including vehicular and pedestrian traffic control methods.
 - 3. Review Drawings, Specifications and other Contract Documents.
 - 4. Review and finalize schedule related to work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
 - 5. Review required inspection, testing, certifying procedures.
 - 6. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary weather protection.
 - 7. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.
- C. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.
- D. Deliver materials to Project site in manufacturer's original and unopened containers, labeled with manufacturer's name and type of products.

- E. Safety: Refer to all applicable data, including, but not limited to MSDS sheets, PDS sheets, product labels and specific instructions for specific personal protection requirements.

1.9 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit masonry restoration and cleaning work to be performed according to manufacturers' written instructions and specified requirements.
- B. Repair masonry units and point mortar joints only when air temperature is between 40 and 90 deg F and is predicted to remain so for at least 7 days after completion of the Work unless otherwise indicated.
- C. Hot-Weather Requirements:
 - 1. Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures above 90 deg F, unless otherwise indicated.
 - 2. These procedures apply when ambient or substrate temperatures are above temperate reaches above 90 deg F.
 - a. During these conditions one method, or a combination of methods, must be performed:
 - 1) Tuckpoint west elevations in early hours of the morning and east elevation at the end of the day as temperatures begin to fall.
 - 2) Install mortar during a night shift.
 - 3) Keep pointing tools, mortar and brick cool and wet during installation.
 - b. Surfaces will be rinsed to remove debris and be damp (not wet and free of standing water) during mortar installation.
 - c. Mortar will be installed in lifts no more than 3/8" at a time (voids will be filled with mortar prior to pointing).
- D. For manufactured repair materials, perform work within the environmental limits set by each manufacturer.

1.10 SEQUENCING AND SCHEDULING

- A. Order replacement materials at earliest possible date to avoid delaying completion of the Work.
- B. Order preblended mortar for pointing mortar immediately after approval of mockups. Take delivery of and store at Project site a sufficient quantity to complete Project.
- C. Perform masonry restoration work in the following sequence:
 - 1. Remove efflorescence and staining
 - 2. Inspect for open mortar joints and repair before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
 - 3. Review each panel with Masonry Consultant prior to raking joints to verify extent, unless other process is approved by Masonry Consultant or Architect.
 - 4. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
 - 5. Repair masonry, including replacing existing masonry with new masonry materials.
 - 6. Rake out mortar from joints to be pointed.
 - 7. Point mortar joints.
 - 8. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
 - 9. Inspect or open mortar joints and repair before cleaning to prevent the intrusion of

- water and other cleaning materials into the wall.
 - 10. Clean masonry surfaces.
 - 11. Install water repellent (if applicable).
- D. As scaffolding is removed, patch anchor holes used to attach scaffolding. Do not attach scaffolding to masonry units. Replace damaged units.

PART 2 PRODUCTS

2.1 MASONRY UNITS, GENERAL

- A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to exceed tolerances and to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects, including dimensions that vary from specified dimensions by more than stated tolerances, will be exposed in the completed Work or will impair the quality of completed masonry.

2.2 BRICK

- A. General: Provide shapes indicated and as follows:
1. For applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
 2. Provide normal stretcher units.
- B. Salvaged Units: Clean units removed during selective demolition areas.
- C. Face Brick: ASTM C 216, Grade SW, Type FBX, except as noted more restrictive.
1. Brick for individual unit replacement.
 2. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 6,200 psi
 3. Initial Rate of Absorption: match existing units when tested per ASTM C 67.
 4. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced".
 5. Size: Match existing.
 6. Application: Use where brick is exposed, unless otherwise indicated.
 7. Brick Color: Match Existing.

2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated and/or to match existing.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Aggregate for Mortar: ASTM C 144.
- D. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979/C 979M. Use only pigments with a record of satisfactory performance in masonry mortar.
- E. Water: Potable.

2.4 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing complying with Section 076200 "Sheet Metal Flashing and Trim" and as follows:
1. Stainless Steel: ASTM A 240/A 240M, Type 304:

- a. 26 gauge for backing plates at butt laps.
 - b. 22 gauge for metal drip edge and receiver flashing.
- B. Flexible Flashing: For repairs to existing flashing not exposed to the exterior, use one of the following, unless otherwise indicated:
- 1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, 32 mil thick adhesive SBS rubberized-asphalt compound, bonded to a 8 mil high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 inch/1.02 mm.
- C. EPDM Flashing: Sheet flashing product made from ethylene-propylene-diene terpolymer, complying with ASTM D 4637, 0.040 inch (1.0 mm) thick:
- D. Wicks and Weeps Products:
- 1. Rope Weep: Absorbent rope, made from 100% cotton, 1/4 to 3/8 inch in diameter, in length required to produce 2-inch exposure on exterior.
 - a. Application:
 - 2. Wick Weep: 3/8 inch wide flat oil lamp wicks made of 100 percent cotton.
 - a. Application:
 - 3. Weep Vent: Free-draining mesh; made from polyethylene strands, full width of head joint and 2 inches high by thickness of masonry; in color selected from manufacturer's standard.
 - a. Size:
 - b. Application:
 - c. Products: Subject to compliance with requirements provide one of the following:
 - 1) CavClear/Archovations, Inc.; CavClear Weep Vents.
 - 2) Mortar Net USA, Ltd.; Mortar Net Weep Vents.

2.5 CLEANING MATERIALS

- A. If local water is known to be unsuitable, consider informing Contractor of this in first paragraph below. Hard or softened water may be unsuitable even though potable.
- B. Water: Potable.
- C. Hot Water: Water heated to a temperature of 140 to 160 deg F Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. EaCo Chem, Inc.
 - b. Prosoco, Inc.
 - 2. Product: Basis-of-Design – Prosoco, Inc. products:
 - a. Vana Trol for cleaning mortar smears, concrete splatters, efflorescence, and manganese staining.
 - b. Alternative products for manganese stain removal: 800 Stain Remover or Ferrous Stain Remover.
 - 3. Rust Stain Remover:
 - a. Select a product that will remove most of the rust stain from the face of masonry and minimize "bleaching" of colored mortar joints or damage to the masonry.
 - b. Test the following products:
 - 1) Light Duty Restoration Cleaner (50/50 with water)
 - 2) EnviroKlean SafRestorer
 - 4. Biological Stain Remover: Enviro Klean® ReVive, non-toxic, non-acidic clear liquid

(with a pH of 5.5 - 6.5) antimicrobial agent used to remove a broad spectrum of biological stains; contains no carcinogenic compounds.

5. Miscellaneous Products: Select materials and methods of use based on the following, subject to approval of a mockup:
 - a. Previous effectiveness in performing the work involved.
 - b. Little possibility of damaging exposed surfaces.
 - c. Consistency of each application.
 - d. Uniformity of the resulting overall appearance.
 - e. Do not use products or tools that could do the following:
 - 1) Remove, alter, or in any way harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in contract.
 - 2) Leave a residue on surfaces.

2.6 MORTAR MIXES

- A. General: Do not use admixtures in mortar unless otherwise indicated.
- B. Mixes: Mix mortar materials in the following proportions:
 1. Pointing Mortar by volume: ASTM C 270, Proportion Specification, 1:1:6 - 1 part Portland cement, 1 part lime, and 6 parts sand aggregate. Add mortar pigments to produce mortar colors required.
 2. Pointing Mortar by Type: ASTM C 270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to Portland cement and lime. Add mortar pigments to produce mortar colors required.
- C. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in the form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- D. Colored Mortar: Produce mortar of color required to match each existing building masonry being repaired.
 1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
 2. Add mortar pigments to produce mortar colors to match existing. Incorporate color pigment in mortar for brick masonry in amount required to achieve desired color.
 3. Modify pigment amount to account for variations in water content between rebuild mortar and pointing mortar.

PART 3 EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building being restored, building site, plants, and surrounding buildings from harm resulting from masonry restoration work.
 1. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during course of restoration and cleaning work.
- B. Comply with chemical-cleaner manufacturer's written instructions for protecting building and other surfaces against damage from exposure to its products. Prevent chemical-cleaning solutions from coming into contact with people, motor vehicles, landscaping, buildings, and other surfaces that could be harmed by such contact.
 1. Cover adjacent surfaces with materials that are proven to resist chemical cleaners used unless chemical cleaners being used will not damage adjacent surfaces. Use materials that contain only waterproof, UV-resistant adhesives. Apply masking agents to comply with manufacturer's written instructions. Do not apply liquid masking agent

- to painted or porous surfaces. When no longer needed, promptly remove masking to prevent adhesive staining.
2. Keep wall wet below area being cleaned to prevent streaking from runoff.
 3. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
 4. Neutralize and collect alkaline and acid wastes for disposal off Owner's property.
 5. Dispose of runoff from cleaning operations by legal means and in a manner that prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
- C. Prevent mortar from staining face of surrounding masonry and other surfaces.
1. Cover sills, ledges, and projections to protect from mortar droppings.
 2. Keep wall area wet below rebuilding and pointing work to discourage mortar from adhering.
 3. Immediately remove mortar in contact with exposed masonry and other surfaces.
 4. Clean mortar splatters from scaffolding/access equipment at end of each day.

3.2 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- B. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry, unless otherwise required.
- C. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
- D. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.
- E. Comply with construction tolerances in TMS 602/ACI 530.1/ASCE 6 and with the following:
1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
 2. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, or 1/2 inch maximum.
 3. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2 inch maximum.
 4. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
 5. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
 6. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch, except due to warpage of masonry units within tolerances specified for warpage of units.
 7. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

3.3 MORTAR BEDDING AND JOINTING

- A. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- B. Exposed Joints: Tool exposed joints slightly to match existing profile once mortar is thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated. Strike all cavity face joints flush and make sure all joint surfaces are full.
- C. At infill masonry, fill top course core holes and point top joint.

3.4 FLASHING AND WEEP HOLES

- A. General: Install embedded flashing and weep holes in masonry at obstructions to downward flow of water in wall, and where indicated.
 - 1. Flashing is to be installed in existing walls by opening exterior wythe to access existing lintels.
 - 2. Support existing masonry above new opening as required to ensure existing construction above is adequately supported. Installing flashing in alternating segments may be used to help minimize the required shoring.
 - 3. Coordinate flashing installation with Masonry Consultant so each segment can be reviewed prior to covering with masonry.
- B. Install flashing as follows, unless otherwise indicated:
 - 1. New flashing lapped with existing flashing:
 - a. Expose enough of the existing flashing to form a 4" minimum lap.
 - b. Clean bonding surfaces.
 - c. Prime existing bonding surfaces, including top of existing flashing to ensure a good bond.
 - d. Position flashing against substrate, press firmly into place with steel hand roller, fully adhering to substrate. Lap splices 6" and roll.
 - e. Terminate flexible flashing 1/2 to 3/4 inch back of face of masonry at all exterior locations indicated. Adhere flexible flashing to top of metal sealant stop edge.
 - f. Extend flashing through exterior wythe and up face of backup a minimum of 7 inches.
 - g. Extend flashing a minimum of 8 inches into masonry at each end. Field fabricate end dams to ensure continuity and integrity of flashings.
 - h. Seal edges, cuts and penetrations with mastic recommended by manufacture of flashing.
 - i. At expansion joints turn end dam up and fold into next higher bed joint, 3/4 inch.
 - 2. Install termination bar where shown with fasteners at 8 inches o.c. and seal top of termination bar with mastic. Flashing above infill panels:
 - a. Repair any damage to galvanized lintel finish.
- C. Typical Weeps: Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:
 - 1. Use specified weep/vent products to form weep holes.
 - 2. Space weep/ventholes 24 inches o.c. maximum unless otherwise indicated.
 - 3. Space weep ropes at 16 inches o.c. maximum unless otherwise indicated.
 - 4. Locate front edge of weep flush with exterior face of masonry by cutting weep after adjacent material is cured.
 - 5. Clogged weeps should be removed and replaced.
- D. Cavity Drainage Mat:
 - 1. Place cavity drainage mat in narrow cavities to maintain a continuous cavity behind the exterior wythe.

3.5 ABANDONED ANCHOR REMOVAL

1. Remove masonry anchors and other extraneous items no longer in use, unless identified or indicated to remain.
 - a. Remove items carefully to avoid spalling or cracking masonry. Core drill out anchor if it cannot be removed otherwise.
2. Hole Repair:
 - a. Mortar Joint: Point the hole where each item was removed.
 - b. Spalled Masonry Unit: Remove and replace the masonry unit.
 - c. Hole in Face of Unit: Caulk or patch unit with a color matching material.

3.6 RECAULKING EXISTING JOINTS

- A. Remove existing joint sealant and grind edges to remove all residual sealant. Remove existing backer rod with caulk cutter.
- B. Remove materials from joint that restricts the joints movement (mortar, joint wire, and non-compressible fillers).
- C. Adding or widening of joints:
 1. Widen joint or create a straight, vertical ½" wide masonry joint. Grind the edges with a wire wheel or a dremel tool to remove residual sealant and prime porous substrate with P150.
- D. Install oversized, closed-cell backer rod and sealant per industry standards and as recommended by sealant manufacturer.

3.7 BRICK REMOVAL AND REPLACEMENT

- A. At locations indicated, remove bricks that are damaged, spalled, deteriorated, or are to be reused. Carefully demolish or remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
 1. When removing single bricks, remove material from center of brick and work toward outside edges.
 2. Units not shown, but later determined to be needing removed and replaced, if approved by Change Order.
- B. Support and protect remaining masonry that surrounds removal area. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- C. Notify Architect of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
- D. Clean bricks surrounding removal areas by removing mortar, dust, and loose particles in preparation for replacement.
- E. Replace removed damaged brick with new brick matching existing brick, including size. Do not use broken units unless they can be cut to usable size.
- F. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
 1. Maintain joint width for replacement units to match existing joints.
 2. Use setting buttons or shims to set units accurately spaced with uniform joints.
- G. Lay replacement brick with completely filled bed and head joints.
 1. Butter ends with sufficient mortar to fill head joints and shove into place. Point joints at sides and top of unit being replaced to ensure a full joint and to minimize potential

- of cracking.
- 2. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. Use wetting methods that ensure that units are nearly saturated, but surface is dry when laid.
- 3. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.

3.8 PAINTING STEEL UNCOVERED DURING THE WORK

- A. Review steel exposed during masonry removal.
- B. Review conditions with Owner's Representative. Where it is determined that the steel is structurally sound, prepare and paint steel as follows:
 - 1. Remove paint, rust, and other contaminants, as applicable to meet paint manufacture's recommended preparation.
 - 2. Immediately paint exposed steel with the specified primer, following manufacturer's written instructions and without exceeding manufacturer's recommended rate of application (minimum dry film thickness per coat).
 - 3. Apply top coat following manufacturer's written instructions and without exceeding manufacturer's recommended rate of application (minimum dry film thickness).

3.9 CLEANING MASONRY, GENERAL

- A. Test all cleaning products and methods for each masonry material and location.
 - 1. Do not use wire brushes or brushes that are not resistant to chemical cleaner being used. Do not use plastic-bristle brushes if natural-fiber brushes will resist chemical cleaner being used.
 - 2. Use spray equipment that provides controlled application at volume and pressure indicated, measured at spray tip. Adjust pressure and volume to ensure that cleaning methods do not damage masonry.
 - 3. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone-shaped spray tip.
 - 4. For water-spray application, use fan-shaped spray tip that disperses water at an angle of 25 to 50 degrees.
 - 5. For high-pressure water-spray application, use fan-shaped spray tip that disperses water at an angle of at least 40 degrees.
 - 6. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F at flow rates indicated.
 - 7. For steam application, use steam generator capable of delivering live steam at nozzle.
- B. Perform each cleaning method indicated in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.
- C. Chemical Cleaner Application Methods:
 - 1. Apply chemical cleaners to masonry surfaces to comply with chemical-cleaner manufacturer's written instructions, use brush or spray application.
 - 2. Dilute chemical cleaners with water to produce solutions not exceeding concentration recommended by chemical-cleaner manufacturer.
 - 3. Do not spray apply at pressures exceeding 50 psi.
 - 4. Do not allow chemicals to remain on surfaces for periods longer than those indicated or recommended by manufacturer.
- D. After cleaning is complete, remove protection no longer required. Remove tape and adhesive marks.

3.10 CLEANING

- A. Detergent Cleaning:
1. Wet masonry with water applied by low-pressure spray.
 2. Scrub masonry with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used, and that masonry surface remains wet.
 3. Rinse with cold water applied by medium-pressure spray to remove detergent solution and soil.
 4. Repeat cleaning procedure above where required to produce cleaning effect established by mockup.
- B. Biological Stain Removal:
1. Loosen heavy biological deposits by manual scraping with a wooden paddle (not metal) to remove heavy accumulations of surface debris, moss, ivy, lichens, or other growths from surfaces to be cleaned.
 2. If a medium pressure power washing is used, then let wall dry.
 3. Dilute (cleaner to potable water) for general cleaning per the manufacturer's recommendations. Use cleaner in concentrate for heaviest staining per the manufacturer's recommendations.
 4. Always apply cleaning chemicals and rinse water from the BOTTOM to the TOP to prevent streaking.
 - a. Apply mold, mildew, and algae remover by brush or pump sprayer per manufacture's recommendations to a dry wall.
 - b. Apply cleaner until surfaces are thoroughly wet (saturated).
 - c. Let dwell for approx. 3-5 minutes, longer for heavier soiling.
 - d. Apply additional cleaner as needed to prevent surfaces from drying. Do not let cleaner dry on surface.
 - e. Half-way through dwell time, agitate (scrub) surfaces with a medium bristled brush (chemical resistant or natural fiber). Heavier staining may require more agitation. Scrub masonry until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing.
 - f. Use small brushes for mortar joints and crevices.
 - g. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used, and that masonry surface remains wet.
 - h. Rinse thoroughly with cold potable water from bottom to top using a pressure washer set to approximately 1000 psi with a 45 degree or 60-degree fan tip. Do not damage masonry with pressure washer. Rinse with cold water to remove mold, mildew, algae remover, and soil.
 - i. Repeat cleaning procedure above one time after wall has dried if staining remains to produce cleaning effect established by mockup.
- C. POINTING MASONRY
1. Examination:
 - a. Examine all wall surfaces to determine which joints need repaired.
 - b. Test previous pointing to determine how deep it is, typically.
 - c. Review masonry panels with masonry consultant prior to raking joints.
 - d. Water Testing:
 - 1) Method is not required but may help establish the protocol as to what needs pointed.
 - 2) Spray sections of walls and let surface flash dry.
 - 3) Mark damp spots that are confirmation of holes that have taken on water.
 - 4) Repeat the above three times.
 2. Rake Joints:
 - a. Rake out and repoint joints to the following extent:
 - 1) All joints in areas indicated.
 - 2) Joints where mortar is missing or where they contain holes.

- 3) Cracked joints where cracks are 1/16 inch or more in width and of any depth.
 - 4) Joints where they sound hollow when tapped on by metal object.
 - b. Do not rake out and repoint joints where not required.
 - c. Rake out joints as follows and according to procedures demonstrated in approved mockup:
 - 1) Typical joints: Remove mortar from joints to depth of 2 times joint width, but not less than 3/4 inch or not less than that required to expose sound, un-weathered mortar.
 - 2) Large open or cracked joints: Remove mortar to a depth of 4 times the joint width, but not more than 2 inches.
 - d. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, and flush joints to remove dirt and loose debris.
 - e. Do not pall edges of masonry units or widen joints.
 - f. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
3. Point Joints:
- a. Rinse joint surfaces with water to remove all dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
 - b. Mixing pointing mortar:
 - 1) Mix materials in a clean, mechanical batch mixer.
 - 2) Add only enough water to preblended mortar mix to produce a damp, unworkable mix that will retain its form when pressed into a ball.
 - 3) Maintain mortar in this dampened condition for 15 to 30 minutes.
 - 4) Add remaining water in small portions until mortar reaches desired consistency.
 - 5) Use mortar within one hour of final mixing; do not re-temper or use partially hardened material.
 - c. Low areas (head joints with voids behind the raked joints): Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
 - d. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow mortar to become almost thumbprint hard before applying next layer. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
 - e. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
 - f. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours including weekends and holidays.
 - 1) Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
 - 2) Adjust curing methods to ensure that pointing mortar is damp throughout its depth without eroding surface mortar.
 - g. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such pointing mortar and repoint.
4. Where repointing work precedes cleaning of existing masonry, allow mortar to harden before beginning cleaning work to minimize damage to the surface of the joint.

3.11 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, spray applied at low pressure. Do not use metal scrapers or brushes.
- B. Wash adjacent woodwork and other non-masonry surfaces. Use detergent and soft brushes or cloths.
- C. Clean mortar and debris from roof and rinse off roof.
- D. Sweep and rake adjacent pavement and grounds to remove mortar and debris. Where necessary, pressure wash pavement surfaces to remove mortar, dust, dirt, and stains.

END OF SECTION

SECTION 07 19 00
WATER REPELLENTS AND SEALANTS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Installation of clear penetrating sealer on surfaces indicated on drawings, consisting of preparation of existing and new surfaces.

1.2 RELATED DOCUMENTS

- A. Section 04 01 05 – Masonry Restoration and Cleaning
- B. Section 07 92 00 – Joint Sealants

1.3 REFERENCES

- A. ASTM C 140 - Methods for Sampling and Testing Concrete Masonry Units
- B. ASTM E 96 - Test Methods for Water Vapor Transmission of Materials
- C. ASTM E 514 - Standard Test Method for Water Penetration and Leakage Through Masonry
- D. ASTM G 53 - Standard Practice for Operating Light- and Water-Exposure Apparatus for Exposure of Nonmetallic Materials

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Provide manufacturer's technical product data for each type of sealing product specified. Include data substantiating that the materials comply with specified requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- B. Test Application: Apply a finish sample for each type of water repellent and substrate required. Keep test panels available for comparison throughout the protective treatment project. Duplicate finish of approved sample.
 - 1. Locate each test application as directed.
 - 2. Size: 25 sq. ft. (2.3 sq. m).
 - 3. Final approval of water repellent application will be from test applications.

1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-installation conference approximately two weeks before scheduled commencement of water repellent application and associated work.
- B. Require attendance of installers of water repellent products and other associated work which must precede or follow water repellent work as well as, Owner, and water repellent manufacturer's representative.
- C. Objectives include:
 - 1. Review foreseeable methods and procedures related to water repellent work, including set up and mobilization areas for stored material, and phasing.

2. Review safety concerns related to the work including vehicular and pedestrian traffic control methods.
3. Tour representative areas of substrates, inspect and discuss condition of substrate and preparatory work.
4. Review Drawings, Specifications and other Contract Documents.
5. Review and finalize schedule related to sealant work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
6. Review required inspection, testing, certifying procedures.
7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary weather protection.
8. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store all coating materials in clean, dry location protected from exposure to direct sunlight. Store materials in the original unopened containers at 50° to 80°F (10° to 27°C) until ready for use.
- C. Store and handle materials in compliance with manufacturer's recommendations to prevent deterioration or damage due to moisture, high/low temperatures, contaminants, or other causes.
- D. Safety: Refer to all applicable data, including, but not limited to MSDS sheets, TDS sheets, product labels and specific instructions for specific personal protection requirements.
- E. Environmental requirements: Proceed with work of this section only when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

1.8 JOB CONDITIONS

- A. Limitations: Proceed with application only when the following existing and forecasted weather and substrate conditions permit water repellents to be applied according to manufacturers' written instructions:
 1. Ambient temperature is above 40 deg F (4.4 deg C).
 2. Rain or snow is not predicted within 24 hours.
 3. Application proceeds vary more than 24 hours to seven days to be verified with manufacturer after surfaces have been wet.
 4. Substrate is not frozen, or surface temperature is above 40 deg F (4.4 deg C).
 5. Windy conditions do not exist that may cause water repellent to be blown onto vegetation or surfaces not intended to be treated.
 6. Contact manufacturer specifications for all other specific conditions required by different manufacturers products used although not listed.
- B. If applying by spray, protect nearby areas from overspray. It is the contractor's responsibility to protect other areas of the building or nearby personal property from solvents, cleaners, or waterproofing products utilized during installation.

1.9 MANUFACTURER'S FIELD REPRESENTATION

- A. Manufacturer's Field Representative: An authorized, full-time employee of the waterproofing

system manufacturer shall be assigned to the project to conduct field observations during the installation phase.

- B. Regularly scheduled site observations shall be required by the manufacturer's field representative a minimum of two (2) days per week during the installation period; exceptions being made for inclement weather, holidays, etc.
- C. Observation reports shall include the following:
 - 1. Written report/documentation of the installation progress at the time of the site visit to be delivered to the owner within 48 hours of the site visit.
 - 2. This report shall include documentation of any issues/question and resolution.
 - 3. This report shall include record of directives given to the contractor.
 - 4. Digital photographic documentation of the masonry progress; including documentation of specific issues and areas of concern.
 - 5. Each report shall contain project name and date/time of site visit.
- D. In addition to the progress observations, the manufacturer's representative must:
 - 1. Attend the pre-construction meeting.
 - 2. Inspect and approve the substrate prior to the start of roofing work.
- E. After completion of all work, and prior to acceptance of the installation, the manufacturer's representative shall conduct an observation to document all work to be corrected as a condition of acceptance.
 - 1. Each item requiring corrective work shall be identified (including specific location) and required corrective action shall be noted.
 - 2. The final observation report must be produced in writing with photographic back-up. Marking corrective items on the target area alone shall not be acceptable.
- F. Any failure by the Owner's Representative, the Project Manager, or the manufacturer's Technical Field Representative to observe, detect, pinpoint, or object to any defect or noncompliance with the requirements of the Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Manufacturer's standard details – of work in progress or completed work – shall not relieve the Contractor of, or reduce, or in any way limit, his responsibility of full performance of the work required of him under the requirements of the Manufacturer, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Manufacturer's standard details.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: The Garland Company, Inc.
 - 1. 3800 E. 91st St., Cleveland, OH 44105.
 - 2. Manufacturer's Representative:
 - a. Grant Kandabarow; GKandabarow@garlandind.com; 412-352-2912
- B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- C. The products specified are intended and the standard of quality for the products required for this project. If other products are proposed, the bidder must disclose in the attached alternate bid form the manufacturer and the products that they intend to use on the project. If no manufacturer or products are listed, the bid may be accepted only with the use of the products specified.

1. Bidder will not be allowed to change materials after the bid submittal date.
2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Owner for approval prior to the bid due date.
3. In making a request for substitution, the bidder represents that it has:
4. Personally, investigated the proposed product or method, and determined that it is equal to or greater than the products specified.
5. Will provide the same guarantee for substitution as for the product and method specified.
6. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
7. Will waive all claims for additional costs related to substitution.
8. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by substitution.
9. Will reimburse the Owner for all redesign costs for the substitution.
10. The Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that have met all specified requirement criteria.
11. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for the particular contractor's request for manufacturer substitution.

2.2 MATERIALS

- A. Compatibility: Provide water repellent, joint sealants, and other related materials that are compatible with one another and with substrates under conditions of service and application, as demonstrated by water repellent manufacturer based on testing and field experience.
- B. Provide damp-proofing coating and related products as follows:
 1. Seal-A-Pore WB: Water-based, silane and siloxane, breathable water repellent: Clear, containing 4% actives; with water; and 0 g/L of VOCs.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that substrate is ready to receive work; surface is clean, dry, and free of substances that could affect bonding or the performance of the new water repellent.
 1. Coordinate substrate cleaning as described in Division 4 "Maintenance of Masonry" to ensure substrate is clean of substances that might interfere with penetration or performance of water repellents. Test for moisture content, according to water-repellent manufacturer's written instructions, to ensure that surface is dry enough.
- B. Test to make sure paint sticks to treated surfaces, where applicable. Some coatings should be installed first and cure before application.
- C. Protect adjoining work, including sealant bond surfaces, from spillage or blow-over of water repellent. Cover adjoining and nearby surfaces of aluminum and glass if there is the possibility of water repellent being deposited on surfaces. Cover live plants and grass.
- D. Coordinate with Sealants: Do not apply water repellent until sealants for joints adjacent to surfaces receiving water-repellent treatment have been installed and cured.
 1. Water repellent work may precede sealant application only if sealant adhesion and compatibility have been tested and verified using substrate, water repellent, and sealant materials identical to those used in the work.
- E. Verify that the substrate meets the requirements of the water repellent manufacturer.

- F. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the architect and general contractor prior to starting the water repellent application.
- G. Application of water repellent indicates acceptance of surface and conditions.

3.2 PREPARATION

- A. Substrate Repairs: Perform any necessary repairs prior to the cleaning and application of water repellent products. Repoint all joints with loose mortar or where mortar is missing. Repair all hair line cracks or larger cracks and holes. Allow new masonry walls to cure at least 2-3 weeks before applying water repellent.
- B. Surface Cleaning: Clean substrate to remove any and all surface contaminants. Surfaces must be thoroughly clean, dry, and free from any surface contaminants or cleaning residue. Remove salt deposits from previous efflorescence by washing with diluted muriatic acid and flush with water. Grease and oil stains must be removed using high strength detergents or cleaning solvents. Rinse with water. Acceptable methods of cleaning are power washing.
- C. Protect all adjoining areas that are not to receive water repellent.

3.3 INSTALLATION

- A. Using brush, roller, or spray equipment, saturate the surface in one "wet-on-wet" application from the bottom up, creating a 6-inch to 8-inch rundown below the contact point. Avoid excessive overlapping. Comply with manufacturer's written instructions, unless otherwise indicated.
 - 1. Let the first application penetrate the masonry surface for 2-3 minutes.
 - 2. Immediately brush out runs and drips to prevent build up.

3.4 CLEANING AND PROTECTION

- A. Immediately clean water repellent from adjoining surfaces and surfaces soiled or damaged by water repellent application as Work progresses. Repair damage caused by water repellent application. Comply with manufacturer's written cleaning instructions.

END OF SECTION 07 19 00

SECTION 07 92 00
JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION INCLUDES: Requirements including but not limited to:

- A. Control and expansion joints on exposed surfaces.
- B. Perimeter joints between wall surfaces and frames of doors, windows, louvers and other openings.
- C. Joints as indicated or as necessary.
- D. Accessories necessary for a complete installation.

1.2 RELATED SECTIONS

- A. Division 4 Section "Maintenance of Unit Masonry" for sealing masonry joints.

1.3 REFERENCES

- A. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.
- B. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Samples for initial selection purposes in form of manufacturer's standard bead samples, consisting of strips of actual products showing full range of colors available, for each product exposed to view.
- C. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed joint sealant applications similar in material, design, and extent to that indicated for Project that have resulted in construction with a record of successful in-service performance.
- B. Single Source Responsibility for Joint Sealant Materials: Obtain joint sealant materials from a single manufacturer for each different product required.

1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-installation conference approximately two weeks before scheduled commencement of sealant installation and associated work.
- B. Require attendance of installers of sealant products and other associated work which must precede or follow sealant work as well as, Architect, Owner, and sealant manufacturer's representative.
- C. Objectives include:

1. Review foreseeable methods and procedures related to sealant work, including set up and mobilization areas for stored material and work area.
 2. Tour representative areas of building substrates, inspect and discuss condition of substrate and preparatory work.
 3. Review Drawings, Specifications and other Contract Documents.
 4. Review and finalize schedule related to sealant work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
 5. Review required inspection, testing, certifying procedures.
 6. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary weather protection.
 7. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.
- D. Mockups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups are used to verify selections made under Sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Mockups establish the standard by which the Work will be judged.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store and handle materials in compliance with manufacturer's recommendations to prevent deterioration or damage due to moisture, high/low temperatures, contaminants, or other causes.

1.8 PROJECT CONDITIONS

- A. Environmental Conditions: Do not proceed with installation of joint sealants under the following conditions: Weather Condition Limitations: Do not install sealant during inclement weather or when inclement weather is expected.
 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealant manufacturer or below 40 deg F (4.4 deg C).
 2. When joint substrates are wet.
- B. Joint Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than allowed by joint sealant manufacturer for application indicated.
- C. Joint Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with their adhesion are removed from joint substrates.

1.9 WARRANTY

- A. Installer Warranty: Installer shall warrant all sealant work for two (2) years from the date of Substantial Completion for any failure or defects in installation and workmanship of sealant systems.
- B. Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 1. Warranty Period: Five (5) Year Limited Material Only from date of Substantial Completion.

1.10 MANUFACTURER'S FIELD REPRESENTATION

- A. Manufacturer's Field Representative: An authorized, full-time employee of the waterproofing system manufacturer shall be assigned to the project to conduct field observations during the installation phase.
- B. Regularly scheduled site observations shall be required by the manufacturer's field representative a minimum of two (2) days per week during the installation period; exceptions being made for inclement weather, holidays, etc.
- C. Observation reports shall include the following:
 - 1. Written report/documentation of the installation progress at the time of the site visit to be delivered to the owner within 48 hours of the site visit.
 - 2. This report shall include documentation of any issues/question and resolution.
 - 3. This report shall include record of directives given to the contractor.
 - 4. Digital photographic documentation of the masonry progress; including documentation of specific issues and areas of concern.
 - 5. Each report shall contain project name and date/time of site visit.
- D. In addition to the progress observations, the manufacturer's representative must:
 - 1. Attend the pre-construction meeting.
 - 2. Inspect and approve the substrate prior to the start of roofing work.
- E. After completion of all work, and prior to acceptance of the installation, the manufacturer's representative shall conduct an observation to document all work to be corrected as a condition of acceptance.
 - 1. Each item requiring corrective work shall be identified (including specific location) and required corrective action shall be noted.
 - 2. The final observation report must be produced in writing with photographic back-up. Marking corrective items on the target area alone shall not be acceptable.
- F. Any failure by the Owner's Representative, the Project Manager, or the manufacturer's Technical Field Representative to observe, detect, pinpoint, or object to any defect or noncompliance with the requirements of the Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Manufacturer's standard details – of work in progress or completed work – shall not relieve the Contractor of, or reduce, or in any way limit, his responsibility of full performance of the work required of him under the requirements of the Manufacturer, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Manufacturer's standard details.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: The Garland Company, Inc.
 - 1. 3800 E. 91st St., Cleveland, OH 44105.
 - 2. Manufacturer's Representative:
 - a. Grant Kandabarow; GKandabarow@garlandind.com; 412-352-2912
- B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.

- C. The products specified are intended and the standard of quality for the products required for this project. If other products are proposed, the bidder must disclose in the attached alternate bid form the manufacturer and the products that they intend to use on the project. If no manufacturer or products are listed, the bid may be accepted only with the use of the products specified.
1. Bidder will not be allowed to change materials after the bid submittal date.
 2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Owner for approval prior to the bid due date.
 3. In making a request for substitution, the bidder represents that it has:
 4. Personally, investigated the proposed product or method, and determined that it is equal to or greater than the products specified.
 5. Will provide the same guarantee for substitution as for the product and method specified.
 6. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
 7. Will waive all claims for additional costs related to substitution.
 8. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by substitution.
 9. Will reimburse the Owner for all redesign costs for the substitution.
 10. The Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that have met all specified requirement criteria.
 11. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for the particular contractor's request for manufacturer substitution.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
- B. Colors: Provide color of exposed joint sealants to comply with the following:
1. Provide selections for review and approval by Owner from manufacturer's full range of standard colors for products of type indicated.

2.3 JOINT SEALANTS

- A. Sealant Standard: Provide manufacturer's recommended sealants that comply with ASTM C 920 and other requirements indicated on each joint sealant data sheet at the end of this section, including those requirements referencing ASTM C 920 classifications for Type, Grade, Class, and Uses.
1. Silicone Polymer Hybrid Sealant
 - a. Green-Lock Sealant XL: One part, 100% solids, non-sag sealant as approved and furnished by the sealant manufacturer for cracks, movement and non-movement joints.
 - 1) Service Temp -40°F to 200°F (-40°C to 93°C)
 - 2) Elongation, ASTM D 412: 550%
 - 3) Hardness, Shore A, ASTM C 661: 24 +/-3

2.4 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material and type that are non-staining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

- B. Plastic Foam Joint Fillers: Preformed, compressible, resilient, non-staining, non-waxing, non-extruding strips of flexible plastic foam of material indicated below and of size, shape, and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
 - 1. Bi-cellular polyolefin foam, round, non-out-gassing, with a density of 2.0 pcf and tensile strength of 35 psi per ASTM D 1623, and with water absorption less than 0.03 gms/cc per ASTM C 1016.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.5 MISCELLANEOUS MATERIALS

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

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint sealant performance. Do not proceed with installation of joint sealants until unsatisfactory conditions have been corrected at no cost to project by the responsible contractor.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with recommendations of joint sealant manufacturer and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean concrete, masonry, unglazed surfaces of ceramic tile, and similar porous joint substrate surfaces by brushing, grinding, blast cleaning, 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 from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
 - 3. Remove laitance and form release agents from concrete.
 - 4. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile, and other nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

- B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealant manufacturer based on preconstruction joint sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's recommendations. 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 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 printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:
 - 1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - a. Do not leave gaps between ends of joint fillers.
 - b. Do not stretch, twist, puncture, or tear joint fillers.
 - c. Remove absorbent joint fillers that have become wet prior to sealant application and replace with dry material.
 - 2. Install bond breaker tape between sealants and joint-fillers, compression seals or back of joint where required to prevent third-side adhesion of sealant to back of joint.
- D. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes, and depths relative to joint widths that allow optimum sealant movement capability. Install sealants at the same time sealant backings are installed.
- E. Tooling of Non-sag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents that discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
 - 1. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise noted.
 - a. Use masking tape to protect adjacent surfaces of recessed tooled joints.

3.4 CLEANING

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

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such

protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so that and installations with repaired areas are indistinguishable from original work.

END OF SECTION

SECTION 09 80 00
ELASTOMERIC ACRYLIC WALL COATING

PART 1 – GENERAL

1.1 SUMMARY

- A. This specification is for a one component, low solvent, emulsified poly-resin architectural wall coating. It damp proofs and beautifies all types of exterior and interior masonry surfaces such as concrete, brick work, stucco and exterior insulating finishing systems (EIFS).

1.2 RELATED SECTIONS

- A. Section 04 01 05 – Masonry Restoration and Cleaning

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's standard submittal package including specification, installation instructions, and general information for each waterproofing material.
- B. Applicator Qualifications: Submit a current qualified applicator certificate from the specified waterproofing manufacturer.

1.4 QUALIFICATIONS

- A. Primary elastomeric coating materials shall be products from a single manufacturer. The primary manufacturer shall recommend any secondary materials. Manufacturer shall have a minimum of 10 years experience in the manufacturing of materials of this type.
- B. Applicators shall have a minimum of 5 years experience in the application of damp proofing materials of the type specified. Applicator shall be an authorized applicator from the specified damp proofing manufacturer.
- D. Pre-Installation Conference: Just prior to commencement of the elastomeric coating system, meet at the site with a representative of the coating manufacturer. The elastomeric coating contractor, the general contractor, the architect and other parties affected by this section. Review methods and procedures, substrate conditions, scheduling and safety.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store all coating materials in the original unopened containers between 50° - 80°F (10° - 26°C) until ready for use.
- B. Follow the special handling or storage requirements of the manufacturer for cold weather, hot weather, etc.
- C. Safety: Refer to all applicable data, including but not limited to, MSDS sheets, PDS sheets, product labels, and specific instructions for specific personal protection requirements.
- D. Ventilation: Provide adequate ventilation to prevent the accumulation of hazardous fumes during application.

- E. Environmental requirements: Proceed with work of this section only when existing and forecasted weather conditions will permit the application to be performed in accordance with the manufacturer's recommendations.

1.6 WARRANTY

- A. The contractor shall guarantee that all work performed will be free from defects in materials and workmanship. The contractor is to provide a 2 year labor/workmanship warranty. Upon notice of defect in writing, the contractor within one year after completion of work shall, at his own expense, make all necessary repairs or replacements of the defective work in question.
- B. A 5-year, material warranty is available with this system provided it has been installed by manufacturer's approved applicator and is installed according to this specification.

1.7 MANUFACTURER'S FIELD REPRESENTATION

- A. Manufacturer's Field Representative: An authorized, full-time employee of the waterproofing system manufacturer shall be assigned to the project to conduct field observations during the installation phase.
- B. Regularly scheduled site observations shall be required by the manufacturer's field representative a minimum of two (2) days per week during the installation period; exceptions being made for inclement weather, holidays, etc.
- C. Observation reports shall include the following:
 - 1. Written report/documentation of the installation progress at the time of the site visit to be delivered to the owner within 48 hours of the site visit.
 - 2. This report shall include documentation of any issues/question and resolution.
 - 3. This report shall include record of directives given to the contractor.
 - 4. Digital photographic documentation of the masonry progress; including documentation of specific issues and areas of concern.
 - 5. Each report shall contain project name and date/time of site visit.
- D. In addition to the progress observations, the manufacturer's representative must:
 - 1. Attend the pre-construction meeting.
 - 2. Inspect and approve the substrate prior to the start of roofing work.
- E. After completion of all work, and prior to acceptance of the installation, the manufacturer's representative shall conduct an observation to document all work to be corrected as a condition of acceptance.
 - 1. Each item requiring corrective work shall be identified (including specific location) and required corrective action shall be noted.
 - 2. The final observation report must be produced in writing with photographic back-up. Marking corrective items on the target area alone shall not be acceptable.
- F. Any failure by the Owner's Representative, the Project Manager, or the manufacturer's Technical Field Representative to observe, detect, pinpoint, or object to any defect or noncompliance with the requirements of the Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Manufacturer's standard details – of work in progress or completed work – shall not relieve the Contractor of, or reduce, or in any way limit, his responsibility of full performance of the work required of him under the requirements of the Manufacturer, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or

the Manufacturer's standard details.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: The Garland Company, Inc.
 - 1. 3800 E. 91st St., Cleveland, OH 44105.
 - 2. Manufacturer's Representative:
 - a. Grant Kandabarow; GKandabarow@garlandind.com; 412-352-2912

- B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.

- C. The products specified are intended and the standard of quality for the products required for this project. If other products are proposed, the bidder must disclose in the attached alternate bid form the manufacturer and the products that they intend to use on the project. If no manufacturer or products are listed, the bid may be accepted only with the use of the products specified.
 - 1. Bidder will not be allowed to change materials after the bid submittal date.
 - 2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Owner for approval prior to the bid due date.
 - 3. In making a request for substitution, the bidder represents that it has:
 - 4. Personally, investigated the proposed product or method, and determined that it is equal to or greater than the products specified.
 - 5. Will provide the same guarantee for substitution as for the product and method specified.
 - 6. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
 - 7. Will waive all claims for additional costs related to substitution.
 - 8. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by substitution.
 - 9. Will reimburse the Owner for all redesign costs for the substitution.
 - 10. The Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that have met all specified requirement criteria.
 - 11. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for the particular contractor's request for manufacturer substitution.

2.2 MATERIALS

- A. Emulsified Acrylic Coating: Tuff-Coat for damp proofing and beautifying all types of exterior and interior masonry surfaces such as concrete, brick work, stucco and exterior insulation finish systems (EFIS).
 - 1. Tensile Strength: 160 psi (ASTM D-2370)
 - 2. Elongation: 585% (ASTM D-2370)
 - 3. Water Vapor Permeability @ 10 mils: 20 Perms (ASTM D-1653)
 - 4. Solids by Volume: 47.4%

- B. Urethane Sealant Hybrid - Tuff-Stuff MS: One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
 - 1. Tensile Strength, ASTM D 412: 250 psi

2. Elongation, ASTM D 412: 450%
3. Hardness, Shore A ASTM C 920: 35
4. Adhesion-in-Peel, ASTM C 92: 30 pli

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that substrate is ready to receive work; surface is clean, dry and free from projections and depressions, loose scale, sand, curing compounds, grease, oil, asphalt, loose coatings need removed and other foreign deposits.
- B. Do not begin work until concrete substrate has cured 28 days, minimum. Water cured treatment of concrete is preferred. Resin or water based curing compound should not be used. Non-compatible curing agents must be removed prior to application.
- C. The work shall not be started when temperature is under 50°F (10°C) or when precipitation is imminent.
- D. Verify that all other work involved with this area, done under other sections, has been completed and accepted by the owner's representative and general contractor prior to starting the waterproofing application.
- E. Concrete surface pH level must not be higher than 11 prior to coating.
- F. Damaged areas of concrete, mortar joints or EFIS should be repaired prior to coating.

3.2 PREPARATION

- A. Clean substrate to remove any and all surface contaminants. Surfaces to be coated must be cleaned to a sound surface. Refer to your Garland representative for specific preparation techniques.
- B. Mask-off all adjoining areas that are not to receive the elastomeric wall coating.
- C. Provide a suitable workstation to mix the coating materials.
- D. Concrete: Special attention should be given to smoothness of surface and freedom from contaminants, including paint or previous coatings. Consult your Garland representative for alternate procedures for coating over existing paint. Such procedures are highly dependent on specific job conditions. Curing compounds, if used, shall be removed either by blast media or etching. In the event specifications are not met, the following corrective procedures are recommended.
- E. Cleaning Methods:
 1. Nontoxic Biodegradable Cleaner: Nontoxic Biodegradable Concrete & Masonry Cleaner: Scrape, sand, or wire brush all hard or glossy surfaces and residual contaminants to assure effective cleaning. Use the most abrasive methods necessary to remove all contaminants that will inhibit the cleaning solution from properly saturating the substrate.
Rinse the substrate to be treated thoroughly with clean water to remove excess debris and dampen the surface. Beginning at the top of the substrate working down to the bottom, generously apply the B-Clean solution directly to the affected areas using overlapping patterns. Allow the solution to soak into surface for 20-30 minutes. Do NOT allow surface to dry. Reapply a light mist of the solution intermittently to ensure the surface remains damp. Depending

on the degree of contamination and exposure a stiff bristle brush may be required once the solution reacts. Next, using overlapping patterns rinse the surface from top to bottom with water. Additional applications may be required dependent upon the severity of the contaminant, using the same approach as above. Allow the substrate sufficient time to dry.

2. Solvent & Acid Cleaners: Wipe up grease or oil with a solvent and absorbent material. Disposal of this material should be in accordance with local laws and codes. Wash with solvent-alkaline cleaners diluted one part cleaner and five parts water. Rinse thoroughly with clean water. If evidence of oil film remains as indicated by water "beading," etch surface with 10% solution muriatic acid. Agitate surface with stiff bristle broom; then rinse with clean water. Remove curing compounds by etching with 10% muriatic acid followed by clean water rinse. Allow to thoroughly dry before applying coating. Grinding or sandblasting can remove heavy deposits of contaminants. Any residual traces of asphalt stains must be sealed with an epoxy primer to avoid staining of light colored top coats. Apply primer in two coats and allow a minimum of 48 hours cure time.
- F. Cracks less than 1/16" (1.5 mm) wide shall be sealed after cleaning has been performed using an elastomeric hybrid sealant. Crack shall be cleared of all loose debris, dirt and widened slightly at the surface to accommodate elastomeric hybrid sealant. Apply elastomeric hybrid sealant by knifing into crack or gunning over crack surface, followed by tooling to match adjacent surface profile, pressing the sealant into the crack cavity to fill completely.
 - G. Cracks 1/16" (1.5 mm) to 1/8" (3.0 mm) wide shall be routed to a 1/4" to 1/2" groove, backer rod shall be installed, groove shall be caulked with elastomeric hybrid sealant. Fill grooves flush with adjacent surfaces.
 - H. Allow sufficient curing time for all sealants to dry-through before proceeding with elastomeric coating application – at least 1 hour not exceeding 3 hours prior to stripe coating with approved elastomeric coating.
 - I. All sealed expansion joints or sealant repairs must be stripe coated within 1-3 hours with a half inch nap roller or approved brush extending the coating a minimum of 2 inches past the perimeter of the joints sealant or sealant repair ensuring a good protective base of the elastomeric coating is present.
 - I. Defective mortar or stucco areas should be repaired using a cement-based patching compound.

3.3 INSTALLATION

- A. Technical Advice: The installation of this elastomeric coating system shall be accomplished in the presence of, or with the advice of the manufacturer's technical representative.
- B. Joint Treatment:
 1. Non-moving Cracks: Stripe coats all non-moving cracks. Fill the crack first with a bead of urethane sealant and strike flush. After filling, apply coating for a distance of 2" on each side of the crack 16-20 mils thick and allow curing. When applying the elastomeric coating system on the wall, go over the stripe coat to achieve a total thickness of 48-52 mils.
 2. Moving Cracks: Remove all dirt and loose chips of concrete from the crack. Fill with sealant and strike flush with the wall surface. Center 4" wide piece of polyester tape over the crack and adhere it firmly and thoroughly to the wall.

Stripe coat 16-20 mils of coating over the polyester tape and for 2" on each side of the crack. When applying the elastomeric coating system on the wall, go over the stripe coat to achieve a total thickness of 48-52 mils.

3. Control Joints: Place a backer material (solvent expanded plastic such as polyethylene or polypropylene) in joint. The backer material should be oversized so it can be compressed into the joint and flush to the wall surface. Apply a bead of sealant over the backer rod sealing the joint and strike flush with the wall surface.

- C. Elastomeric Coating: Apply coating to secure a total minimum coverage of 2 gallons per 100 square feet (total wet film thickness 32 mils). Product shall be applied by phenolic core roller or airless spray at a rate of 100-200 sq. ft. per gallon depending on the porosity and roughness of the surface with a minimum 2 coat process.

3.4 FIELD QUALITY CONTROL

- A. The contractor for work under this section shall maintain a quality control program specifically to verify compliance with this specification. A daily log shall be kept to record actions in the field.
- B. Inspections: A minimum of three (Substrate, Application and Final) inspections by an approved manufacturer's representative, will be required on all projects requiring a warranty.

END OF SECTION



THE GARLAND COMPANY
3800 E. 91ST STREET
CLEVELAND, OH 44105

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FORT CHERRY SCHOOL DISTRICT MASONRY RESTORATION PROJECT

NO.	DATE	DESCRIPTION
0	2/3/2025	FIRST ISSUE

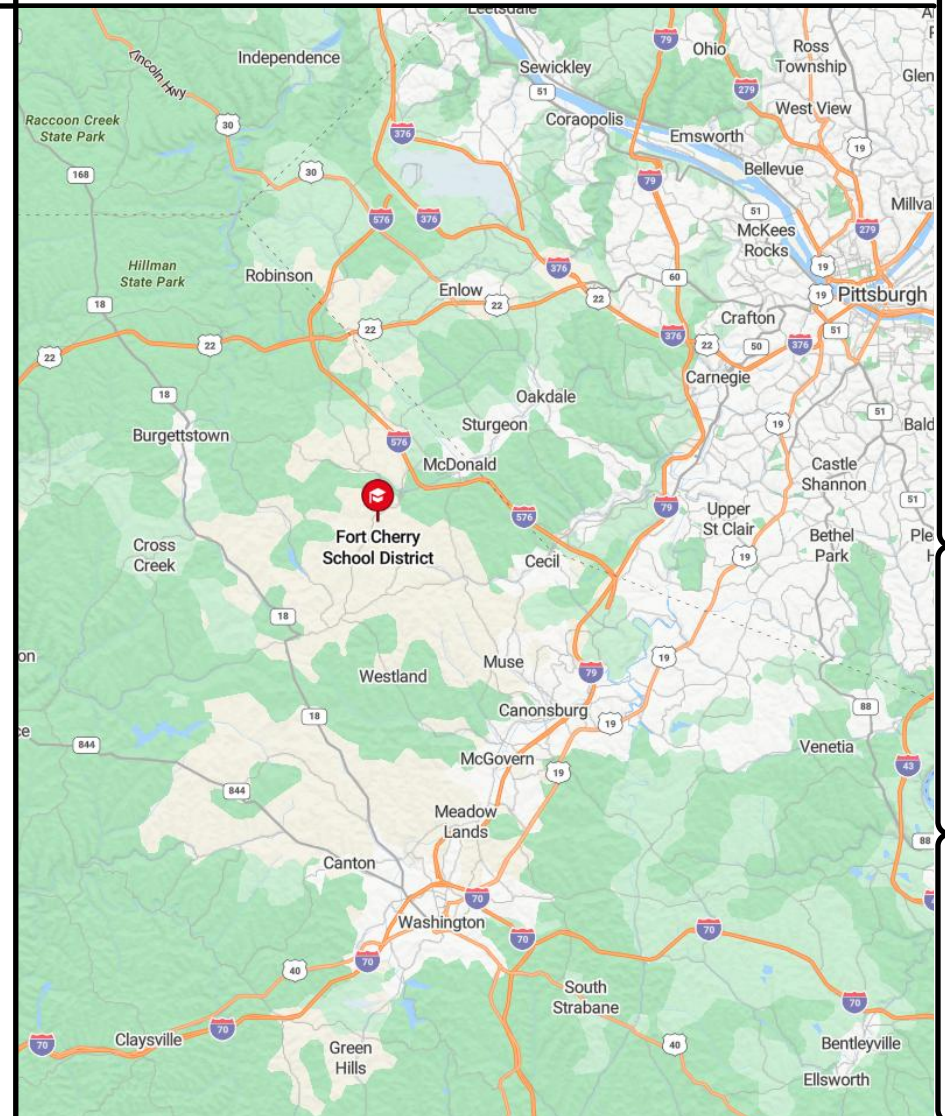
DRAWING INDEX

- CS-1: COVER PAGE
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- SW-2: EAGLEVIEW REPORT #43535217 - JRSRHS #2 - SCOPE OF WORK SCHEDULE
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- JS-1: EV#43580086 - JRSRHS #1 - WALL SECTIONS K, P, R, W, Y, & AK PLAN
- JS-2: EV#43580086 - JRSRHS #1 - WALL SECTIONS U, AB, AE, AG & AJ PLAN
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PROJECT TIMELINE

- 2/5/2025 @ 11:00 AM - MANDATORY PRE-BID MEETING AT FORT CHERRY JUNIOR/SENIOR HIGH SCHOOL AUDITORIUM.
- 2/12/2024 @ 4:00 PM - DEADLINE FOR FINAL BID QUESTIONS.
- 2/14/2024 @ 9:00 AM - FINAL BID ADDENDUM ISSUED.
- 2/19/2025 @ 11:00 AM - BIDS ARE DUE AT FORT CHERRY SD ADMINISTRATION.
- 6/9/2025 - PROJECT START DATE.
- 8/19/2025 - SUBSTANTIAL COMPLETION DATE.

LOCATION MAP



FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

SHEET TITLE:

COVER
PAGE

SHEET NO.

CS-1

GENERAL NOTES

- 1.) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH ALL DETAILS INVOLVED IN THE PROJECT CONTRACT.
- 2.) ALL DRAWINGS ARE GRAPHIC REPRESENTATION OF APPROXIMATE LOCATIONS OF EXISTING AND NEW MATERIALS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.
- 3.) CONTRACTOR TO PROTECT ALL ADJACENT SURFACES NOT SCHEDULED FOR WORK AND TO REPAIR ANY DAMAGED AREAS AS A RESULT OF CONTRACTOR WORK AT NO ADDITIONAL COST TO THE OWNER.
- 4.) CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN WATER TIGHTNESS AND PROVIDE PROTECTION AT ANY/ALL OPENINGS LEFT IN THE BUILDING ENVELOPE AT THE END OF EACH CONSTRUCTION DAY.
- 5.) CONTRACTOR TO REMOVE ANY OBSTACLES DURING CONSTRUCTION AND REINSTALL AFTER PROJECT HAS BEEN COMPLETED.
- 6.) CONTRACTOR SHALL NOT STORE OR STOCKPILE DEMOLISHED MATERIALS ON THE PREMISIS DURING CONSTRUCTION.
- 7.) THE JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD.
- 8.) CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, CONDITIONS AND QUANTITIES.
- 9.) ALL CONTRACTORS, BOTH PRIME AND SUB, SHALL COORDINATE THEIR WORK WITH ALL ADJACENT WORK AND SHALL COOPERATE WITH ALL OTHER TRADES SO AS TO FACILITATE THE GENERAL PROGRESS OF THE WORK, AND TO AVOID CONFLICT. NO COMPENSATION WILL BE GIVEN FOR FAILURE OF CONTRACTOR TO COORDINATE THEIR CONTRACT WORK WITH ADJACENT TRADES.
- 10.) THE DRAWINGS SHOWN, COVERING EXISTING CONDITIONS, HAVE BEEN PREPARED FROM THE BEST INFORMATION AVAILABLE. ACTUAL CONDITIONS MAY VARY.
- 11.) PROVIDE TEMPORARY WEATHER PROTECION DURING INTERVAL BETWEEN REMOVAL OF EXISTING ITEMS AND INSTALLATION OF NEW ITEMS TO INSURE THAT NO WATER LEAKAGE OR DAMAGE OCCURS TO THE EXISTING STRUCTURE OR BUILDING INTERIOR.
- 12.) THE FULL SPECIFICATION AND DRAWING SET TO BE KEPT ON-SITE, HARDCOPY OR DIGITAL, THROUGHOUT THE PROJECT.
- 13.) SHOULD THE CONTRACTOR DISCOVER ANY AREAS WITHIN ITS SCOPE OF WORK THAT IT BELIEVES REQUIRE ENGINEERING OR PROFESSIONAL DESIGN SERVICES, IT WILL NOTIFY OWNER, AND STOP WORK UNTIL APPROPRIATE INSPECTIONS CAN BE MADE BY LICENSED PROFESSIONALS.
- 14.) DUST CONTAINMENT/COLLECTION SYSTEMS MUST BE UTILIZED DURING THE REMOVAL OF MORTAR FOR THE TUCKPOINTING PROCESS.
- 15.) ELECTRIC SERVICE OR EXISTING UTILITY LINES TO OR NEAR THE BUILDING NEED TO BE PROTECTED OR SERVICE SHUT OFF IN COORDINATION WITH THE OWNER IF WORK NEAR THIS SERVICE IS REQUIRED.
- 16.) CONTRACTOR MUST PROVIDE WINDOW (GLASS / FRAME) PROTECTION THROUGHOUT CONSTRUCTION AND WILL BE RESPONSIBLE FOR ANY DAMAGES TO WINDOW FRAMES AND GLASS.
- 17.) WHEN REPLACING BRICK OR INFILL OF EXISTING BRICK OPENINGS, CONTRACTOR WILL ATTEMPT TO MATCH EXISTING BRICK IN SIZE AND COLOR AS CLOSE AS POSSIBLE FROM BRICK AVAILABLE IN STANDARD COLOR/SIZE FROM COMMERCIAL BRICK PRODUCERS OR USED BRICK SUPPLIERS LOCATED WITHIN 100 MILE RADIUS OF THE PROJECT SITE.
- 18.) CONTRACTOR MUST PROVIDE ANY HOT/COLD WEATHER PROTECTION AS SEEN NECESSARY BY THE OWNER'S REPRESENTATIVE.
- 19.) OWNER WILL MAKE BEST ACCOMMODATIONS TO CONTRACTORS TO TRIM TREES/BUSHES NEAR THE BUILDING FAÇADE TO ALLOW ACCESS FOR WORK TO BE PERFORMED.
- 20.) CONTRACTOR EXCLUDES FROM THE SCOPE OF WORK AND PRICING ANY ABATEMENT, DISPOSAL, ABATING, DISTURBANCE, MOVEMENT, DESTRUCTION, CONTAINMENT, CLEANING, SCRAPING, SANDING OR REMOVAL ETC. IN WHOLE OR IN PART OF ANY KIND OF ANY HAZARDOUS MATERIAL, INCLUDING BUT NOT LIMITED TO LEAD, PCB'S ASBESTOS OR ANY OTHER TYPE OF HAZARDOUS MATERIAL.
- 21.) MOLD EXCLUSION: CONTRACTOR SPECIFICALLY EXCLUDES FOR ANY AND ALL WARRANTIES CONNECTED WITH THIS WORK ANY WARRANTY AGAINST THE GROWTH, INFESTATION OR SPREAD OF MOLD, MILDEW OR OTHER FUNGAL OR BACTERIAL SUBSTANCE.
- 22.) NO DAMPPROOFING/WET CURING OF POINTING OR MASONRY RESTORATION IS PERMITTED.
- 23.) CONTRACTOR'S MANLIFT MAY LEAVE RUTS IN THE GRASS OR CAUSE DAMAGE THAT CANNOT BE AVOIDED. PLANKING UNDER THE TIRES SHOULD BE USED IN AN ATTEMPT TO MITIGATE RUTS.
- 24.) TEMPORARY REMOVAL OR REINSTALLATION OF SIGNS, DOWNSPOUTS / GUTTERS, GAS PIPING, ELECTRIC CONDUITS, LIGHT FIXTURES, AND CAMERAS ARE THE CONTRACTOR'S RESPONSIBILITY. OWNER WILL MAKE BEST ACCOMMODATIONS TO ALLOW FOR TEMPORARY REMOVAL OF THESE ITEMS WITHIN A REASONABLE TIME FRAME TO COMPLETE RESTORATION WORK.



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NO.	DATE	DESCRIPTION
0	2/3/2025	FIRST ISSUE

FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

SHEET TITLE:

GENERAL
CONDITIONS

SHEET NO.

GC-1



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FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

SHEET TITLE:

PROJECT
SCOPE
OF
WORK

SHEET NO.

SW-0

- A. BASE BID #1 – FORT CHERRY JUNIOR / SENIOR HIGH SCHOOL MASONRY RESTORATION
1. REPLACE **ALL** CRACKED BRICK. ALLOWANCE FOR 845 BRICK TO BE INCLUDED IN BASE BID, ALL ADDITIONAL TO BE REPLACED AT UNIT COST.
 2. REPOINT OR SPOT POINT BRICK ACCORDING TO SCHEDULE SW-1 AND SW-2. ALL ADDITIONAL SPOT POINT TO BE PERFORMED AT UNIT COST.
 - A. PRESSURE CLEAN THE ENTIRE BRICK FAÇADE INCLUDING FACE BRICK, LIMESTONE, CONCRETE, WINDOW AND DOOR TRIM.
 - B. AREAS WITH HEAVY STAINING OR EFFLORESCENCE TO BE CLEANED WITH MILD ACIDS AND MASONRY CLEANER.
 - C. REMOVE DETERIORATED MORTAR JOINTS LOCATED IN BETWEEN BRICK. ALL SILICA, DUST CONTROL STANDARDS MUST BE FOLLOWED.
 - D. REPOINT ALL JOINTS USING TYPE N-MORTAR TO MATCH EXISTING MORTAR COLOR.
 3. REMOVE EXISTING SEALANT, INSTALL NEW BACKER ROD, AND CAULK **ALL** WINDOW, DOOR AND LOUVER JOINTS ON THE BUILDING WITH NEW URETHANE SEALANT IN OWNER'S CHOICE OF COLOR.
 4. REPLACE OR RESTORE ALL WINDOW LINTELS ACCORDING TO SCHEDULE SW-1 AND SW-2.
 - A. REPLACE ALL WINDOW LINTELS LOCATED ON THE FOLLOWING WALL SECTIONS:
 - I. EAGLEVIEW REPORT # 43580086: H, AF & AJ.
 - II. EAGLEVIEW REPORT #43535217: AJ
 - B. RESTORE LINTELS BY SANDING, PRIMING, THEN PAINTING.
 5. REMOVE EXISTING SEALANT, INSTALL NEW BACKER ROD, AND CAULK ALL EXPANSION JOINTS ACCORDING TO SCHEDULE SW-1 AND SW-2.
 - A. REPLACE **ALL** VERTICAL EXPANSION JOINTS ON BUILDING EXCEPT FOR THOSE LOCATED ON THE FOLLOWING WALL SECTIONS: EAGLEVIEW REPORT #43535217: AI, J, AN, P, AR, AZ, AS, W, AK, H & AL.
 6. RESTORE EIFS WALL PANEL SECTIONS.
 - A. PATCH ALL DETERIORATED EIFS LOCATED ON THE FOLLOWING WALL SECTIONS: EAGLEVIEW REPORT # 43580086: G, AG & AK.
 - B. WASH, THEN APPLY TWO-COATS OF WALL COATING.
 - C. PAINT FORT CHERRY "FC" LOGO ON WALL SECTION AK.
 7. PREP, PRIME AND PAINT ALL METAL SURFACES AS INDICATED ON SCHEDULE SW-1, SW2- AND DRAWING SET IN OWNER'S CHOICE OF COLOR.
 8. 30 DAYS AFTER ANY POINTING WORK, RINSE MASONRY SURFACES AND APPLY WATER-BASED MASONRY SEALER TO ALL ABOVE-GRADE MASONRY SURFACES ACCORDING TO SCHEDULE SW-1 AND SW-2.

- B. ADDITIONAL ALTERNATE #1 – FORT CHERRY JUNIOR / SENIOR HIGH SCHOOL MASONRY RESTORATION
1. REPLACE **ALL** CRACKED BRICK. ALLOWANCE FOR 206 BRICK TO BE INCLUDED IN BID, ALL ADDITIONAL TO BE REPLACED AT UNIT COST.
 2. REPOINT OR SPOT POINT BRICK ACCORDING TO SCHEDULE SW-3. ALL ADDITIONAL SPOT POINT TO BE PERFORMED AT UNIT COST.
 - A. PRESSURE CLEAN THE ENTIRE BRICK FAÇADE INCLUDING FACE BRICK, LIMESTONE, CONCRETE, WINDOW AND DOOR TRIM.
 - B. AREAS WITH HEAVY STAINING OR EFFLORESCENCE TO BE CLEANED WITH MILD ACIDS AND MASONRY CLEANER.
 - C. REMOVE DETERIORATED MORTAR JOINTS LOCATED IN BETWEEN BRICK. ALL SILICA, DUST CONTROL STANDARDS MUST BE FOLLOWED.
 - D. REPOINT ALL JOINTS USING TYPE N-MORTAR TO MATCH EXISTING MORTAR COLOR.
 3. REMOVE EXISTING SEALANT, INSTALL NEW BACKER ROD, AND CAULK **ALL** WINDOW, DOOR AND LOUVER JOINTS ON THE BUILDING.
 - A. RESTORE ALL STEEL LINTELS BY SANDING, PRIMING, THEN PAINTING.
 4. REMOVE EXISTING SEALANT, INSTALL NEW BACKER ROD, AND CAULK **ALL** EXPANSION JOINTS ON THE BUILDING.
 - A. WIDEN ALL EXISTING EXPANSION JOINTS FOUND TO HAVE A WIDTH OF LESS THAN 1/2".
 - B. CREATE ADDITIONAL EXPANSION JOINTS AT WALL SECTION CORNERS ACCORDING TO SCHEDULE SW-3.
 5. REMOVE EXISTING CAP STONES ON RETAINING WALL ADJACENT TO WALL SECTION AN. INSTALL NEW FLASHING MEMBRANE AND REINSTALL CAP STONES.
 6. 30 DAYS AFTER ANY POINTING WORK, RINSE MASONRY SURFACES AND APPLY WATER-BASED MASONRY SEALER TO ALL ABOVE-GRADE MASONRY SURFACES ACCORDING TO SCHEDULE SW-3.

C. ADDITIONAL ALTERNATE #2 – DEMOLISH, AND INSTALL NEW RETAINING WALL ADJACENT TO WALL SECTION AJ.

ADDITIONAL REQUIREMENTS FOR REPOINTING

- A. PERCENTAGE ALLOWANCES USED FOR SPOT POINTING ARE PROVIDED IN SCHEDULES SW-1, SW-2 AND SW-3 FOR BIDDING PURPOSES. SPOT POINTING LOCATIONS WILL BE FINALIZED AT THE PRE-CONSTRUCTION CONFERENCE MEETING AND THROUGHOUT THE DURATION OF THE JOB IN COORDINATION WITH THE CONTRACTOR AND OWNER'S REPRESENTATIVE. ALL SPOT POINTING LOCATIONS AND QUANTITIES MUST BE APPROVED PRIOR TO COMMENCEMENT OF WORK WITH THE OWNER'S REPRESENTATIVE.
- B. AREAS WILL INCLUDE THOSE SPECIFIED ON CONSTRUCTION DRAWINGS AS WELL AS CRACKS THAT MEASURE DEEPER THAN 1/4" AND 0.027" WIDE (TO BE MEASURED USING A 0.027" THICK PIECE OF METAL).
- C. OTHER AREAS INCLUDE CRACKS WIDER THAN 1/16", HOLLOW JOINTS, WORN JOINTS DEEPER THAN 1/4" FROM THE FACE OF THE WALL AND JOINTS THAT HAVE BEEN PREVIOUSLY REPAIRED WITH MATERIAL OTHER THAN MORTAR.
- D. PRIOR TO POINTING BACK WITH NEW MORTAR, REPOINTING CONSTRUCTION WILL BE HELD FOR APPROVAL ONCE ALL MORTAR JOINTS ARE RAKED, WITH APPROVALS TO BE DONE ON A PER WALL SECTION BASIS. ONCE THE OWNER'S REPRESENTATIVE VERIFIES CONDITIONS OF THE ENTIRE WALL SECTION, POINTING BACK WITH NEW APPROVED MORTAR MAY COMMENCE.



THE GARLAND COMPANY
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NO.	DATE	DESCRIPTION
0	2/3/2025	FIRST ISSUE

FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

SHEET TITLE:
EAGLEVIEW
REPORT
#43580086 -
JRSRHS #1
- SCOPE OF
WORK SCHEDULE

SHEET NO.
SW-1

Wall Section	Mortar Joint Treatment	Brick Replacement	Window Lintel Scope	Penetration Caulking	Painting	EIFS	Scope
A	-	-	-	-	Steel	-	-
B	-	-	-	-	Steel	-	-
C	-	-	-	-	-	-	-
D	-	-	-	-	-	-	-
E	100% Repoint	-	-	-	-	-	-
F	-	-	-	-	-	-	-
G	-	-	-	-	Yes	Restore	-
H	100% Repoint	-	Replace	Windows	-	-	-
I	-	-	-	-	-	-	-
J	-	-	-	-	-	-	-
K	-	-	-	-	-	-	-
L	-	-	-	-	-	-	-
M	-	-	-	-	-	-	-
N	-	-	-	Scupper	-	-	-
O	-	-	-	Counterflashing	-	-	-
P	-	-	-	-	-	-	-
Q	-	-	-	-	-	-	-
R	-	-	-	Windows & Doors	-	-	-
S	-	-	Paint	Windows & Doors	Lintel	-	-
T	-	-	-	-	-	-	-
U	100% Repoint	6 Brick	-	Louvers	-	-	-
V	-	3 Brick	-	-	-	-	-
W	See Drawings	5 Brick	-	-	-	-	-
X	-	3 Brick	-	-	-	-	-
Y	See Drawings	8 Brick	-	-	Steel	-	-
Z	100% Repoint	-	-	Doors	-	-	-
AA	100% Repoint	10 Brick	Paint	Window	Lintel	-	-
AB	-	-	-	Window and Louvers	Lintel & Stain*	-	-
AC	100% Repoint	-	Paint	Doors and Windows	Paint Door	-	-
AD	-	-	-	-	-	-	-
AE	See Drawings	30 Brick	Paint	Windows & Louvers	-	-	-
AF	100% Repoint	50 Brick	Replace all	Windows, Louvers & Doors	-	-	-
AG	See Drawings	50 Brick	-	Louvers	Paint Steel	Restore	-
AH	-	-	-	-	-	-	-
AI	100% Repoint	-	-	-	-	-	-
AJ	100% Repoint	60 Brick	Replace all	Windows	-	-	-
AK	100% Repoint	-	-	-	Steel	Restore	-
AL	See Drawings	70 Brick	Paint	Windows	-	-	-
AM	See Drawings	100 Brick	-	Windows	-	-	-
AN	100% Repoint	200 Brick	-	Doors	-	-	-
AO	100% Repoint	20 Brick	-	Doors	-	-	-



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SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

SHEET TITLE:
EAGLEVIEW
REPORT
#43535217 -
JRSRHS #2
- SCOPE OF
WORK SCHEDULE

SHEET NO.
SW-2

Wall Section	Mortar Joint Treatment	Brick Replacement Allowance	Window Lintel Scope	Penetration Caulking	Painting	Expansion/Wall Joints
A	-	-	-	-	-	Corner Wall Joint
B	-	-	-	-	-	Corner Wall Joint
C	-	-	Paint	Doors / Windows	Lintel	-
D	-	-	Paint	Doors / Windows	Lintel	-
E	-	-	-	Windows	-	-
F	-	-	-	-	-	-
G	50% Repoint	-	-	-	-	Expansion Joint
H	5% Spot Point	8 Bricks	-	-	-	N.I.S.
I	-	-	-	-	-	-
J	-	-	-	-	-	N.I.S.
K	-	-	-	-	-	-
L	100% Repoint	-	-	-	-	-
M	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.
N	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.
O	30% Repoint	-	-	-	-	Expansion Joint
P	15% Repoint	20 Bricks	-	-	-	N.I.S.
Q	5% Spot Point	5 Bricks	-	-	-	-
R	-	-	Paint	Windows	Lintel	-
S	-	-	Paint	Windows	Lintel	-
T	See Drawing	70 Bricks	-	Windows and Doors	Lintel	Expansion Joints
U	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.
V	-	-	-	Window	-	-
W	20% Repoint	-	-	Windows and Doors	Lintel	N.I.S.
X	100% Repoint	-	-	-	Stain*	-
Y	100% Repoint	-	-	-	Stain*	-
Z	-	-	-	-	-	-
AA	-	-	-	-	-	-
AB	100% Repoint	-	-	-	-	-
AC	100% Repoint	-	-	-	-	-
AD	3% Spot Point	-	-	-	-	Expansion Joints
AE	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.
AF	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.
AG	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.	N.I.S.
AH	100% Repoint	-	-	Louver	Stain*	-
AI	See Drawing	5 Bricks	Paint	Doors / Windows	Lintels	N.I.S.
AJ	See Drawing	-	Replace	Doors / Windows	Door Lintel	Expansion Joint
AK	-	-	-	-	-	N.I.S.
AL	5% Spot Point	12 Bricks	-	-	-	N.I.S.
AM	See Drawing	40 Brick	-	Louvers and Scupper	-	Corner Wall Joints
AN	-	-	Paint	Doors / Windows	Lintel	N.I.S.
AO	-	-	Paint	Doors / Windows	Lintel	-
AP	See Drawing	20 Bricks	Paint	Windows and Louvers	Lintels	Expansion Joints
AQ	See Drawing	-	Paint	Windors, Door, Louvers	Lintels	Expansion Joints
AR	See Drawing	-	-	-	-	N.I.S.
AS	See Drawing	-	Paint	Windows and Louvers	Lintel	N.I.S.
AT	-	-	Paint	Doors / Windows	Lintels	Yes
AU	-	-	Paint	Doors, Windows, Louvers and Scuppers	Lintels	Expansion Joints
AV	-	15 Brick	Paint	Windows and Louvers	Lintels	Expansion Joints
AW	5% Repoint	-	Paint	Windows and Louvers	Lintels	No
AX	See Drawing	-	Paint	Windows and Louvers	Lintels	Expansion Joints



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FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

SHEET TITLE:

EAGLEVIEW
REPORT
#43535218 -
E.S.
- SCOPE OF
WORK SCHEDULE

SHEET NO.

SW-3

Wall Section	Mortar Joint Treatment	Brick Replacement	Block Replacement	Window Lintel Scope	Penetration Caulking	Painting
A	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
B	-	-	-	-	-	-
C	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
D	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
E	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
F	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
G	-	-	-	-	-	-
H	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
I	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
J	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
K	-	-	-	-	-	-
L	-	-	-	-	-	-
M	-	-	-	-	-	-
N	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
O	-	1 Brick	-	-	-	-
P	-	3 Bricks	-	-	-	-
Q	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
R	-	-	-	-	-	-
S	-	-	-	-	-	-
T	5% Spot Point	-	-	-	-	-
U	-	-	-	Paint	Doors / Windows	Lintels
V	5% Spot Point	20 Bricks	-	Paint	Windows	Lintels
W	-	-	-	-	-	-
X	-	-	-	Paint	Windows	Lintels
Y	-	-	-	-	-	-
Z	-	-	-	Paint	Windows	Lintels
AA	N.I.S	N.I.S	-	N.I.S	N.I.S	N.I.S
AB	-	10 Bricks	-	Paint	Doors	Lintels
AC	-	-	-	Paint	Doors / Windows	Lintels
AD	-	-	-	-	-	-
AE	-	-	-	-	-	-
AF	-	-	-	-	-	-
AG	5% Spot Point	15 Bricks	-	-	-	-
AH	2% Spot Point	10 Bricks	-	-	-	-
AI	5% Spot Point	16 Bricks	-	-	-	-
AJ	15% Spot Point	10 Brick	2 Block	Paint	Doors / Windows	Lintels
AK	5% Spot Point	5 Bricks	-	Paint	Doors / Windows	Lintels
AL	-	16 Bricks	-	-	-	-
AM	-	-	-	Paint	Windows	Lintels
AN	100% Repoint	30 Bricks	-	Paint	Windows and Doors	Lintels
AO	5% Spot Point	-	-	Paint	Doors / Windows	Lintels
AP	-	-	-	-	Windows and Louvers	Lintels
AQ	5% Spot Point	30 Bricks	-	-	Windows and Louvers	Lintels
AR	-	40 Bricks	-	Paint	Windows and Louvers	Lintels
AN Retaining Wall	100% Repoint	30 Bricks	-	Cap Stone Flashing	-	-
AJ Retaining Wall	-	Replace All	Replace All	-	-	-

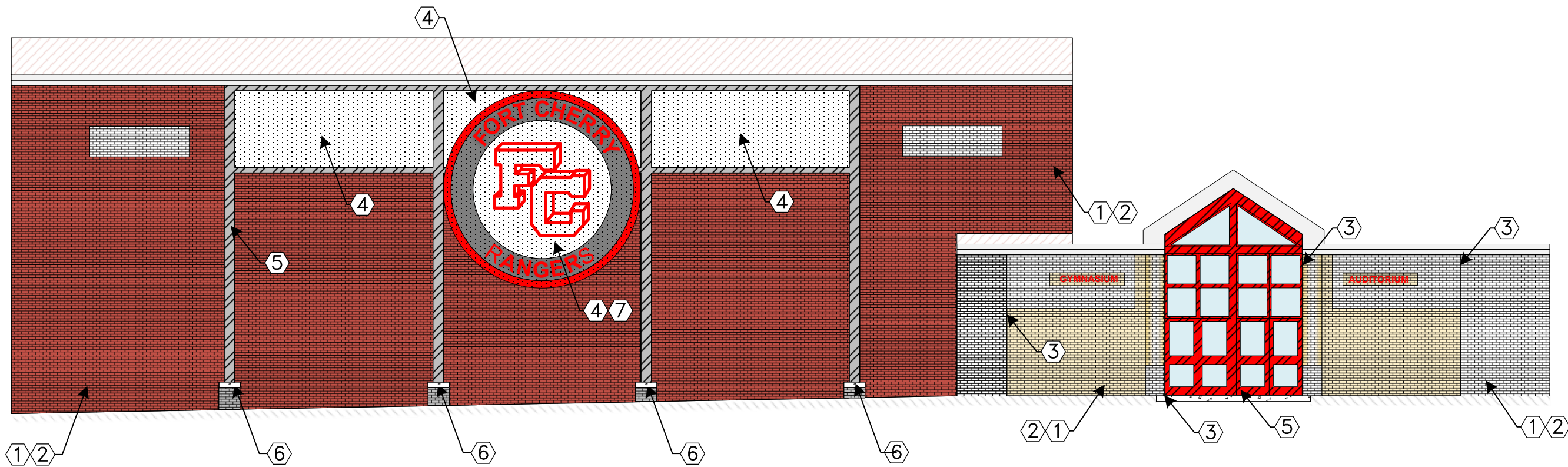


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SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057



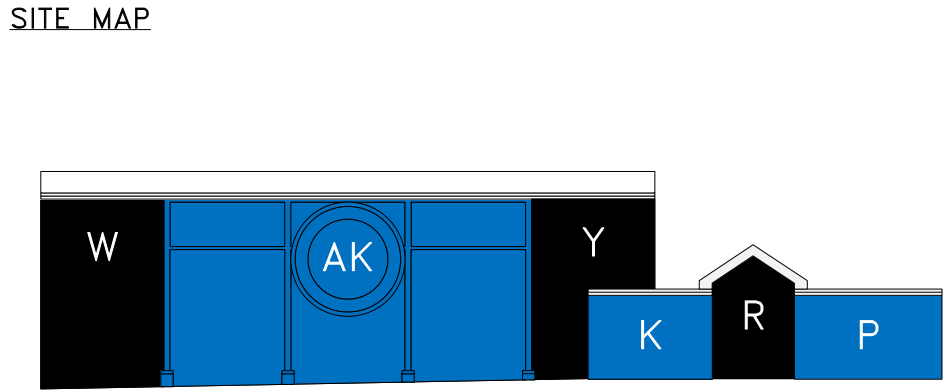
EV REPORT #43580086 - JRSRHS #1 - WALL SECTIONS W, Y & AK

SCALE: 3/32" = 1'-0"

- NOTES:**
- ① REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
 - ② WASH AND SEAL BRICK FAÇADE.
 - ③ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL EXPANSION JOINTS & .
 - ④ PATCH, PREP, AND INSTALL WATERPROOF COATING ON EIFS.
 - ⑤ PREP, PRIME AND PAINT ALL STEEL.
 - ⑥ REMOVE AND DISCARD EXISTING CAP STONES. POUR NEW CONCRETE CAPS.
 - ⑦ PAINT NEW SCHOOL DISTRICT LOGO.

LEGEND

	RED BRICK TO BE 100% POINTED
	RED BRICK, NO POINTING REQUIRED
	BEIGE BRICK, NO POINTING REQUIRED
	GREY BRICK, NO POINTING REQUIRED
	STEEL TO BE PAINTED
	EIFS TO BE RESTORED
	SURFACE NOT IN SCOPE
	CONCRETE



SHEET TITLE:
EV#43580086 - JRSRHS #1 - WALL SECTIONS K, P, R, W, Y, & AK PLAN

SHEET NO.
JS-1

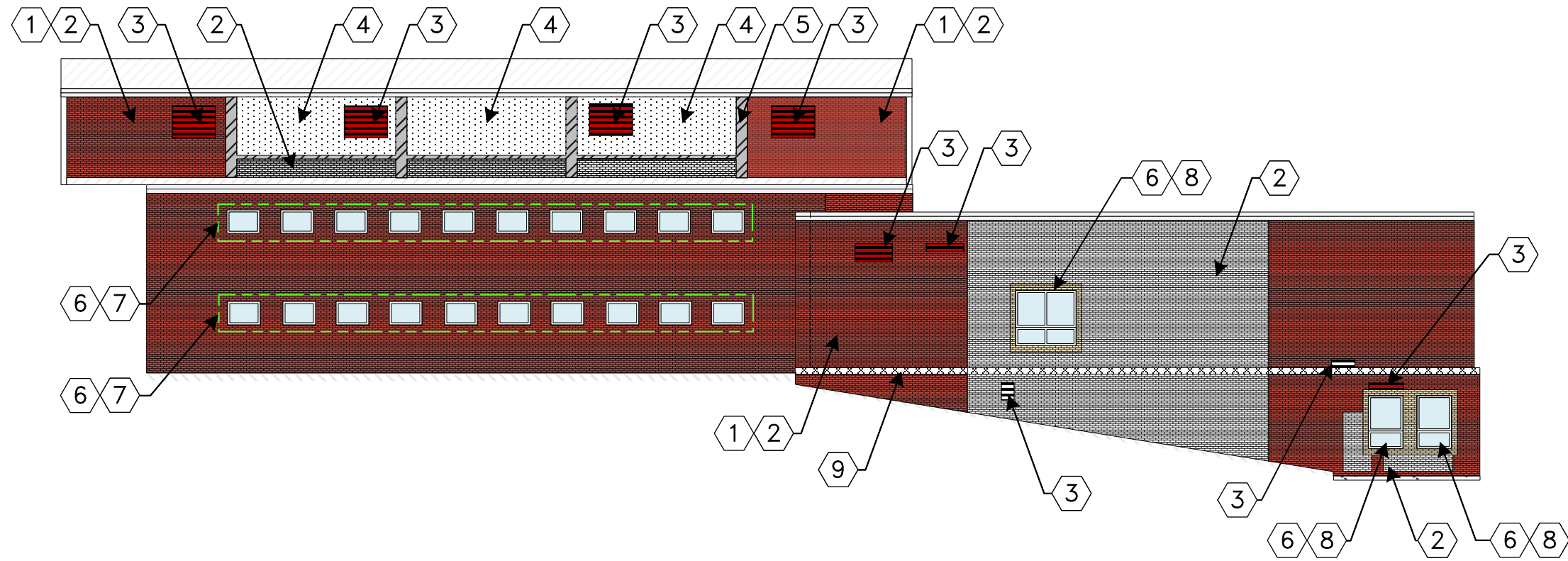


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110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057



EV REPORT #43580086 – JRSRHS #1 – WALL SECTIONS U, AB, AE, AG & AJ

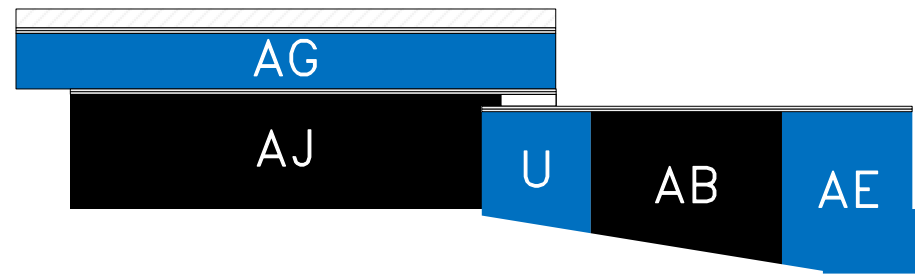
SCALE: 1/16" = 1'-0"

- NOTES:**
- ① REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
 - ② WASH AND SEAL BRICK FAÇADE.
 - ③ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT LOUVER JOINT.
 - ④ PATCH, PREP, AND INSTALL WATERPROOF COATING ON EIFS.
 - ⑤ PREP, PRIME AND PAINT ALL STRUCTURAL STEEL.
 - ⑥ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL WINDOW JOINTS. PREP, PRIME AND PAINT STEEL LINTEL.
 - ⑦ REPLACE ALL WINDOW LINTELS ON WALL SECTION AJ.
 - ⑧ PREP, PRIME AND PAINT STEEL LINTEL.
 - ⑨ REPOINT ALL LIMESTONE JOINTS.

LEGEND

	RED BRICK TO BE 100% POINTED
	RED BRICK, NO POINTING REQUIRED
	BEIGE BRICK, NO POINTING REQUIRED
	GREY BRICK, NO POINTING REQUIRED
	STEEL TO BE PAINTED
	EIFS TO BE RESTORED
	SURFACE NOT IN SCOPE
	CONCRETE
	LIMESTONE

SITE MAP



SHEET TITLE:
EV#43580086 – JRSRHS #1 – WALL SECTIONS U, AB, AE, AG & AJ PLAN

SHEET NO.
JS-2

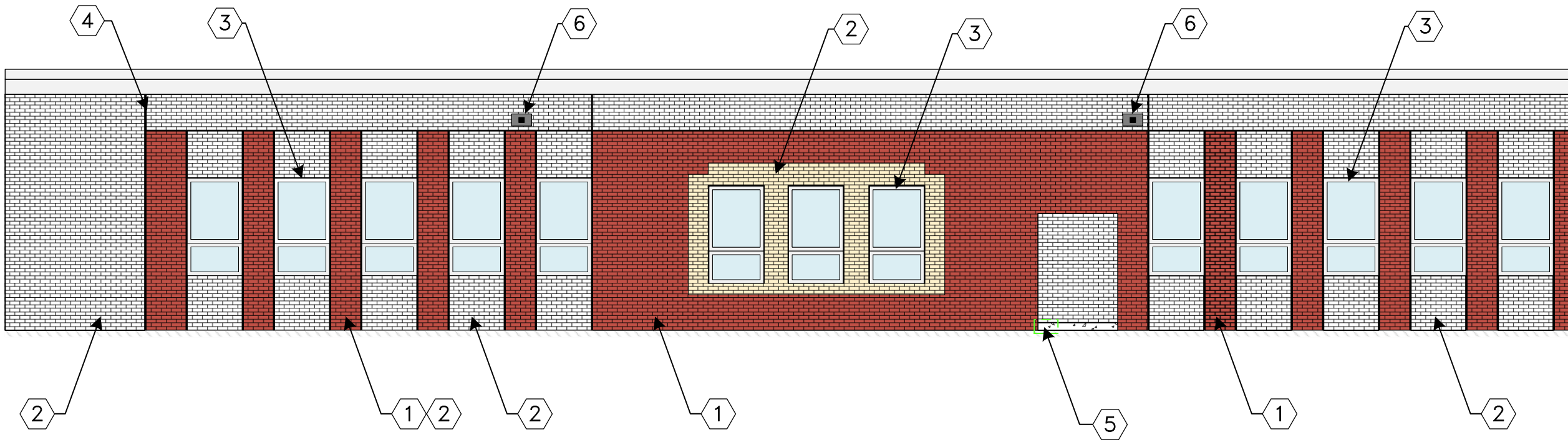


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SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

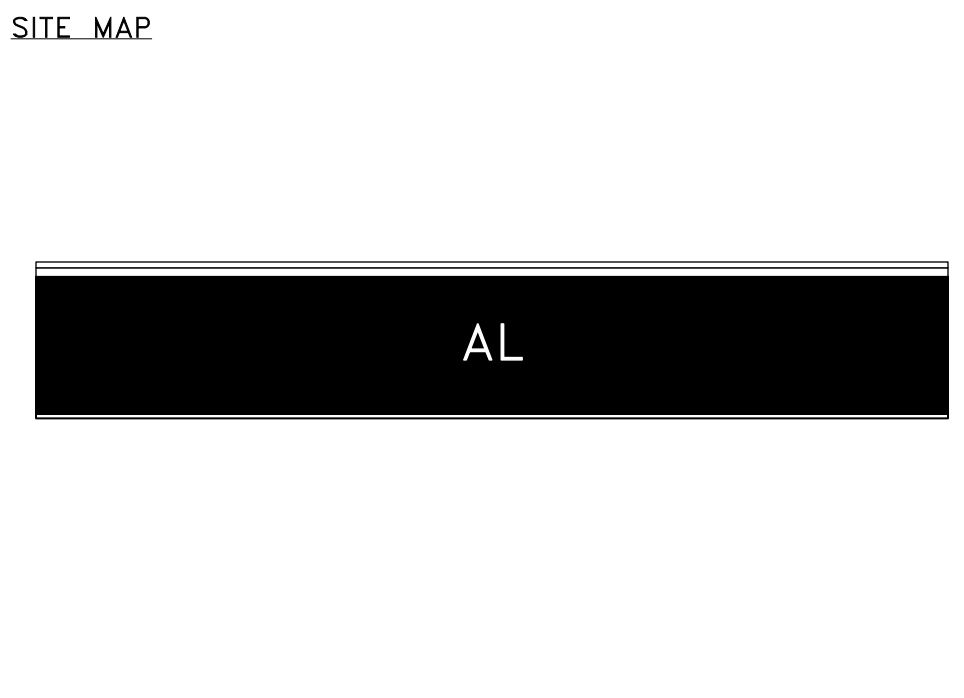


EV REPORT #43580086 - JRSRHS #1 - WALL SECTION AL
SCALE: 1/8" = 1'-0"

- NOTES:**
- ① REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
 - ② WASH AND SEAL BRICK FAÇADE.
 - ③ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL WINDOW JOINTS.
 - ④ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL CORNER MASONRY JOINTS.
 - ⑤ PATCH CONCRETE FOOTER.
 - ⑥ REMOVE EXISTING SEALANT AND CAULK PERIMETER OF SCUPPER FLASHING.

LEGEND

	RED BRICK TO BE 100% POINTED
	RED BRICK, NO POINTING REQUIRED
	BEIGE BRICK, NO POINTING REQUIRED
	GREY BRICK, NO POINTING REQUIRED
	STEEL TO BE PAINTED
	EIFS TO BE RESTORED
	SURFACE NOT IN SCOPE
	CONCRETE
	LIMESTONE



SHEET TITLE:
EV#43580086 - JRSRHS #1 - WALL SECTION AL PLAN

SHEET NO.
JS-3



THE GARLAND COMPANY
3800 E. 91ST STREET
CLEVELAND, OH 44105

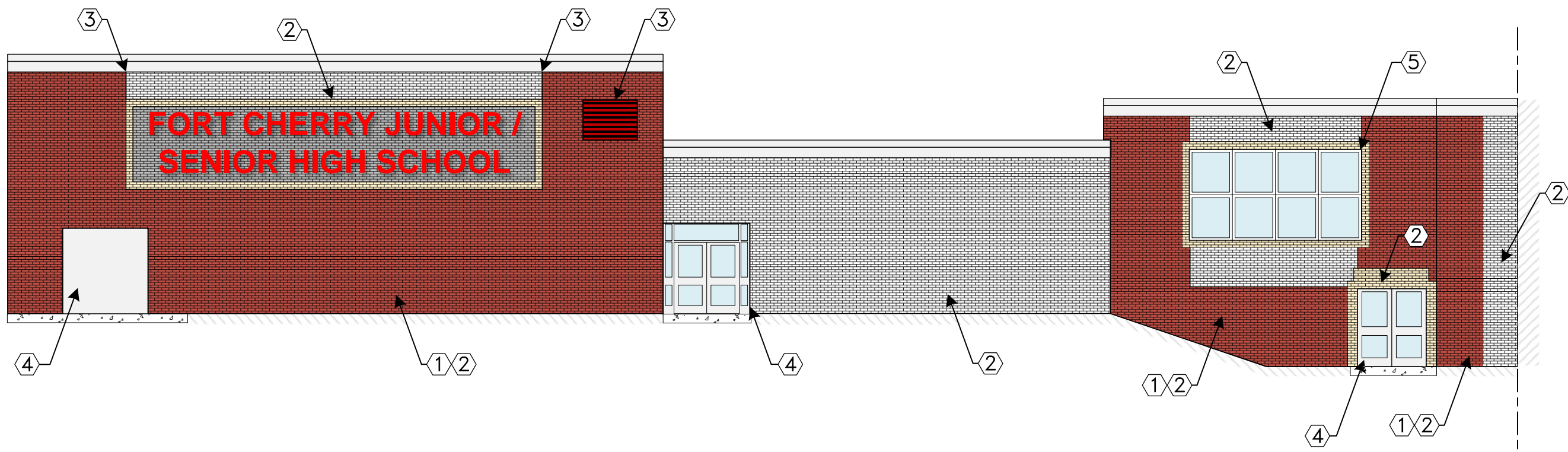
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110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

SHEET TITLE:
EV REPORT
#43580086 -
JRSRHS #1 - WALL
SECTIONS AM & EV
& REPORT
#43535217 -
JRSRHS #2 - WALL
SECTIONS AJ & AY
PLAN

SHEET NO.
JS-4

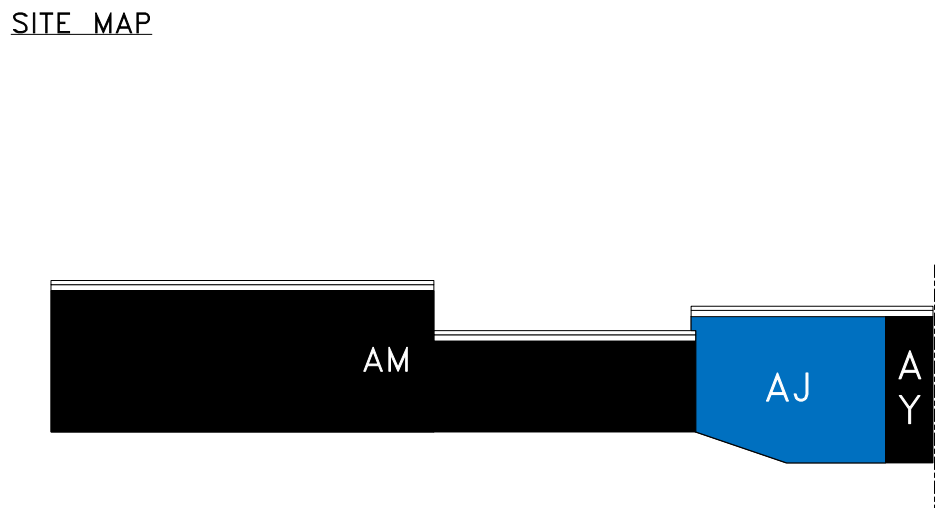


EV REPORT #43580086 - JRSRHS #1 - WALL SECTION AM
EV REPORT #43535217 - JRSRHS #2 - WALL SECTIONS AJ & AY
SCALE: 3/32" = 1'-0"

- NOTES:**
- ① REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
 - ② WASH AND SEAL BRICK FAÇADE.
 - ③ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT.
 - ④ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT. PREP, PRIME AND PAINT STEEL LINTEL.
 - ⑤ REMOVE AND REPLACE EXISTING STEEL LINTEL ON WINDOW. REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT.

LEGEND

	RED BRICK TO BE 100% POINTED
	RED BRICK, NO POINTING REQUIRED
	BEIGE BRICK, NO POINTING REQUIRED
	GREY BRICK, NO POINTING REQUIRED
	SURFACE NOT IN SCOPE
	CONCRETE



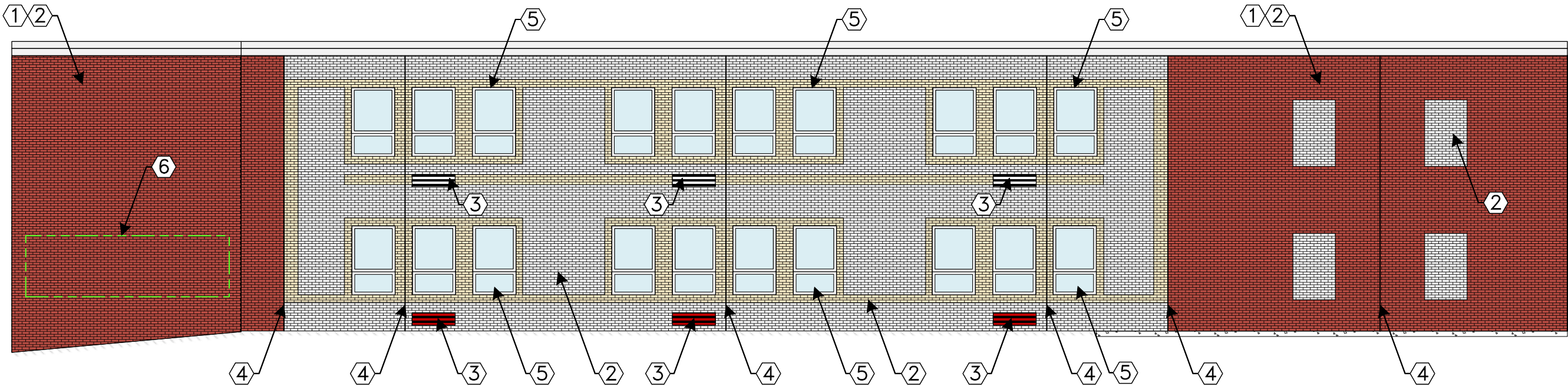


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CLEVELAND, OH 44105

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FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057



EV REPORT #43535217 - JRSRHS #2 - WALL SECTION X & AX
SCALE: 3/32" = 1'-0"

- NOTES:**
- 1 REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
 - 2 WASH AND SEAL BRICK FAÇADE.
 - 3 REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT LOUVER JOINT.
 - 4 REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL EXPANSION JOINTS.
 - 5 REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL WINDOW JOINTS. PREP, PRIME AND PAINT LINTELS.
 - 6 REMOVE GRAFFITI BY CLEANING OR STAINING BRICK.

LEGEND

	RED BRICK TO BE 100% POINTED
	RED BRICK, NO POINTING REQUIRED
	BEIGE BRICK, NO POINTING REQUIRED
	GREY BRICK, NO POINTING REQUIRED
	SURFACE NOT IN SCOPE
	CONCRETE



SHEET TITLE:
EV#43535217 -
JRSRHS #2 -
WALL SECTIONS
X, AX PLAN

SHEET NO.
JS-5

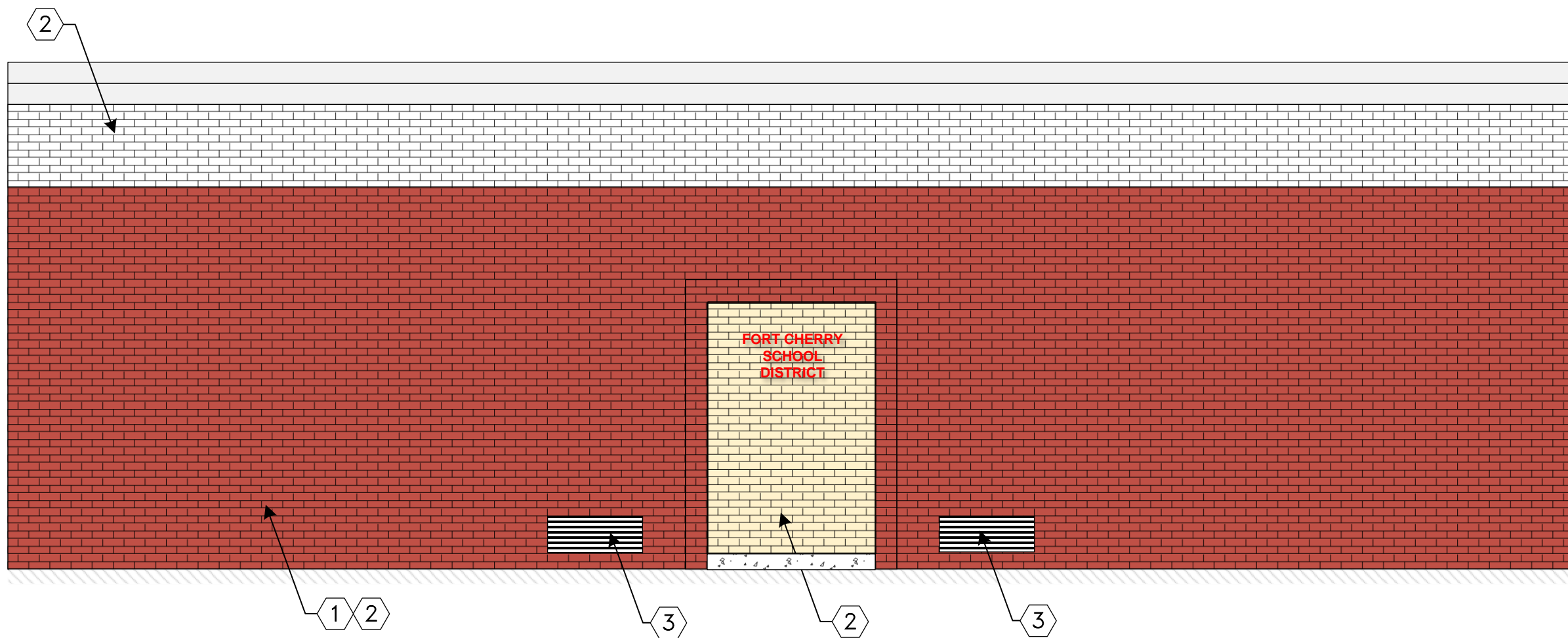


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FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057



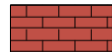





EV REPORT #43535217- JRSRHS #2 - WALL SECTION AM

SCALE: 1/4" = 1'-0"

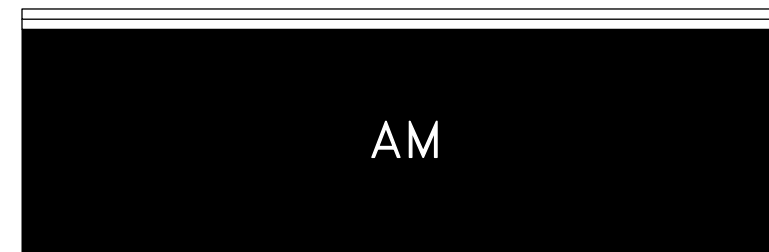
NOTES:

- 1 REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
- 2 WASH AND SEAL BRICK FAÇADE.
- 3 REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT LOUVER JOINT.

LEGEND

-  RED BRICK TO BE 100% POINTED
-  RED BRICK, NO POINTING REQUIRED
-  BEIGE BRICK, NO POINTING REQUIRED
-  GREY BRICK, NO POINTING REQUIRED
-  SURFACE NOT IN SCOPE
-  CONCRETE

SITE MAP



SHEET TITLE:

EV#43535217 -
JRSRHS #2 -
WALL SECTION
AM PLAN

SHEET NO.

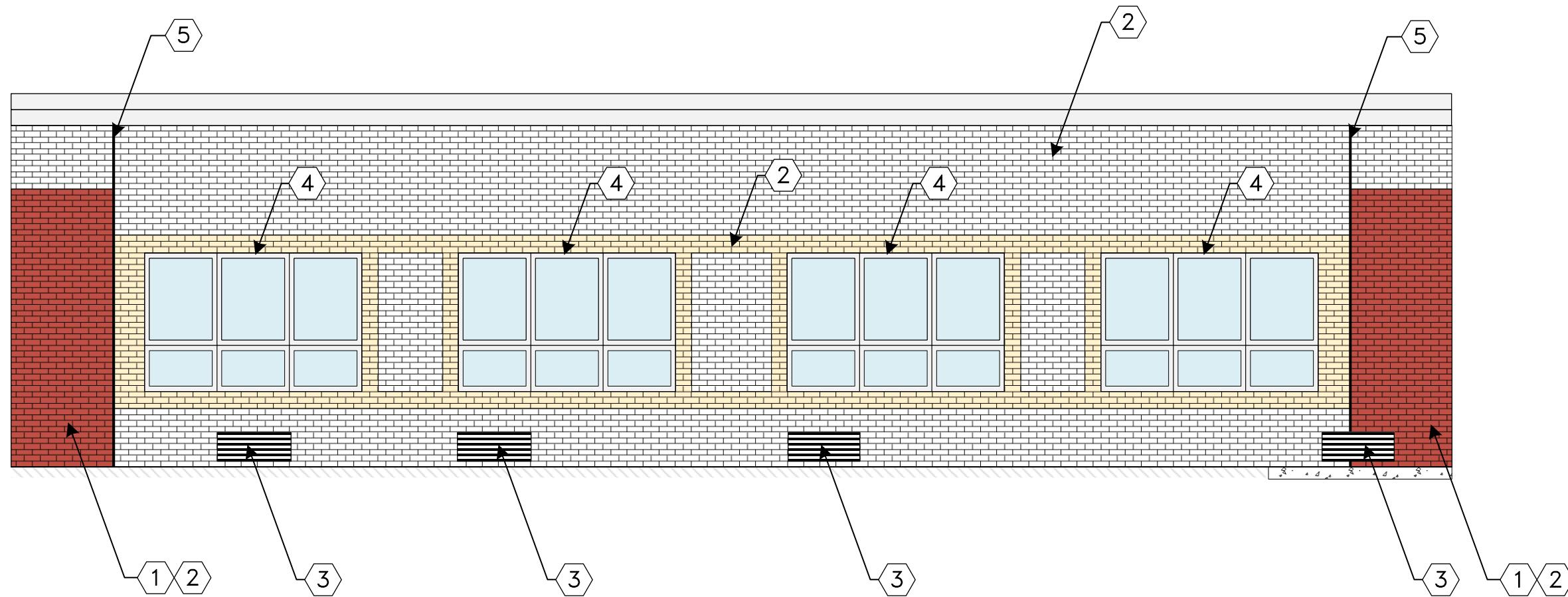
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EV REPORT #43535217- JRSRHS #2 - WALL SECTION AP

SCALE: 3/16" = 1'-0"

FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

SHEET TITLE:

EV#43535217 -
JRSRHS #2 -
WALL SECTION
AP PLAN

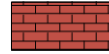




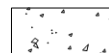
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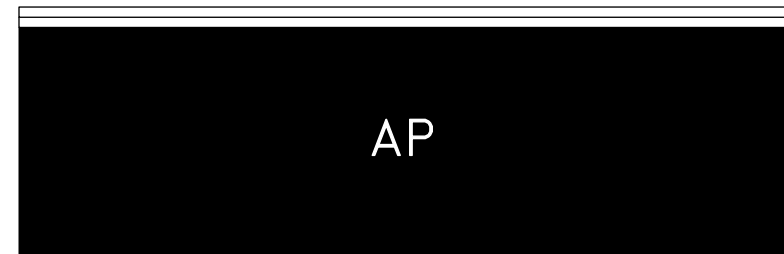
NOTES:

- ① REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
- ② WASH AND SEAL BRICK FAÇADE.
- ③ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL LOUVER JOINTS.
- ④ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL WINDOW JOINTS. PREP, PRIME AND PAINT WINDOW LINTELS.
- ⑤ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL CORNER/EXPANSION JOINTS.

LEGEND

-  RED BRICK TO BE 100% POINTED
-  RED BRICK, NO POINTING REQUIRED
-  BEIGE BRICK, NO POINTING REQUIRED
-  GREY BRICK, NO POINTING REQUIRED
-  SURFACE NOT IN SCOPE
-  CONCRETE

SITE MAP



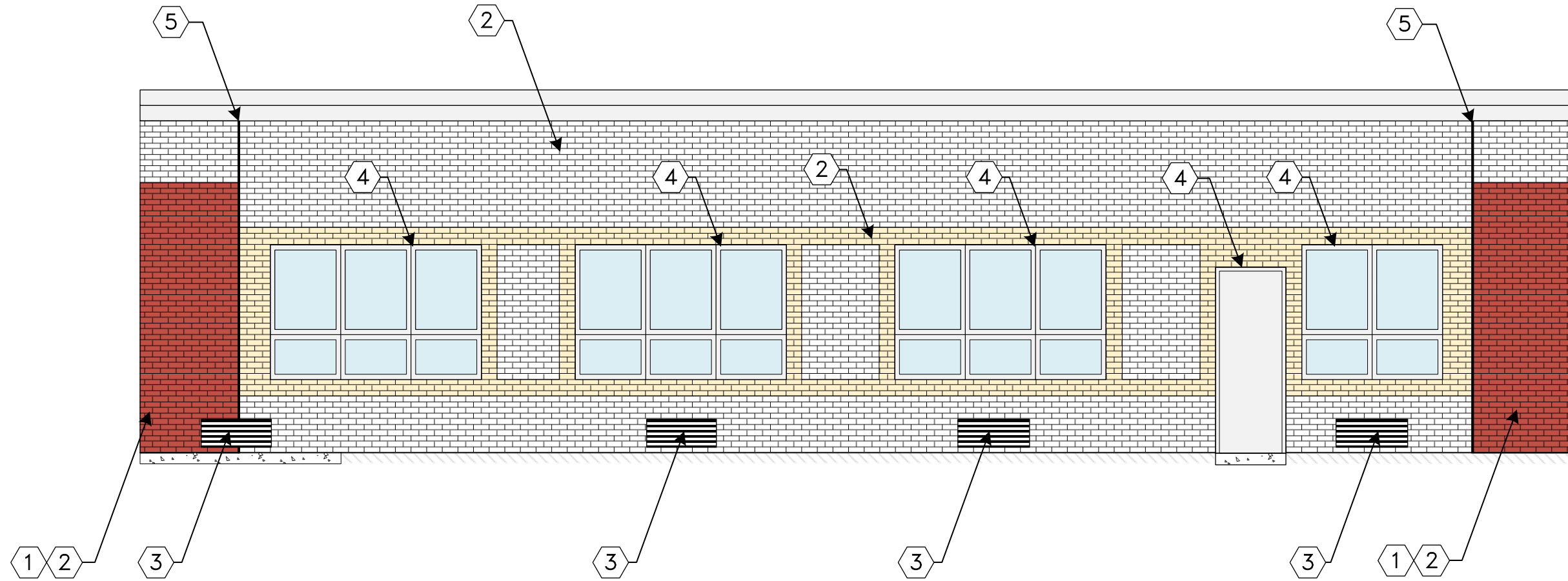


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SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057



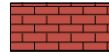




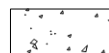
EV REPORT #43535217- JRSRHS #2 - WALL SECTION AQ

SCALE: 3/16" = 1'-0"

NOTES:

- ① REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
- ② WASH AND SEAL BRICK FAÇADE.
- ③ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL LOUVER JOINTS.
- ④ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL WINDOW & DOOR JOINTS. PREP, PRIME AND PAINT LINTELS.
- ⑤ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL CORNER/EXPANSION JOINTS.

LEGEND

-  RED BRICK TO BE 100% POINTED
-  RED BRICK, NO POINTING REQUIRED
-  BEIGE BRICK, NO POINTING REQUIRED
-  GREY BRICK, NO POINTING REQUIRED
-  SURFACE NOT IN SCOPE
-  CONCRETE

SITE MAP



SHEET TITLE:

EV#43535217 -
JRSRHS #2 -
WALL SECTION
AQ PLAN

SHEET NO.

JS-8

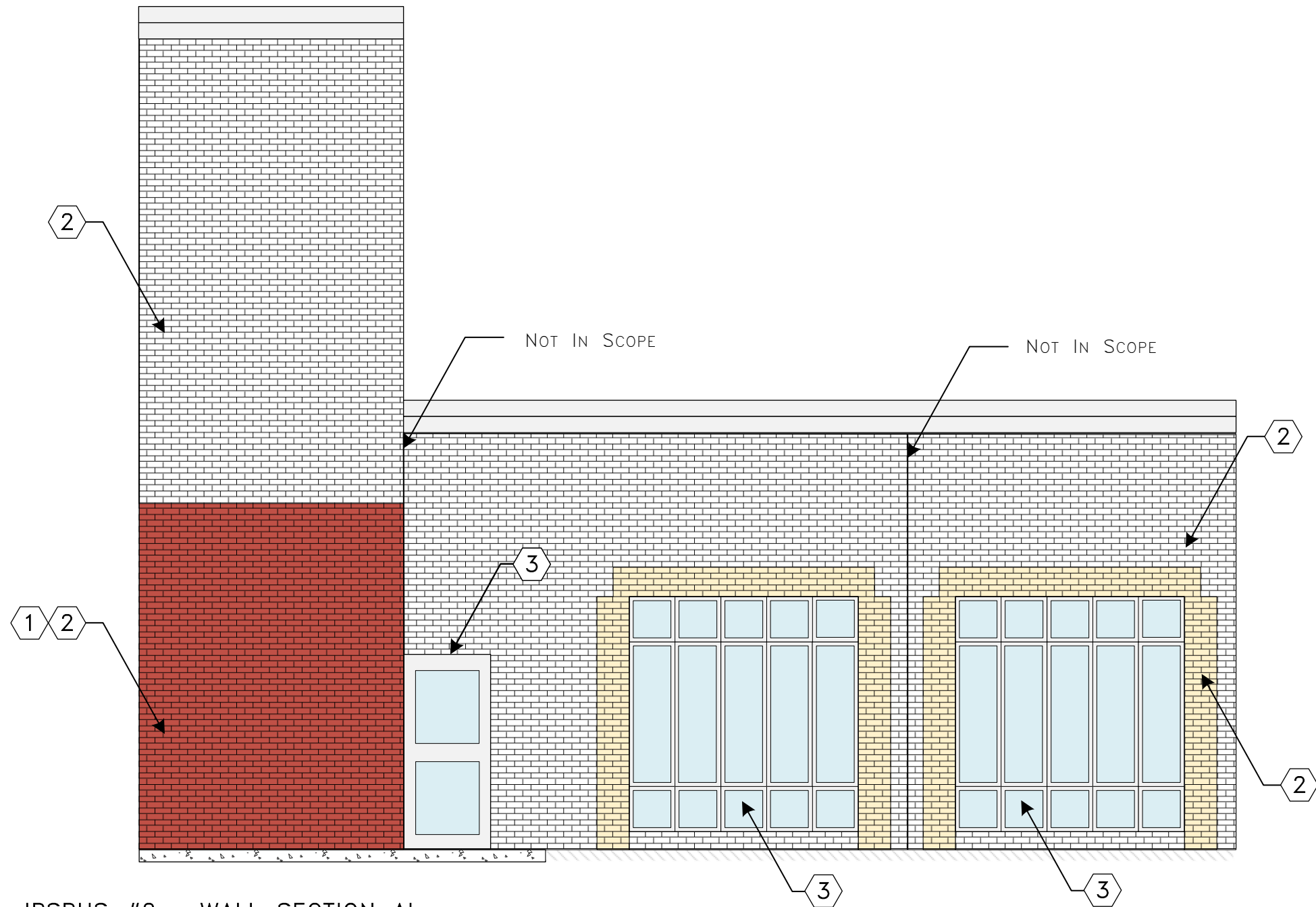


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MCDONALD, PENNSYLVANIA
15057



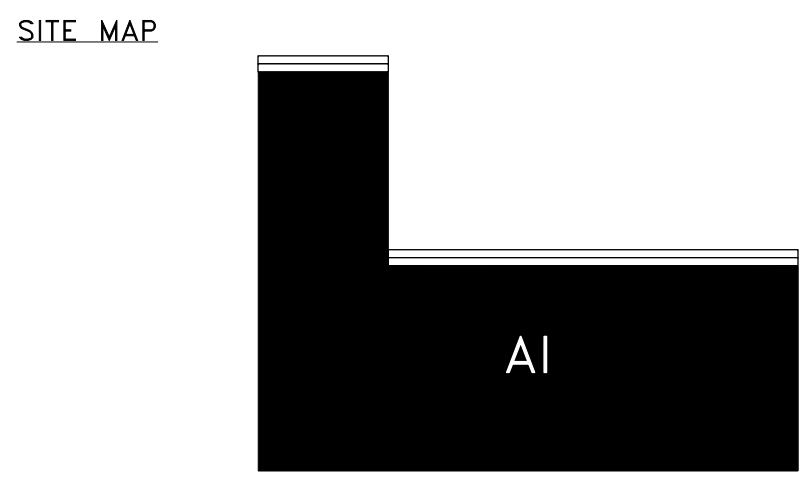
EV REPORT #43535217 - JRSRHS #2 - WALL SECTION AI

SCALE: 3/16" = 1'-0"

- NOTES:**
- ① REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
 - ② WASH AND SEAL BRICK FAÇADE.
 - ③ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL WINDOW & DOOR JOINTS. PREP, PRIME AND PAINT LINTELS.
 - ④ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL EXPANSION JOINTS.

LEGEND

	RED BRICK TO BE 100% POINTED
	RED BRICK, NO POINTING REQUIRED
	BEIGE BRICK, NO POINTING REQUIRED
	GREY BRICK, NO POINTING REQUIRED
	CONCRETE



SHEET TITLE:
EV#43535217 -
JRSRHS #2 -
WALL SECTION
AI PLAN

SHEET NO.
JS-9

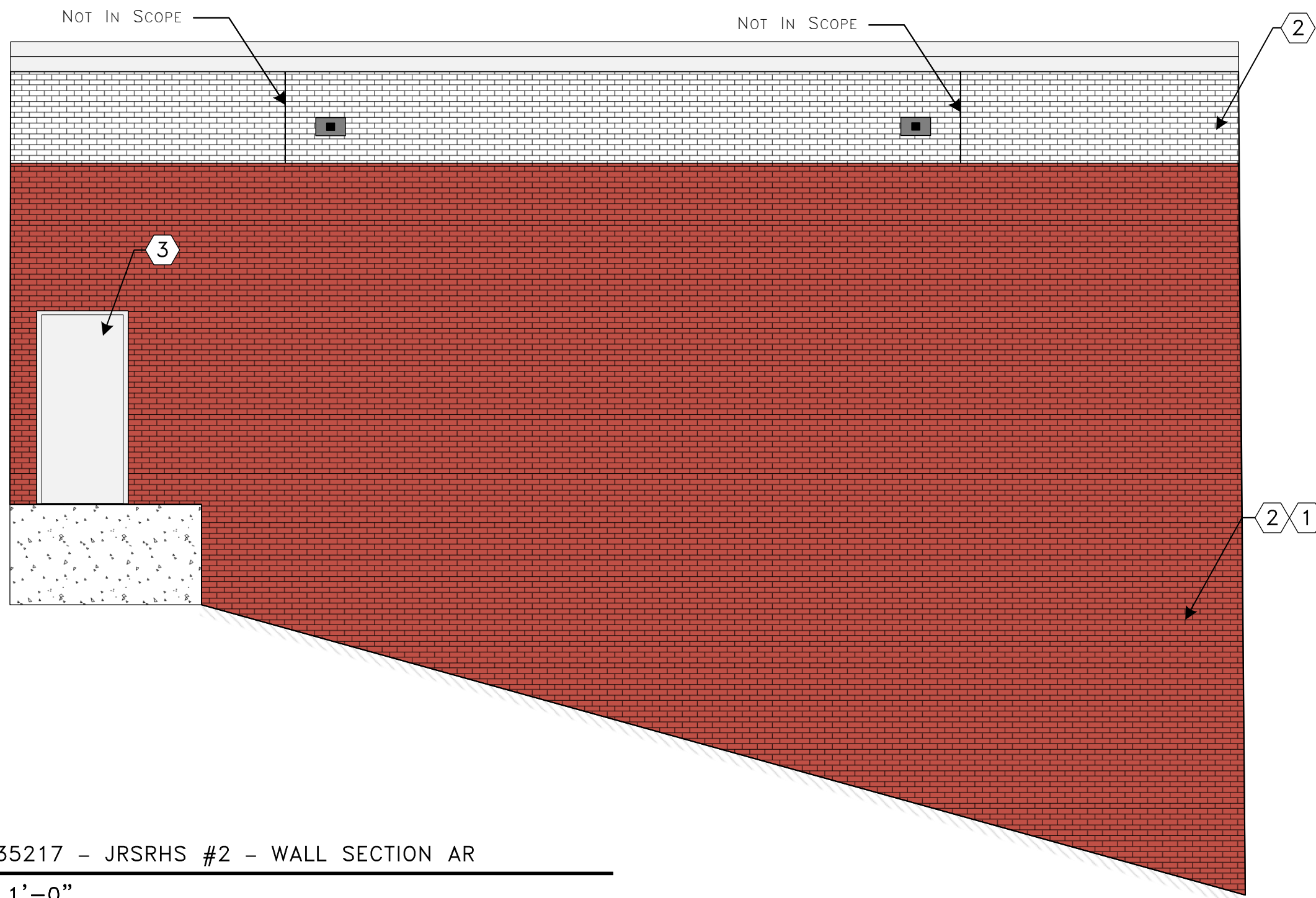


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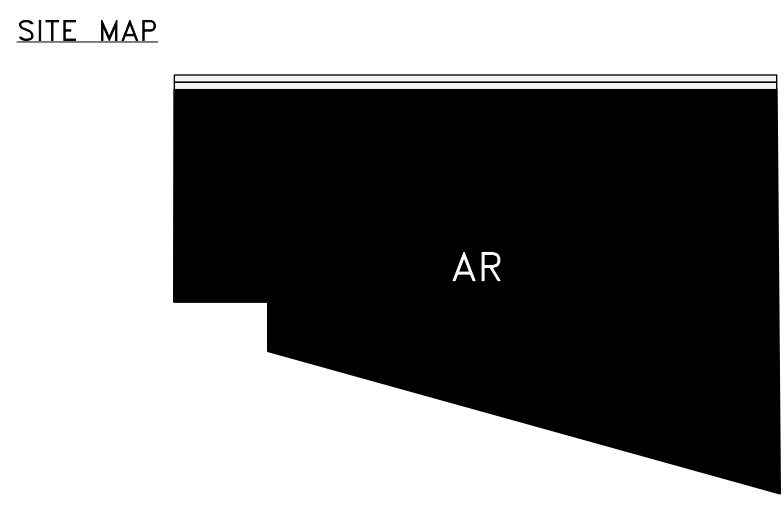
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SCALE: 3/16" = 1'-0"

NOTES:

- 1 REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
- 2 WASH AND SEAL BRICK FAÇADE.
- 3 REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT DOOR JOINTS. PREP, PRIME AND PAINT LINTELS.

LEGEND

	RED BRICK TO BE 100% POINTED
	RED BRICK, NO POINTING REQUIRED
	BEIGE BRICK, NO POINTING REQUIRED
	GREY BRICK, NO POINTING REQUIRED
	CONCRETE



SHEET TITLE:
EV#43535217 -
JRSRHS #2 -
WALL SECTION
AR PLAN

SHEET NO.
JS-10

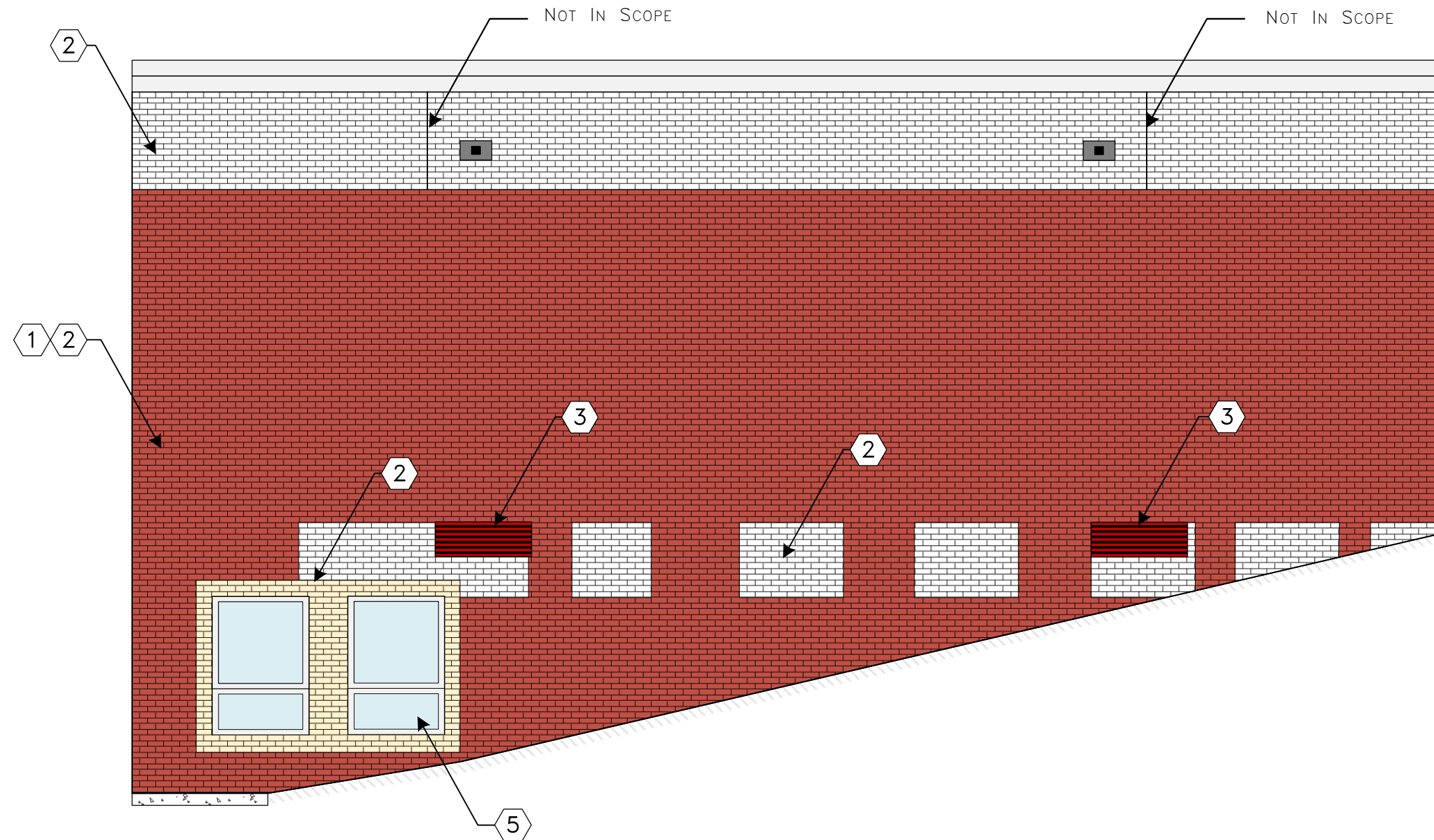


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SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057



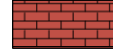



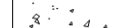
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SCALE: 3/16" = 1'-0"

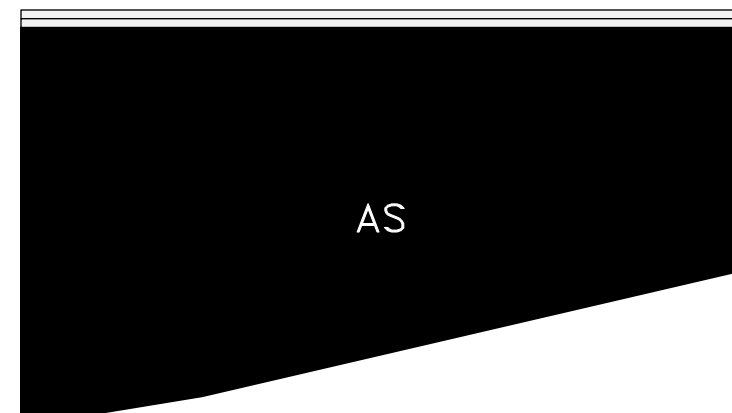
NOTES:

- ① REPLACE ALL CRACKED BRICK. REPOINT BRICK FAÇADE.
- ② WASH AND SEAL BRICK FAÇADE.
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- ④ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL EXPANSION JOINTS.
- ⑤ REMOVE EXISTING SEALANT AND INSTALL NEW BACKER ROD AND NEW SEALANT AT ALL WINDOW JOINTS. PREP, PRIME AND PAINT LINTELS.

LEGEND

-  RED BRICK TO BE 100% POINTED
-  RED BRICK, NO POINTING REQUIRED
-  BEIGE BRICK, NO POINTING REQUIRED
-  GREY BRICK, NO POINTING REQUIRED
-  CONCRETE

SITE MAP



SHEET TITLE:

EV#43535217 -
JRSRHS #2 -
WALL SECTION
AS PLAN

SHEET NO.

JS-11



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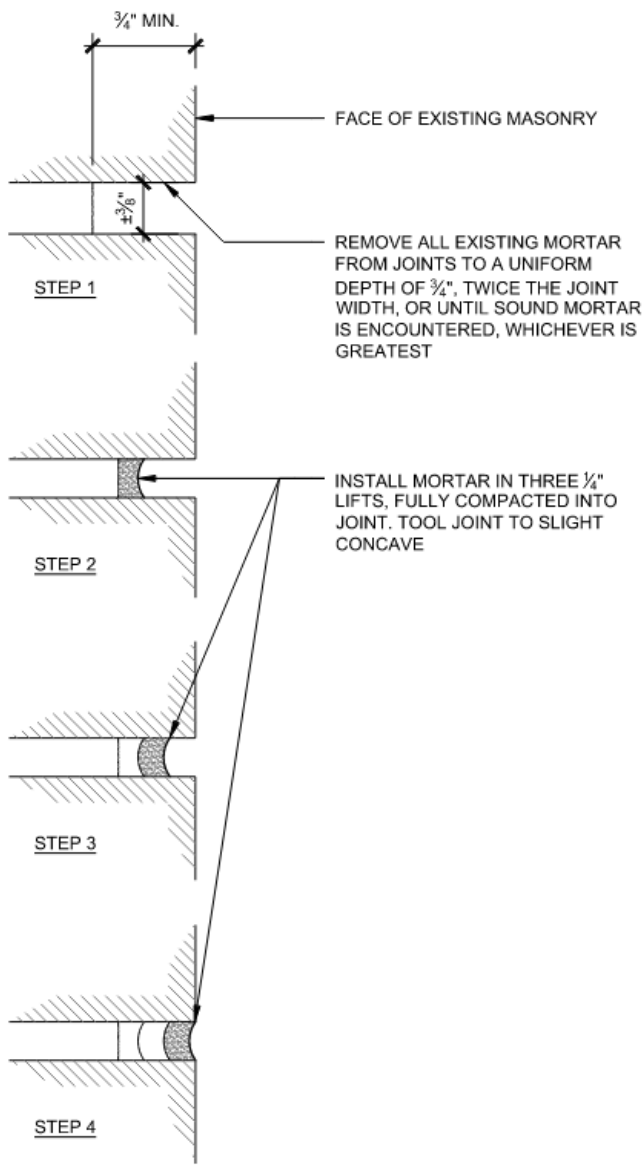
FORT CHERRY
SCHOOL DISTRICT
110 FORT CHERRY ROAD
MCDONALD, PENNSYLVANIA
15057

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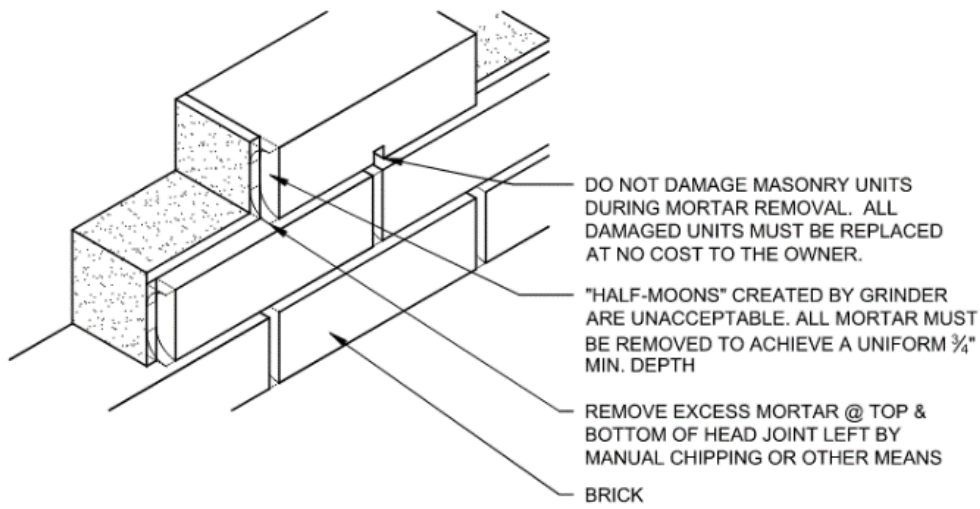
DETAIL
DRAWINGS

SHEET NO.

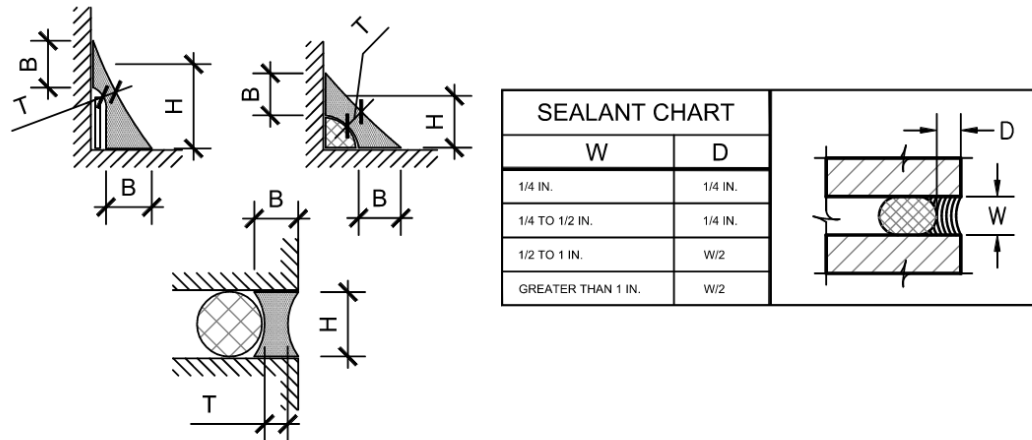
D-1



D-1
1 TYPICAL REPOINTING DETAIL



D-1
2 REPOINTING ISOMETRIC DETAIL

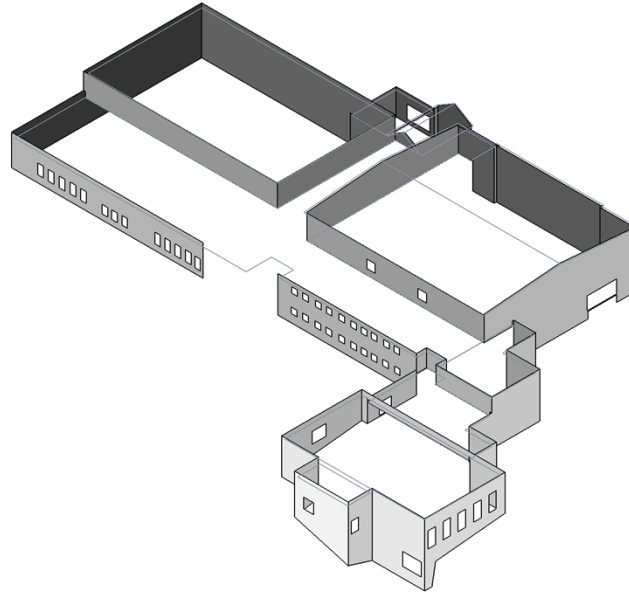


SEALANT CHART	
W	D
1/4 IN.	1/4 IN.
1/4 TO 1/2 IN.	1/4 IN.
1/2 TO 1 IN.	W/2
GREATER THAN 1 IN.	W/2

D-1
3 TYPICAL JOINT SEALANT DETAIL



100 Fort Cherry Rd, McDonald, PA 15057



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Report Details

Report:43580086

Wall Details

Total Wall Area = 25,616 sq ft
Total Wall Facets = 41
Total Window & Door Area = 1126 sq ft
Total Windows & Doors = 49

Report Contents

Images.....	1
3D Wall Area Diagram	4
Alternate 3D Wall View	5
Window and Door Diagram	6
Elevation Diagrams.....	8
Report Summary	12

Contact: Grant Kandabarow
Company: The Garland Company, Inc.
Address: 3800 East 91St
Cleveland OH 44105
Phone: (412) 352-2912

Measurements provided by www.eagleview.com



Satisfaction Guaranteed
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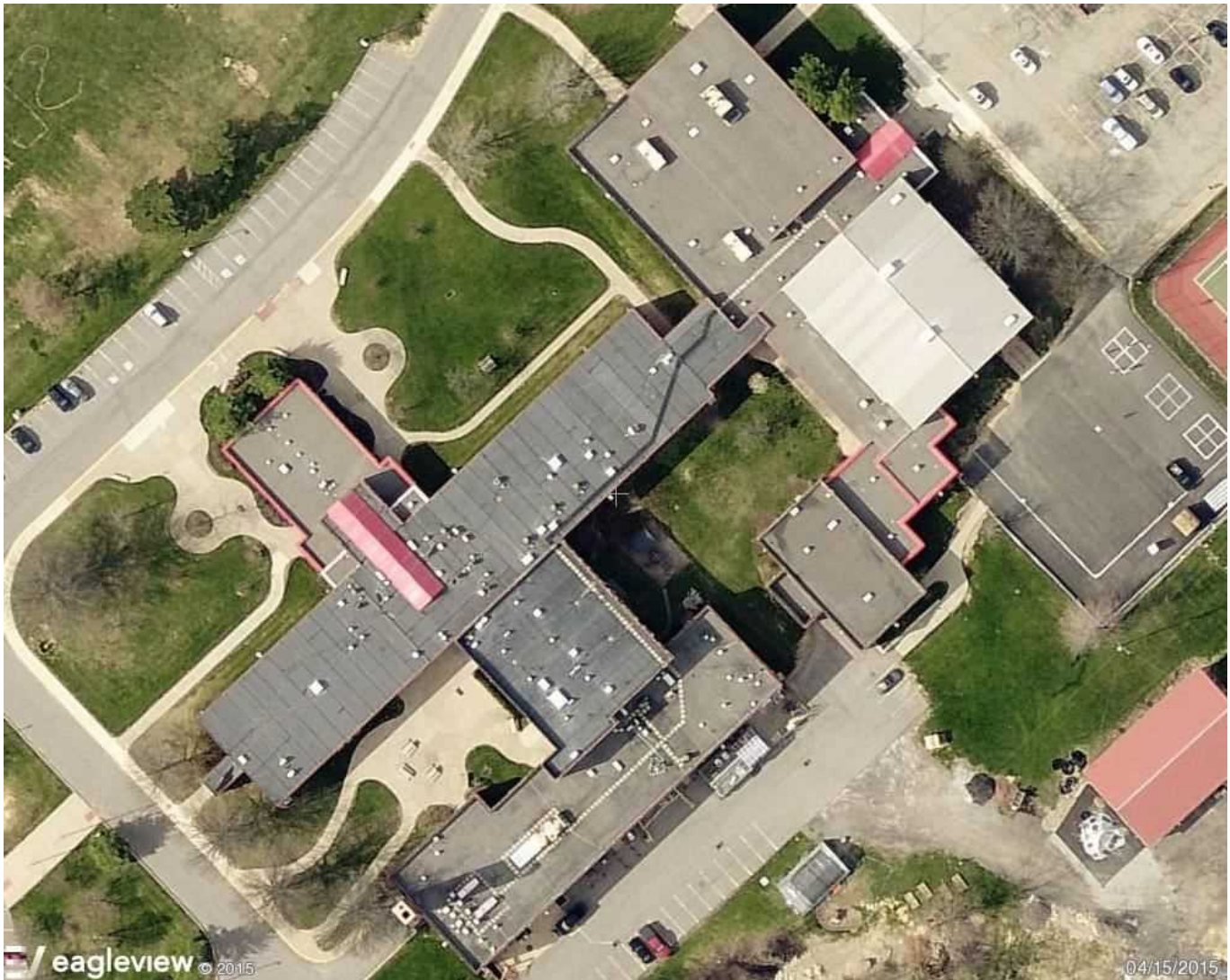
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Images

The following aerial images show different angles of this structure for your reference.

Top View





North Side



South Side





East Side



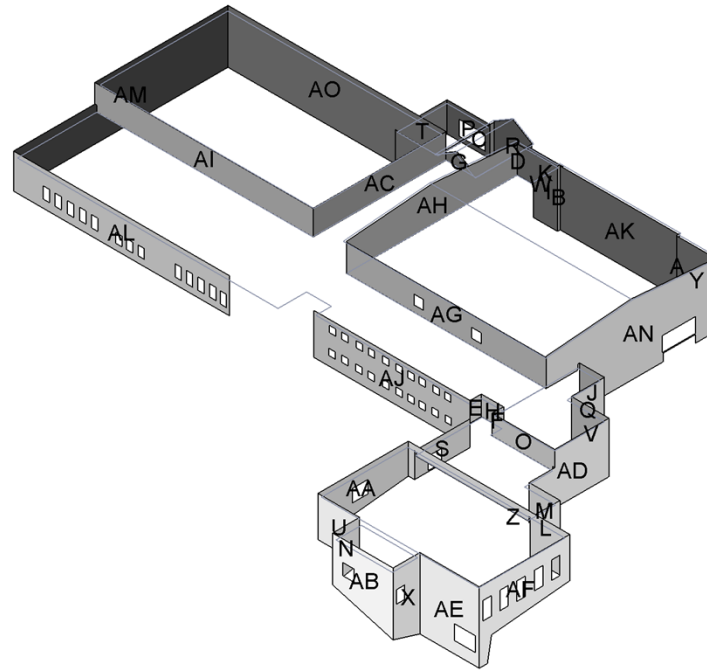
West Side



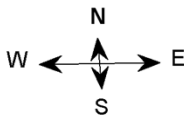
Wall Area Diagram

Total Wall Area = 25,616 sq ft, with 41 facets.

Total Wall Area with Windows and Doors = 26,742 sq ft



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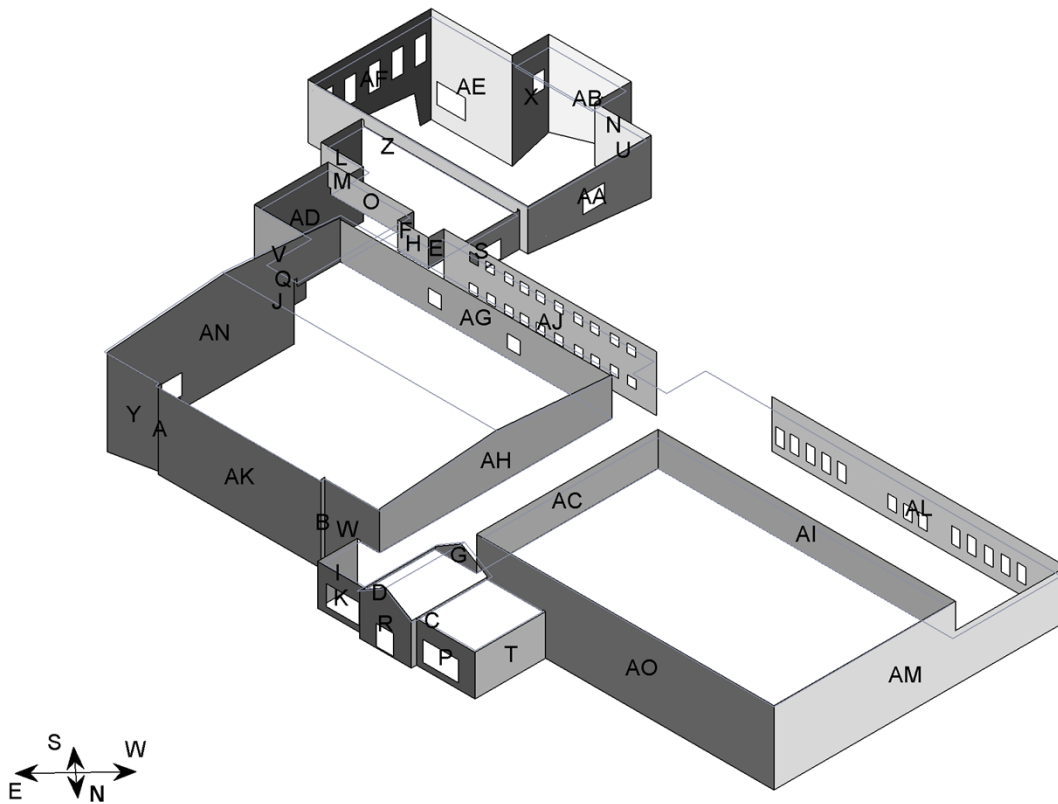
Wall Area by Direction

North	East	South	West
B - 34.5 sq ft C - 40.7 sq ft F - 50.6 sq ft N - 260.7 sq ft S - 277.6 sq ft T - 352.1 sq ft AA - 683.5 sq ft AH - 1231.3 sq ft AM - 2280 sq ft	J - 231.7 sq ft K - 153.9 sq ft M - 247.9 sq ft P - 204.7 sq ft R - 273.5 sq ft V - 394.3 sq ft W - 405.6 sq ft Y - 536.8 sq ft Z - 644.8 sq ft AK - 1512.8 sq ft AO - 2335.5 sq ft	A - 32.3 sq ft D - 41.4 sq ft E - 50.6 sq ft I - 197.8 sq ft L - 238.6 sq ft Q - 308.9 sq ft X - 384 sq ft AC - 757.2 sq ft AD - 835 sq ft AF - 804.7 sq ft AN - 2175 sq ft	G - 57.8 sq ft H - 100.6 sq ft O - 281.3 sq ft U - 380.9 sq ft AB - 711.6 sq ft AE - 890.2 sq ft AG - 1189.2 sq ft AI - 1237.3 sq ft AJ - 1275.7 sq ft AL - 1512.4 sq ft
5211 sq ft	6941.5 sq ft	5825.5 sq ft	7637 sq ft

Alternate Wall View

Total Wall Area = 25,616 sq ft, with 41 facets.

Total Wall Area with Windows and Doors = 26,742 sq ft



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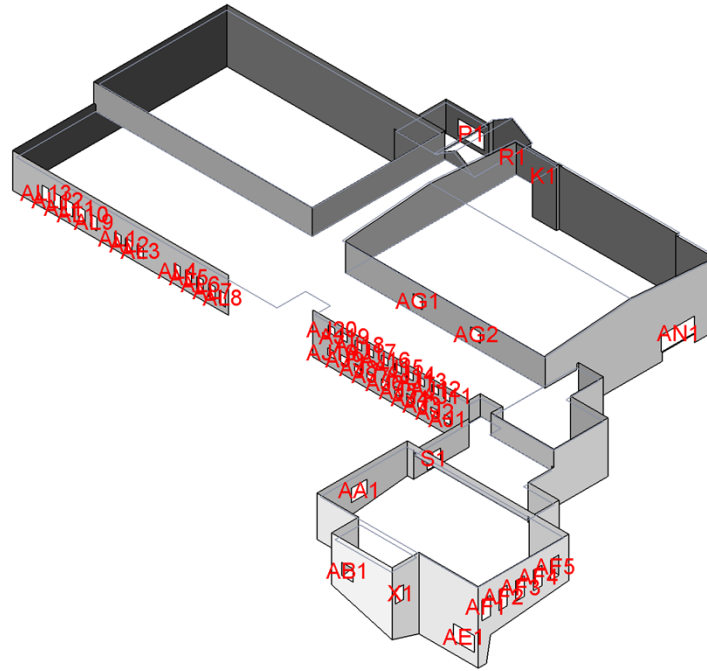
Wall Area by Direction

North	East	South	West
B - 34.5 sq ft C - 40.7 sq ft F - 50.6 sq ft N - 260.7 sq ft S - 277.6 sq ft T - 352.1 sq ft AA - 683.5 sq ft AH - 1231.3 sq ft AM - 2280 sq ft	J - 231.7 sq ft K - 153.9 sq ft M - 247.9 sq ft P - 204.7 sq ft R - 273.5 sq ft V - 394.3 sq ft W - 405.6 sq ft Y - 536.8 sq ft Z - 644.8 sq ft AK - 1512.8 sq ft AO - 2335.5 sq ft	A - 32.3 sq ft D - 41.4 sq ft E - 50.6 sq ft I - 197.8 sq ft L - 238.6 sq ft Q - 308.9 sq ft X - 384 sq ft AC - 757.2 sq ft AD - 835 sq ft AF - 804.7 sq ft AN - 2175 sq ft	G - 57.8 sq ft H - 100.6 sq ft O - 281.3 sq ft U - 380.9 sq ft AB - 711.6 sq ft AE - 890.2 sq ft AG - 1189.2 sq ft AI - 1237.3 sq ft AJ - 1275.7 sq ft AL - 1512.4 sq ft
5211 sq ft	6941.5 sq ft	5825.5 sq ft	7637 sq ft

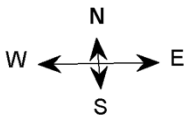
Window and Door Diagram

Total Window and Door Area = 1126 sq ft, with 49 windows and doors

Total Window and Door Perimeter = 892 ft



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Window and Door Measurements

North	East	South	West
S1 - 39 sq ft AA1 - 45 sq ft	K1 - 80.5 sq ft P1 - 87.5 sq ft R1 - 42 sq ft	X1 - 24 sq ft AF1 - 34 sq ft AF2 - 34 sq ft AF3 - 34 sq ft AF4 - 34 sq ft AF5 - 34 sq ft AN1 - 112 sq ft	AB1 - 30.2 sq ft AE1 - 70 sq ft AG1 - 20.3 sq ft AG2 - 20.3 sq ft AJ1 - 9 sq ft AJ2 - 9 sq ft AJ3 - 9 sq ft AJ4 - 9 sq ft AJ5 - 9 sq ft AJ6 - 9 sq ft AJ7 - 9 sq ft AJ8 - 9 sq ft AJ9 - 9 sq ft AJ10 - 9 sq ft AJ11 - 9 sq ft AJ12 - 9 sq ft AJ13 - 9 sq ft AJ14 - 9 sq ft AJ15 - 9 sq ft



Report: 43580086

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Window and Door Measurements continued...

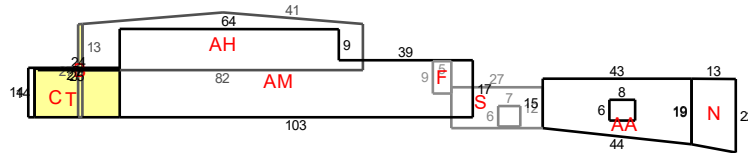
<u>North</u>	<u>East</u>	<u>South</u>	<u>West</u>
			AJ16 - 9 sq ft AJ17 - 9 sq ft AJ18 - 9 sq ft AJ19 - 9 sq ft AJ20 - 9 sq ft AL1 - 13.5 sq ft AL2 - 13.5 sq ft AL3 - 13.5 sq ft AL4 - 16.5 sq ft AL5 - 16.5 sq ft AL6 - 16.5 sq ft AL7 - 16.5 sq ft AL8 - 16.5 sq ft AL9 - 16.5 sq ft AL10 - 16.5 sq ft AL11 - 16.5 sq ft AL12 - 16.5 sq ft AL13 - 16.5 sq ft
84 sq ft	210 sq ft	306 sq ft	526.3 sq ft



North Elevation Diagram

Top of Walls = 326 ft

Bottom of Walls = 326 ft



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North Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
B	34.5	0.0	0.0	0
C	40.7	0.0	0.0	0
F	50.6	0.0	0.0	0
N	260.7	0.0	0.0	0
S	277.6	39.0	25.0	1
T	352.1	0.0	0.0	0
AA	683.5	45.0	27.0	1
AH	1231.3	0.0	0.0	0
AM	2280.0	0.0	0.0	0
Total	5211 sq ft	84 sq ft	52 ft	2

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



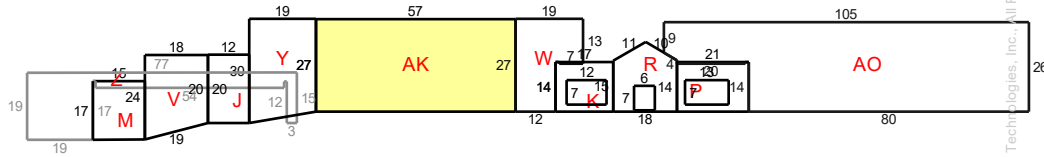
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East Elevation Diagram

Top of Walls = 381 ft

Bottom of Walls = 379 ft



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East Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
J	231.7	0.0	0.0	0
K	153.9	80.5	37.0	1
M	247.9	0.0	0.0	0
P	204.7	87.5	39.0	1
R	273.5	42.0	26.0	1
V	394.3	0.0	0.0	0
W	405.6	0.0	0.0	0
Y	536.8	0.0	0.0	0
Z	644.8	0.0	0.0	0
AK	1512.8	0.0	0.0	0
AO	2335.5	0.0	0.0	0
Total	6941.5 sq ft	210 sq ft	102 ft	3

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



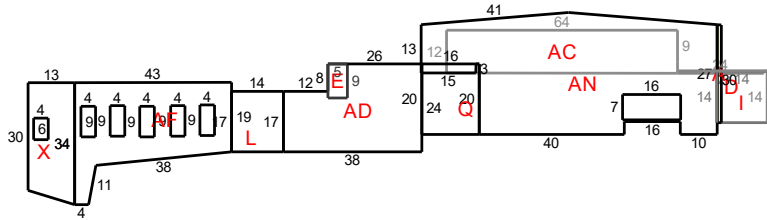
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South Elevation Diagram

Top of Walls = 318 ft

Bottom of Walls = 327 ft



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South Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
A	32.3	0.0	0.0	0
D	41.4	0.0	0.0	0
E	50.6	0.0	0.0	0
I	197.8	0.0	0.0	0
L	238.6	0.0	0.0	0
Q	308.9	0.0	0.0	0
X	384.0	24.0	20.0	1
AC	757.2	0.0	0.0	0
AD	835.0	0.0	0.0	0
AF	804.7	170.0	125.0	5
AN	2175.0	112.0	46.0	1
Total	5825.5 sq ft	306 sq ft	191 ft	7

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



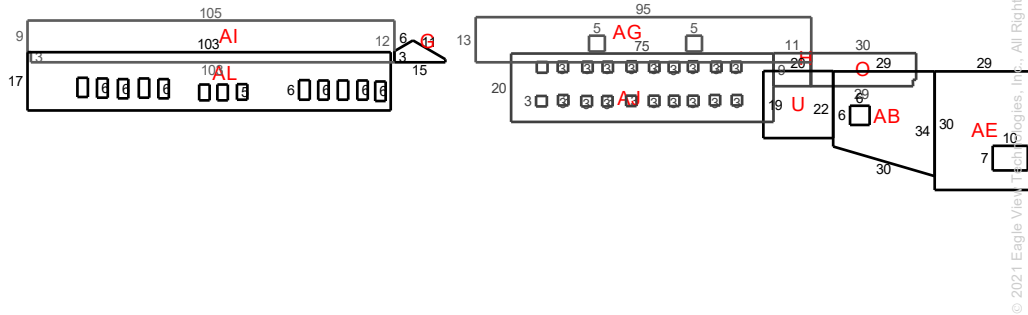
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West Elevation Diagram

Top of Walls = 513 ft

Bottom of Walls = 512 ft



West Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
G	57.8	0.0	0.0	0
H	100.6	0.0	0.0	0
O	281.3	0.0	0.0	0
U	380.9	0.0	0.0	0
AB	711.6	30.2	22.0	1
AE	890.2	70.0	34.0	1
AG	1189.2	40.6	36.0	2
AI	1237.3	0.0	0.0	0
AJ	1275.7	180.0	240.0	20
AL	1512.4	205.5	215.0	13
Total	7637 sq ft	526.3 sq ft	547 ft	37

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



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Wall Report Summary

Below is a measurement summary using the values presented in this report.

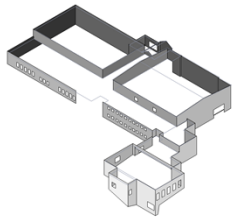
Wall Area Waste Calculation Table (excluding windows and doors)

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (sq ft)	25,616	28,177	28,433	28,690	28,946	29,202	29,458	30,739
Squares	256.2	281.8	284.3	286.9	289.5	292.0	294.6	307.4

This table shows the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.



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Total Lengths & Areas

- Wall Area = 25,616 sq ft
- Wall Area with Windows and Doors = 26,742 sq ft
- Top of Walls = 1,536 ft
- Bottom of Walls = 1,543 ft
- Inside Corners = 126 ft
- Outside Corners = 479 ft
- Inside Corners > 90° = 0 ft
- Outside Corners > 90° = 0 ft
- Window and Door Area = 1126 sq ft
- Window and Door Perimeter = 892 ft
- Fascia (Eaves + Rake) = 465 ft

Total Wall Facets = 41
Total Windows and Doors = 49

Property Location

Longitude = -80.2795018
Latitude = 40.3463383

Notes

This was ordered as a commercial property. There were no changes to the structure in the past four years.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.

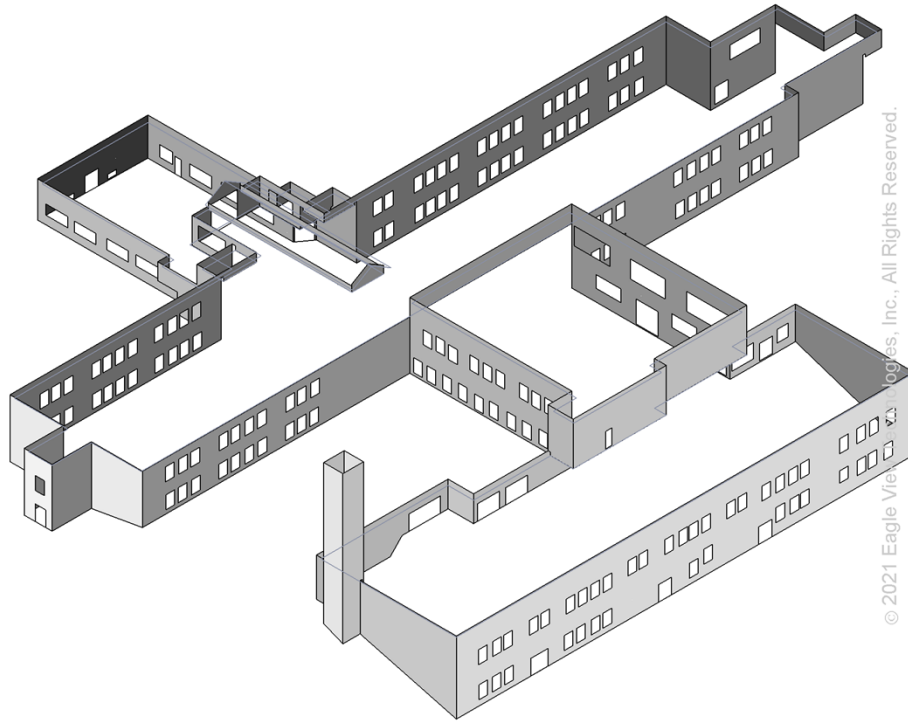


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Report Details

Report:43535217

Wall Details

Total Wall Area = 39,098 sq ft
Total Wall Facets = 52
Total Window & Door Area = 6071 sq ft
Total Windows & Doors = 195

Report Contents

Images 1
3D Wall Area Diagram 4
Alternate 3D Wall View 6
Window and Door Diagram 8
Elevation Diagrams 10
Report Summary 15

Contact: Grant Kandabarow
Company: The Garland Company, Inc.
Address: 3800 East 91St
Cleveland OH 44105
Phone: (412) 352-2912

Measurements provided by www.eagleview.com



Satisfaction Guaranteed
www.eagleview.com/Guarantee.aspx

An accuracy certificate is not available for this address due to image limitations.



Images

The following aerial images show different angles of this structure for your reference.

Top View





North Side



South Side





East Side



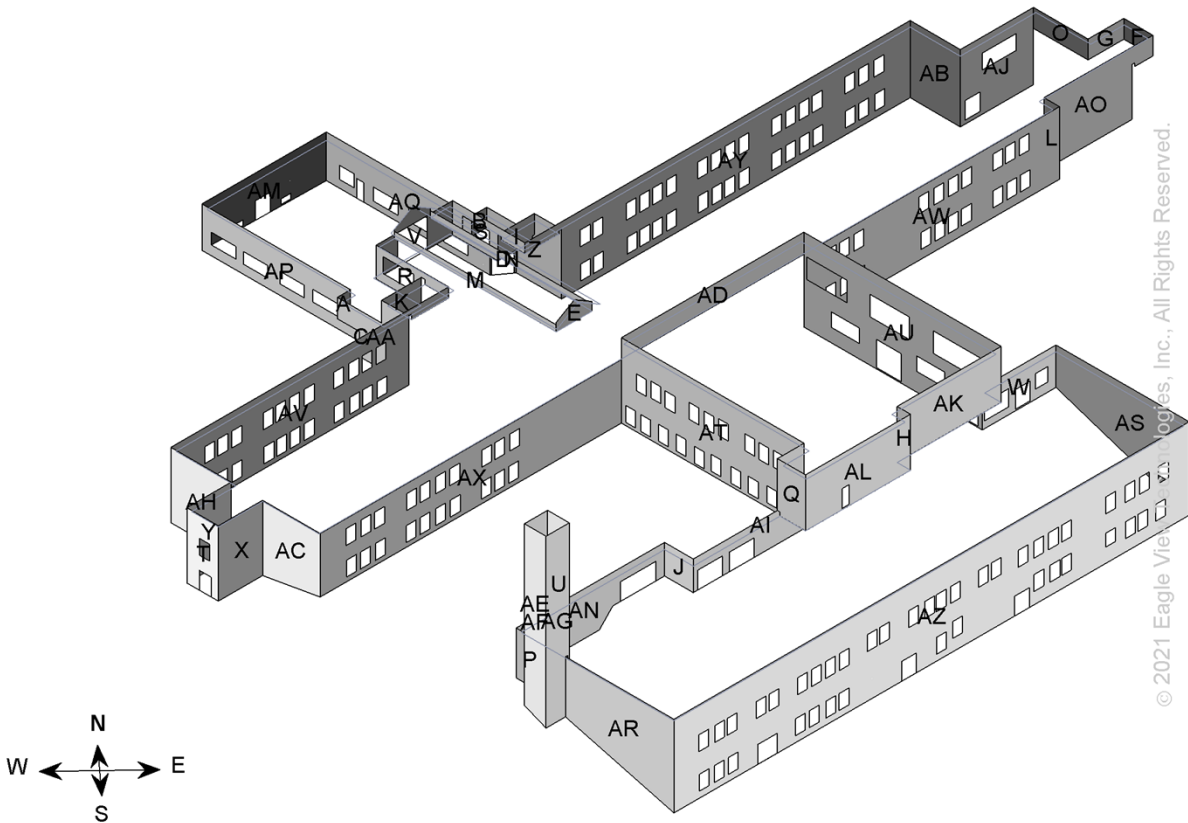
West Side



Wall Area Diagram

Total Wall Area = 39,098 sq ft, with 52 facets.

Total Wall Area with Windows and Doors = 45,169 sq ft



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Wall Area by Direction

North	East	South	West
A - 40.9 sq ft B - 44.8 sq ft C - 21.4 sq ft D - 31.1 sq ft G - 108.5 sq ft I - 137.6 sq ft K - 159.2 sq ft V - 294.5 sq ft W - 319.4 sq ft Y - 484.3 sq ft AD - 582.8 sq ft AE - 585.8 sq ft AI - 601.4 sq ft AJ - 696.1 sq ft AM - 800.6 sq ft AN - 835.7 sq ft AV - 2137.1 sq ft AY - 3150.8 sq ft	F - 87.7 sq ft H - 109.5 sq ft J - 140.2 sq ft L - 164 sq ft N - 165.3 sq ft O - 165.9 sq ft S - 210.1 sq ft U - 427.6 sq ft Z - 490.2 sq ft AB - 563.1 sq ft AQ - 900.4 sq ft AS - 1249.1 sq ft AU - 1865.1 sq ft	E - 81.6 sq ft X - 484.1 sq ft AG - 614.7 sq ft AK - 846.9 sq ft AL - 833.8 sq ft AO - 990.8 sq ft AW - 2219.7 sq ft AX - 2299.5 sq ft AZ - 5885.2 sq ft	M - 165.3 sq ft P - 201.5 sq ft Q - 227.3 sq ft R - 189.1 sq ft T - 284.8 sq ft AA - 490.5 sq ft AC - 580.6 sq ft AF - 586.9 sq ft AH - 660.3 sq ft AP - 862.3 sq ft AR - 1210.3 sq ft AT - 1811.9 sq ft



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Wall Area by Direction continued...

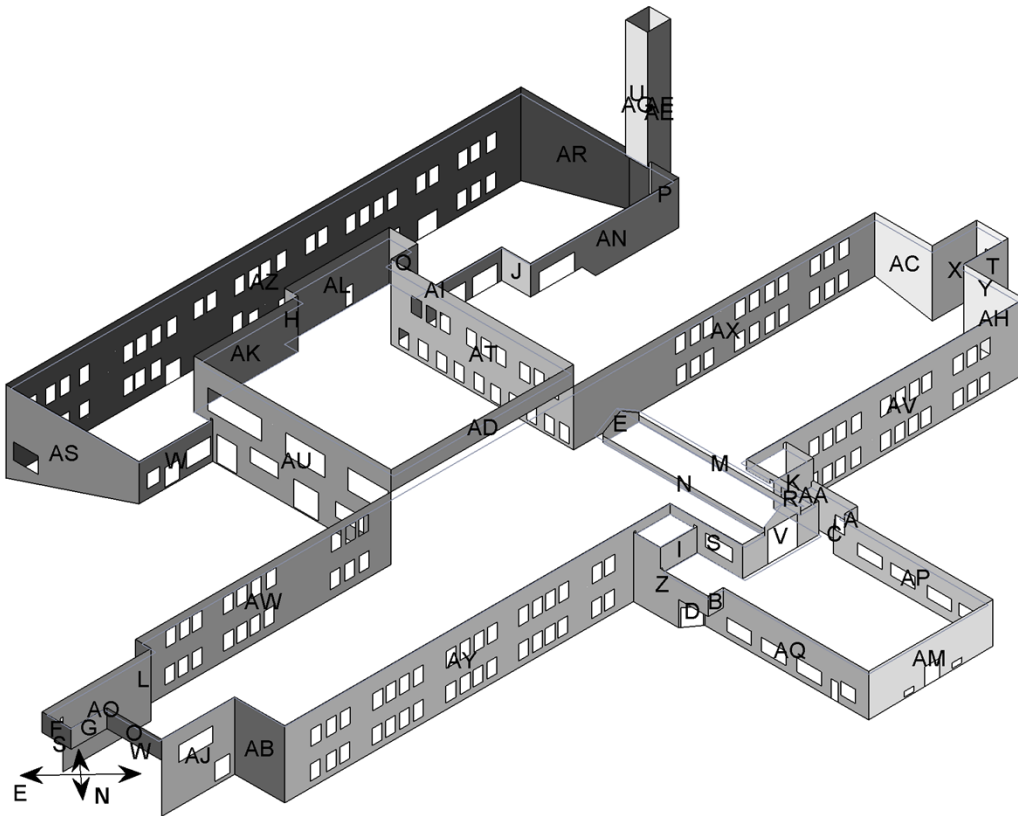
<u>North</u>	<u>East</u>	<u>South</u>	<u>West</u>
11032 sq ft	6538.2 sq ft	14256.3 sq ft	7270.8 sq ft



Alternate Wall View

Total Wall Area = 39,098 sq ft, with 52 facets.

Total Wall Area with Windows and Doors = 45,169 sq ft



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Wall Area by Direction

North	East	South	West
A - 40.9 sq ft B - 44.8 sq ft C - 21.4 sq ft D - 31.1 sq ft G - 108.5 sq ft I - 137.6 sq ft K - 159.2 sq ft V - 294.5 sq ft W - 319.4 sq ft Y - 484.3 sq ft AD - 582.8 sq ft AE - 585.8 sq ft AI - 601.4 sq ft AJ - 696.1 sq ft AM - 800.6 sq ft AN - 835.7 sq ft AV - 2137.1 sq ft AY - 3150.8 sq ft	F - 87.7 sq ft H - 109.5 sq ft J - 140.2 sq ft L - 164 sq ft N - 165.3 sq ft O - 165.9 sq ft S - 210.1 sq ft U - 427.6 sq ft Z - 490.2 sq ft AB - 563.1 sq ft AQ - 900.4 sq ft AS - 1249.1 sq ft AU - 1865.1 sq ft	E - 81.6 sq ft X - 484.1 sq ft AG - 614.7 sq ft AK - 846.9 sq ft AL - 833.8 sq ft AO - 990.8 sq ft AW - 2219.7 sq ft AX - 2299.5 sq ft AZ - 5885.2 sq ft	M - 165.3 sq ft P - 201.5 sq ft Q - 227.3 sq ft R - 189.1 sq ft T - 284.8 sq ft AA - 490.5 sq ft AC - 580.6 sq ft AF - 586.9 sq ft AH - 660.3 sq ft AP - 862.3 sq ft AR - 1210.3 sq ft AT - 1811.9 sq ft



Report: 43535217

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Wall Area by Direction continued...

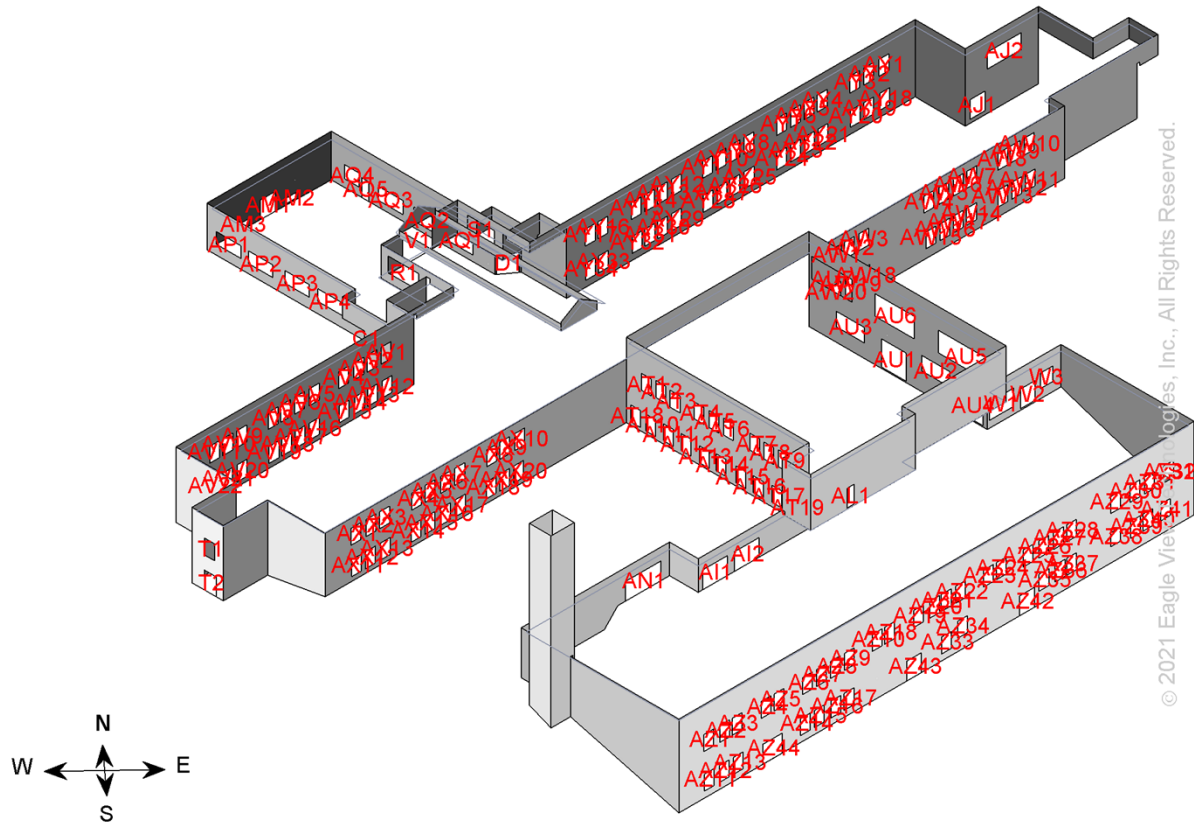
<u>North</u>	<u>East</u>	<u>South</u>	<u>West</u>
11032 sq ft	6538.2 sq ft	14256.3 sq ft	7270.8 sq ft



Window and Door Diagram

Total Window and Door Area = 6071 sq ft, with 195 windows and doors

Total Window and Door Perimeter = 4323 ft



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Window and Door Measurements

<u>North</u>	<u>East</u>	<u>South</u>	<u>West</u>
C1 - 41.9 sq ft	S1 - 55 sq ft	AL1 - 21 sq ft	R1 - 75 sq ft
D1 - 45.7 sq ft	AQ1 - 50 sq ft	AW1 - 24 sq ft	T1 - 24 sq ft
V1 - 144.6 sq ft	AQ2 - 50 sq ft	AW2 - 24 sq ft	T2 - 35.2 sq ft
W1 - 65 sq ft	AQ3 - 50 sq ft	AW3 - 24 sq ft	AP1 - 45 sq ft
W2 - 42 sq ft	AQ4 - 30 sq ft	AW4 - 24 sq ft	AP2 - 45 sq ft
W3 - 27.5 sq ft	AQ5 - 20.9 sq ft	AW5 - 24 sq ft	AP3 - 45 sq ft
AI1 - 70.4 sq ft	AS1 - 65 sq ft	AW6 - 24 sq ft	AP4 - 45 sq ft
AI2 - 69.6 sq ft	AU1 - 100 sq ft	AW7 - 24 sq ft	AT1 - 24 sq ft
AJ1 - 41.8 sq ft	AU2 - 63.2 sq ft	AW8 - 24 sq ft	AT2 - 24 sq ft
AJ2 - 84 sq ft	AU3 - 63.3 sq ft	AW9 - 24 sq ft	AT3 - 24 sq ft
AM1 - 42 sq ft	AU4 - 80 sq ft	AW10 - 24 sq ft	AT4 - 24 sq ft
AM2 - 8 sq ft	AU5 - 176 sq ft	AW11 - 24 sq ft	AT5 - 24 sq ft
AM3 - 8 sq ft	AU6 - 128 sq ft	AW12 - 24 sq ft	AT6 - 24 sq ft
AN1 - 101.4 sq ft	AU7 - 132 sq ft	AW13 - 24 sq ft	AT7 - 24 sq ft
AV1 - 24 sq ft		AW14 - 24 sq ft	AT8 - 24 sq ft
AV2 - 24 sq ft		AW15 - 24 sq ft	AT9 - 24 sq ft
AV3 - 24 sq ft		AW16 - 24 sq ft	AT10 - 24 sq ft
AV4 - 24 sq ft		AW17 - 24 sq ft	AT11 - 24 sq ft
AV5 - 24 sq ft		AW18 - 24 sq ft	AT12 - 24 sq ft



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Window and Door Measurements continued...

<u>North</u>	<u>East</u>	<u>South</u>	<u>West</u>
AV6 - 24 sq ft		AW19 - 24 sq ft	AT13 - 24 sq ft
AV7 - 24 sq ft		AW20 - 24 sq ft	AT14 - 24 sq ft
AV8 - 24 sq ft		AX1 - 24 sq ft	AT15 - 24 sq ft
AV9 - 24 sq ft		AX2 - 24 sq ft	AT16 - 24 sq ft
AV10 - 24 sq ft		AX3 - 24 sq ft	AT17 - 24 sq ft
AV11 - 24 sq ft		AX4 - 24 sq ft	AT18 - 24 sq ft
AV12 - 24 sq ft		AX5 - 24 sq ft	AT19 - 24 sq ft
AV13 - 24 sq ft		AX6 - 24 sq ft	
AV14 - 24 sq ft		AX7 - 24 sq ft	
AV15 - 24 sq ft		AX8 - 24 sq ft	
AV16 - 24 sq ft		AX9 - 24 sq ft	
AV17 - 24 sq ft		AX10 - 24 sq ft	
AV18 - 24 sq ft		AX11 - 24 sq ft	
AV19 - 24 sq ft		AX12 - 24 sq ft	
AV20 - 24 sq ft		AX13 - 24 sq ft	
AV21 - 24 sq ft		AX14 - 24 sq ft	
AV22 - 24 sq ft		AX15 - 24 sq ft	
AY1 - 24 sq ft		AX16 - 24 sq ft	
AY2 - 24 sq ft		AX17 - 24 sq ft	
AY3 - 24 sq ft		AX18 - 24 sq ft	
AY4 - 24 sq ft		AX19 - 24 sq ft	
AY5 - 24 sq ft		AX20 - 24 sq ft	
AY6 - 24 sq ft		AZ1 - 24 sq ft	
AY7 - 24 sq ft		AZ2 - 24 sq ft	
AY8 - 24 sq ft		AZ3 - 24 sq ft	
AY9 - 24 sq ft		AZ4 - 24 sq ft	
AY10 - 24 sq ft		AZ5 - 24 sq ft	
AY11 - 24 sq ft		AZ6 - 24 sq ft	
AY12 - 24 sq ft		AZ7 - 24 sq ft	
AY13 - 24 sq ft		AZ8 - 24 sq ft	
AY14 - 24 sq ft		AZ9 - 24 sq ft	
AY15 - 24 sq ft		AZ10 - 24 sq ft	
AY16 - 24 sq ft		AZ11 - 24 sq ft	
AY17 - 24 sq ft		AZ12 - 24 sq ft	
AY18 - 24 sq ft		AZ13 - 24 sq ft	
AY19 - 24 sq ft		AZ14 - 24 sq ft	
AY20 - 24 sq ft		AZ15 - 24 sq ft	
AY21 - 24 sq ft		AZ16 - 24 sq ft	
AY22 - 24 sq ft		AZ17 - 24 sq ft	
AY23 - 24 sq ft		AZ18 - 24 sq ft	
AY24 - 24 sq ft		AZ19 - 24 sq ft	
AY25 - 24 sq ft		AZ20 - 24 sq ft	
AY26 - 24 sq ft		AZ21 - 24 sq ft	
AY27 - 24 sq ft		AZ22 - 24 sq ft	
AY28 - 24 sq ft		AZ23 - 24 sq ft	
AY29 - 24 sq ft		AZ24 - 24 sq ft	
AY30 - 24 sq ft		AZ25 - 24 sq ft	
AY31 - 24 sq ft		AZ26 - 24 sq ft	
AY32 - 24 sq ft		AZ27 - 24 sq ft	
AY33 - 24 sq ft		AZ28 - 24 sq ft	
AY34 - 24 sq ft		AZ29 - 24 sq ft	
		AZ30 - 24 sq ft	



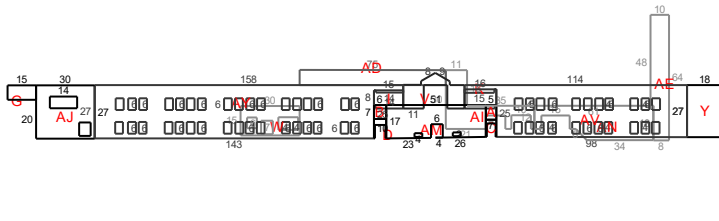
<u>North</u>	<u>East</u>	<u>South</u>	<u>West</u>
		AZ31 - 24 sq ft AZ32 - 24 sq ft AZ33 - 24 sq ft AZ34 - 24 sq ft AZ35 - 24 sq ft AZ36 - 24 sq ft AZ37 - 24 sq ft AZ38 - 19.7 sq ft AZ39 - 24 sq ft AZ40 - 24 sq ft AZ41 - 24 sq ft AZ42 - 42 sq ft AZ43 - 42.2 sq ft AZ44 - 56.4 sq ft	
2135.9 sq ft	1063.4 sq ft	2101.3 sq ft	770.2 sq ft



North Elevation Diagram

Top of Walls = 698 ft

Bottom of Walls = 686 ft



North Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
A	40.9	0.0	0.0	0
B	44.8	0.0	0.0	0
C	21.4	41.9	26.0	1
D	31.1	45.7	27.2	1
G	108.5	0.0	0.0	0
I	137.6	0.0	0.0	0
K	159.2	0.0	0.0	0
V	294.5	144.6	48.0	1
W	319.4	134.5	80.0	3
Y	484.3	0.0	0.0	0
AD	582.8	0.0	0.0	0
AE	585.8	0.0	0.0	0
AI	601.4	140.0	68.0	2
AJ	696.1	125.8	66.0	2
AM	800.6	58.0	50.0	3
AN	835.7	101.4	43.0	1
AV	2137.1	528.0	440.0	22
AY	3150.8	816.0	680.0	34

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



Report: 43535217

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North Elevation Details continued...

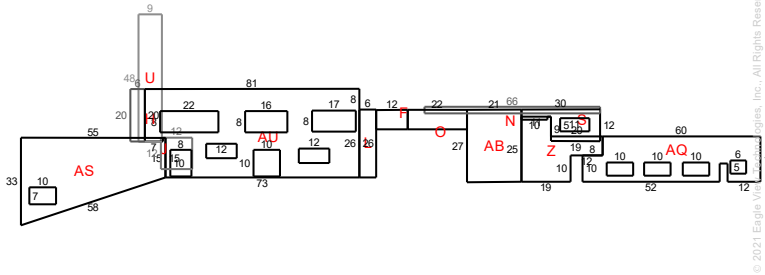
Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
Total	11032 sq ft	2135.9 sq ft	1528.2 ft	70



East Elevation Diagram

Top of Walls = 417 ft

Bottom of Walls = 408 ft



East Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
F	87.7	0.0	0.0	0
H	109.5	0.0	0.0	0
J	140.2	0.0	0.0	0
L	164.0	0.0	0.0	0
N	165.3	0.0	0.0	0
O	165.9	0.0	0.0	0
S	210.1	55.0	32.0	1
U	427.6	0.0	0.0	0
Z	490.2	0.0	0.0	0
AB	563.1	0.0	0.0	0
AQ	900.4	200.9	132.0	5
AS	1249.1	65.0	33.0	1
AU	1865.1	742.5	301.0	7
Total	6538.2 sq ft	1063.4 sq ft	498 ft	14

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



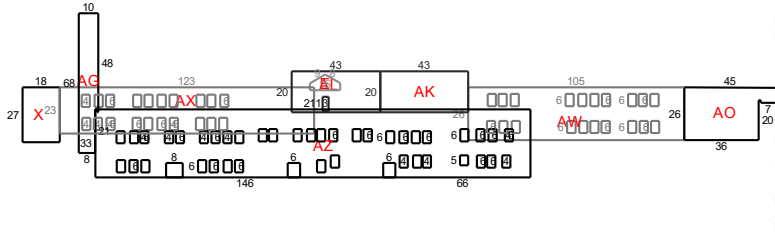
Report: 43535217

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South Elevation Diagram

Top of Walls = 615 ft

Bottom of Walls = 612 ft



South Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
E	81.6	0.0	0.0	0
X	484.1	0.0	0.0	0
AG	614.7	0.0	0.0	0
AK	846.9	0.0	0.0	0
AL	833.8	21.0	20.0	1
AO	990.8	0.0	0.0	0
AW	2219.7	480.0	400.0	20
AX	2299.5	480.0	400.0	20
AZ	5885.2	1120.3	899.8	44
Total	14256.3 sq ft	2101.3 sq ft	1719.8 ft	85

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



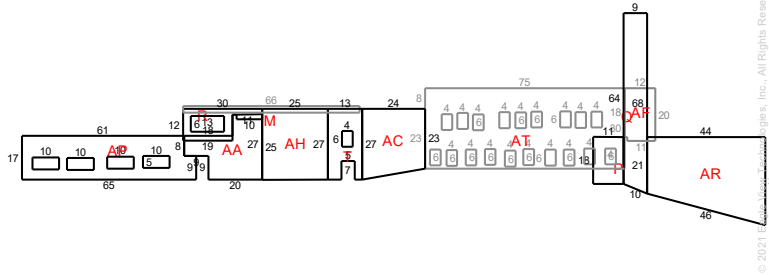
Report: 43535217

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West Elevation Diagram

Top of Walls = 403 ft

Bottom of Walls = 397 ft



West Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
M	165.3	0.0	0.0	0
P	201.5	0.0	0.0	0
Q	227.3	0.0	0.0	0
R	189.1	75.0	37.0	1
T	284.8	59.2	44.0	2
AA	490.5	0.0	0.0	0
AC	580.6	0.0	0.0	0
AF	586.9	0.0	0.0	0
AH	660.3	0.0	0.0	0
AP	862.3	180.0	116.0	4
AR	1210.3	0.0	0.0	0
AT	1811.9	456.0	380.0	19
Total	7270.8 sq ft	770.2 sq ft	577 ft	26

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



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Wall Report Summary

Below is a measurement summary using the values presented in this report.

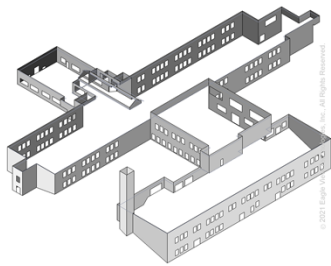
Wall Area Waste Calculation Table (excluding windows and doors)

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (sq ft)	39,098	43,008	43,399	43,790	44,181	44,572	44,963	46,918
Squares	391.0	430.1	434.0	437.9	441.8	445.7	449.6	469.2

This table shows the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.



Total Lengths & Areas

- Wall Area = 39,098 sq ft
- Wall Area with Windows and Doors = 45,169 sq ft
- Top of Walls = 2,131 ft
- Bottom of Walls = 2,101 ft
- Inside Corners = 146 ft
- Outside Corners = 751 ft
- Inside Corners > 90° = 19 ft
- Outside Corners > 90° = 19 ft
- Window and Door Area = 6071 sq ft
- Window and Door Perimeter = 4,323 ft
- Fascia (Eaves + Rake) = 178 ft

Total Wall Facets = 52
Total Windows and Doors = 195

Property Location

Longitude = -80.2801244
Latitude = 40.3459682

Notes

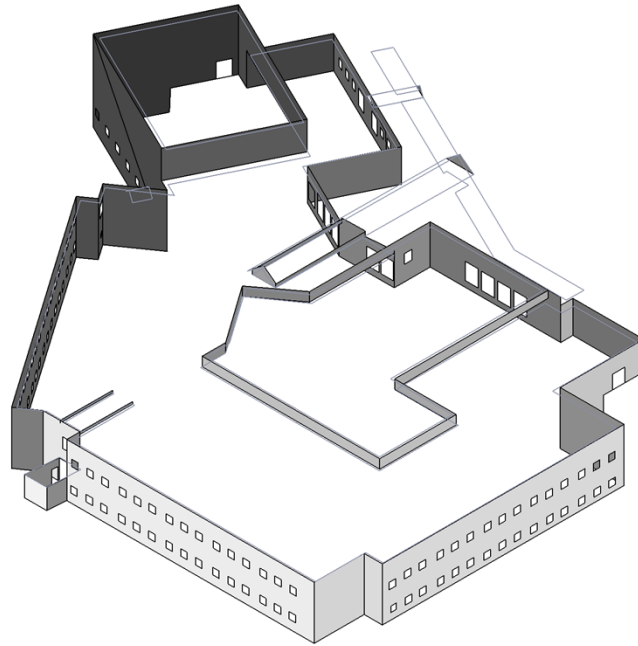
This was ordered as a commercial property. There were no changes to the structure in the past four years.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.





110 Fort Cherry Rd, McDonald, PA 15057



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Report Details

Report:43535218

Wall Details

Total Wall Area = 31,685 sq ft
Total Wall Facets = 44
Total Window & Door Area = 2403 sq ft
Total Windows & Doors = 126

Report Contents

Images.....	1
3D Wall Area Diagram	4
Alternate 3D Wall View	5
Window and Door Diagram	6
Elevation Diagrams.....	8
Report Summary	12

Contact: Grant Kandabarow
Company: The Garland Company, Inc.
Address: 3800 East 91St
Cleveland OH 44105
Phone: (412) 352-2912

Measurements provided by www.eagleview.com



Satisfaction Guaranteed
www.eagleview.com/Guarantee.aspx

An accuracy certificate is not available for this address due to image limitations.



Images

The following aerial images show different angles of this structure for your reference.

Top View





North Side



South Side





East Side



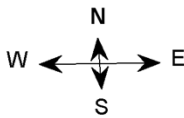
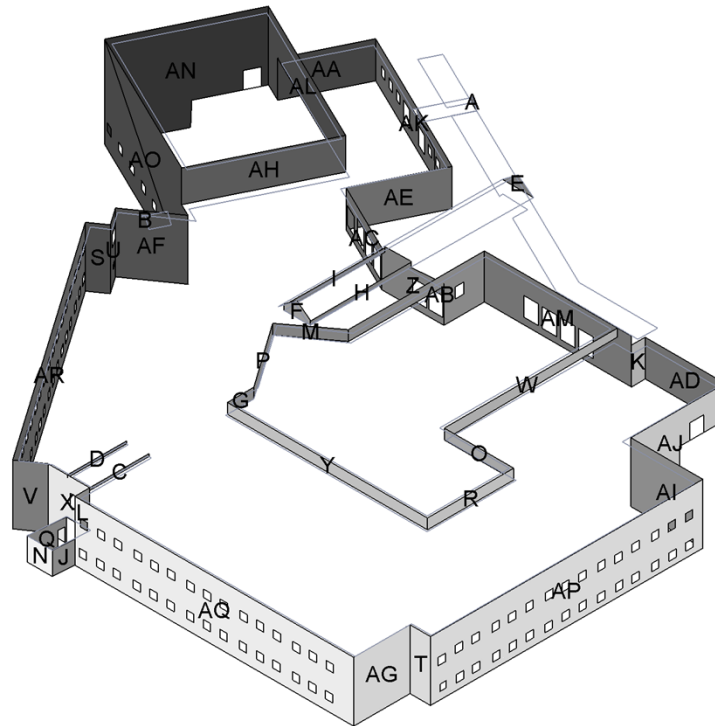
West Side



Wall Area Diagram

Total Wall Area = 31,685 sq ft, with 44 facets.

Total Wall Area with Windows and Doors = 34,088 sq ft



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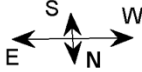
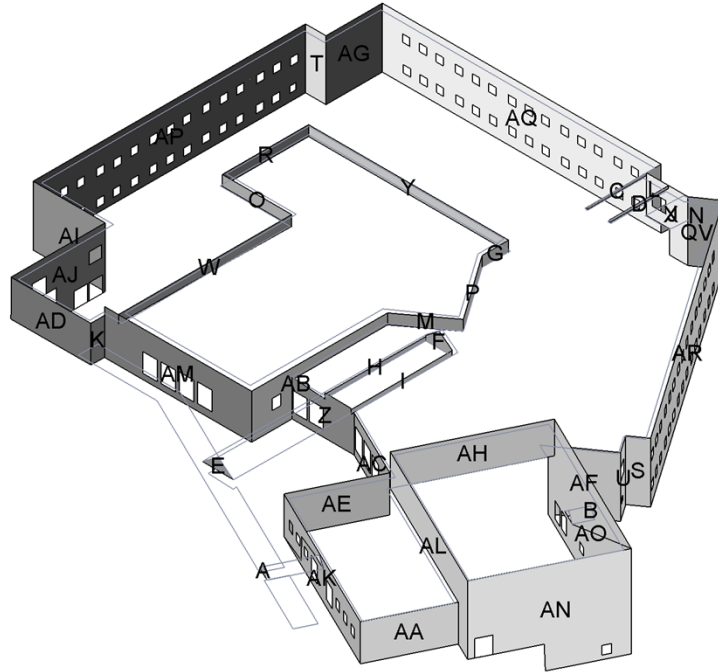
Wall Area by Direction

<u>North</u>	<u>East</u>	<u>South</u>	<u>West</u>
D - 33.9 sq ft G - 62.1 sq ft I - 94.8 sq ft K - 112.7 sq ft L - 125.5 sq ft M - 127.2 sq ft P - 186.4 sq ft Q - 166.2 sq ft S - 244.9 sq ft U - 250.9 sq ft AA - 611.3 sq ft AF - 713 sq ft AN - 2189.5 sq ft	A - 12 sq ft E - 42.2 sq ft O - 163 sq ft Z - 406.1 sq ft AC - 392.7 sq ft AD - 663.2 sq ft AI - 985.2 sq ft AK - 1196.4 sq ft AL - 1383.6 sq ft AM - 1236.7 sq ft	C - 33.4 sq ft H - 92.3 sq ft J - 109.6 sq ft R - 202.5 sq ft W - 357 sq ft AB - 616.5 sq ft AE - 664 sq ft AG - 771 sq ft AH - 894.3 sq ft AJ - 819.2 sq ft AP - 3360.1 sq ft	B - 12 sq ft F - 59.7 sq ft N - 131.2 sq ft T - 280.2 sq ft V - 348.6 sq ft X - 411.1 sq ft Y - 469.7 sq ft AO - 3535 sq ft AQ - 3443.3 sq ft AR - 3674.2 sq ft
4918.4 sq ft	6481.1 sq ft	7919.9 sq ft	12365 sq ft

Alternate Wall View

Total Wall Area = 31,685 sq ft, with 44 facets.

Total Wall Area with Windows and Doors = 34,088 sq ft



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Wall Area by Direction

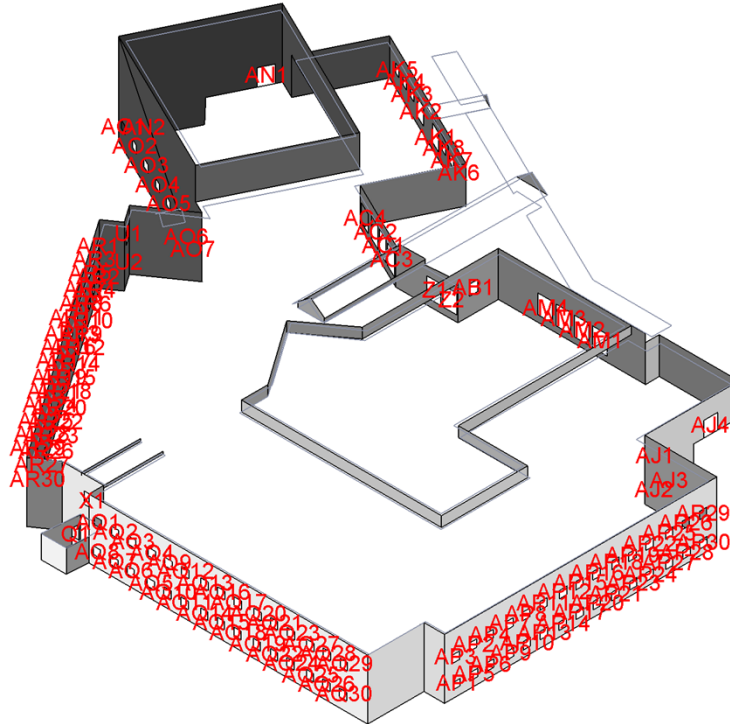
North	East	South	West
D - 33.9 sq ft G - 62.1 sq ft I - 94.8 sq ft K - 112.7 sq ft L - 125.5 sq ft M - 127.2 sq ft P - 186.4 sq ft Q - 166.2 sq ft S - 244.9 sq ft U - 250.9 sq ft AA - 611.3 sq ft AF - 713 sq ft AN - 2189.5 sq ft	A - 12 sq ft E - 42.2 sq ft O - 163 sq ft Z - 406.1 sq ft AC - 392.7 sq ft AD - 663.2 sq ft AI - 985.2 sq ft AK - 1196.4 sq ft AL - 1383.6 sq ft AM - 1236.7 sq ft	C - 33.4 sq ft H - 92.3 sq ft J - 109.6 sq ft R - 202.5 sq ft W - 357 sq ft AB - 616.5 sq ft AE - 664 sq ft AG - 771 sq ft AH - 894.3 sq ft AJ - 819.2 sq ft AP - 3360.1 sq ft	B - 12 sq ft F - 59.7 sq ft N - 131.2 sq ft T - 280.2 sq ft V - 348.6 sq ft X - 411.1 sq ft Y - 469.7 sq ft AO - 3535 sq ft AQ - 3443.3 sq ft AR - 3674.2 sq ft
4918.4 sq ft	6481.1 sq ft	7919.9 sq ft	12365 sq ft



Window and Door Diagram

Total Window and Door Area = 2403 sq ft, with 126 windows and doors

Total Window and Door Perimeter = 2090 ft



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Window and Door Measurements

North	East	South	West
Q1 - 21 sq ft	Z1 - 58.5 sq ft	AB1 - 20 sq ft	X1 - 35.8 sq ft
U1 - 30.3 sq ft	Z2 - 58.5 sq ft	AJ1 - 33 sq ft	AO1 - 14 sq ft
U2 - 5 sq ft	AC1 - 66.5 sq ft	AJ2 - 49.4 sq ft	AO2 - 14 sq ft
AN1 - 52.4 sq ft	AC2 - 66.5 sq ft	AJ3 - 49.1 sq ft	AO3 - 14 sq ft
AN2 - 14 sq ft	AC3 - 66.5 sq ft	AJ4 - 47.7 sq ft	AO4 - 14 sq ft
	AC4 - 56 sq ft	AP1 - 9 sq ft	AO5 - 14 sq ft
	AK1 - 48 sq ft	AP2 - 12.2 sq ft	AO6 - 37.5 sq ft
	AK2 - 48 sq ft	AP3 - 12.3 sq ft	AO7 - 37.5 sq ft
	AK3 - 14 sq ft	AP4 - 12.2 sq ft	AQ1 - 12.3 sq ft
	AK4 - 14 sq ft	AP5 - 12.3 sq ft	AQ2 - 12.2 sq ft
	AK5 - 14 sq ft	AP6 - 12.3 sq ft	AQ3 - 12.3 sq ft
	AK6 - 14 sq ft	AP7 - 12.2 sq ft	AQ4 - 12.2 sq ft
	AK7 - 12.3 sq ft	AP8 - 12.3 sq ft	AQ5 - 12.2 sq ft
	AK8 - 12.3 sq ft	AP9 - 12.2 sq ft	AQ6 - 12.2 sq ft
	AM1 - 63 sq ft	AP10 - 12.3 sq ft	AQ7 - 12.3 sq ft
	AM2 - 63 sq ft	AP11 - 12.3 sq ft	AQ8 - 12.2 sq ft
	AM3 - 63 sq ft	AP12 - 12.3 sq ft	AQ9 - 12.2 sq ft
	AM4 - 63 sq ft	AP13 - 12.2 sq ft	AQ10 - 12.3 sq ft
		AP14 - 12.2 sq ft	AQ11 - 12.3 sq ft



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Window and Door Measurements continued...

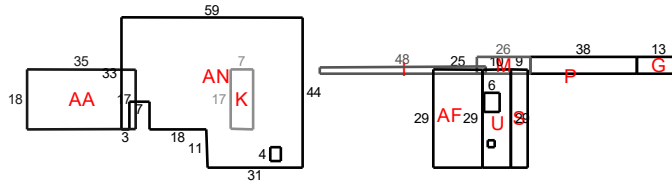
<u>North</u>	<u>East</u>	<u>South</u>	<u>West</u>
		AP15 - 12.3 sq ft	AQ12 - 12.3 sq ft
		AP16 - 12.3 sq ft	AQ13 - 12.3 sq ft
		AP17 - 12.3 sq ft	AQ14 - 12.3 sq ft
		AP18 - 12.2 sq ft	AQ15 - 12.3 sq ft
		AP19 - 12.3 sq ft	AQ16 - 12.3 sq ft
		AP20 - 12.2 sq ft	AQ17 - 12.2 sq ft
		AP21 - 12.2 sq ft	AQ18 - 12.2 sq ft
		AP22 - 12.3 sq ft	AQ19 - 12.3 sq ft
		AP23 - 12.2 sq ft	AQ20 - 12.3 sq ft
		AP24 - 12.2 sq ft	AQ21 - 12.2 sq ft
		AP25 - 12.3 sq ft	AQ22 - 12.3 sq ft
		AP26 - 12.2 sq ft	AQ23 - 12.2 sq ft
		AP27 - 12.2 sq ft	AQ24 - 12.3 sq ft
		AP28 - 12.2 sq ft	AQ25 - 12.3 sq ft
		AP29 - 12.3 sq ft	AQ26 - 12.2 sq ft
		AP30 - 12.3 sq ft	AQ27 - 12.2 sq ft
			AQ28 - 12.2 sq ft
			AQ29 - 12.3 sq ft
			AQ30 - 12.3 sq ft
			AR1 - 12.3 sq ft
			AR2 - 12.3 sq ft
			AR3 - 12.2 sq ft
			AR4 - 12.2 sq ft
			AR5 - 12.2 sq ft
			AR6 - 12.2 sq ft
			AR7 - 12.2 sq ft
			AR8 - 12.2 sq ft
			AR9 - 12.2 sq ft
			AR10 - 12.3 sq ft
			AR11 - 12.3 sq ft
			AR12 - 12.2 sq ft
			AR13 - 12.3 sq ft
			AR14 - 12.2 sq ft
			AR15 - 12.2 sq ft
			AR16 - 12.3 sq ft
			AR17 - 12.2 sq ft
			AR18 - 12.2 sq ft
			AR19 - 12.3 sq ft
			AR20 - 12.3 sq ft
			AR21 - 12.2 sq ft
			AR22 - 12.3 sq ft
			AR23 - 12.3 sq ft
			AR24 - 12.3 sq ft
			AR25 - 12.3 sq ft
			AR26 - 12.2 sq ft
			AR27 - 12.2 sq ft
			AR28 - 12.2 sq ft
			AR29 - 12.3 sq ft
			AR30 - 12.2 sq ft
122.7 sq ft	801.1 sq ft	563.5 sq ft	915.8 sq ft



North Elevation Diagram

Top of Walls = 322 ft

Bottom of Walls = 321 ft



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North Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
D	33.9	0.0	0.0	0
G	62.1	0.0	0.0	0
I	94.8	0.0	0.0	0
K	112.7	0.0	0.0	0
L	125.5	0.0	0.0	0
M	127.2	0.0	0.0	0
P	186.4	0.0	0.0	0
Q	166.2	21.0	20.0	1
S	244.9	0.0	0.0	0
U	250.9	35.3	31.0	2
AA	611.3	0.0	0.0	0
AF	713.0	0.0	0.0	0
AN	2189.5	66.4	44.2	2
Total	4918.4 sq ft	122.7 sq ft	95.2 ft	5

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



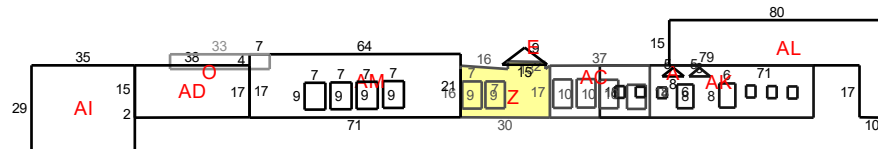
Report: 43535218

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East Elevation Diagram

Top of Walls = 433 ft

Bottom of Walls = 413 ft



East Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
A	12.0	0.0	0.0	0
E	42.2	0.0	0.0	0
O	163.0	0.0	0.0	0
Z	406.1	117.0	62.0	2
AC	392.7	255.5	129.0	4
AD	663.2	0.0	0.0	0
AI	985.2	0.0	0.0	0
AK	1196.4	176.6	144.0	8
AL	1383.6	0.0	0.0	0
AM	1236.7	252.0	128.0	4
Total	6481.1 sq ft	801.1 sq ft	463 ft	18

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



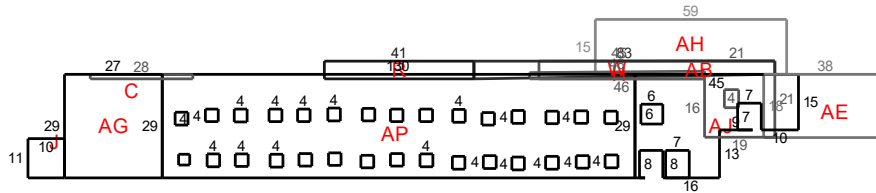
Report: 43535218

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South Elevation Diagram

Top of Walls = 576 ft

Bottom of Walls = 576 ft



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South Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
C	33.4	0.0	0.0	0
H	92.3	0.0	0.0	0
J	109.6	0.0	0.0	0
R	202.5	0.0	0.0	0
W	357.0	0.0	0.0	0
AB	616.5	20.0	18.0	1
AE	664.0	0.0	0.0	0
AG	771.0	0.0	0.0	0
AH	894.3	0.0	0.0	0
AJ	819.2	179.2	107.0	4
AP	3360.1	364.3	418.0	30
Total	7919.9 sq ft	563.5 sq ft	543 ft	35

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



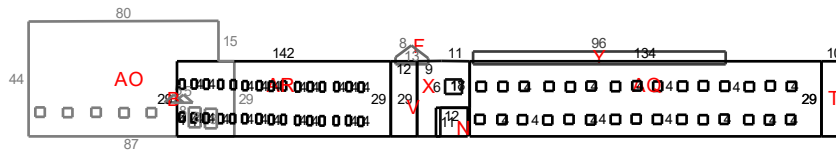
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West Elevation Diagram

Top of Walls = 546 ft

Bottom of Walls = 535 ft



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West Elevation Details

Wall	Wall Area	Window & Door Area	Window & Door Perimeter	Window & Door Count
B	12.0	0.0	0.0	0
F	59.7	0.0	0.0	0
N	131.2	0.0	0.0	0
T	280.2	0.0	0.0	0
V	348.6	0.0	0.0	0
X	411.1	35.8	24.0	1
Y	469.7	0.0	0.0	0
AO	3535.0	145.0	125.0	7
AQ	3443.3	367.7	420.0	30
AR	3674.2	367.3	420.0	30
Total	12365 sq ft	915.8 sq ft	989 ft	68

Note: On-site verification of yellow shaded areas is needed. Details are on the Wall Report Summary Page. This diagram shows segment lengths rounded to the nearest whole number. The window & door and wall area in square feet (rounded to the nearest tenth) is based on the actual (non-rounded) value of each segment length.



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Wall Report Summary

Below is a measurement summary using the values presented in this report.

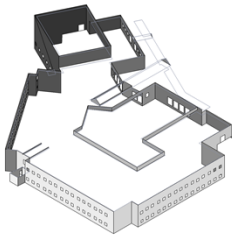
Wall Area Waste Calculation Table (excluding windows and doors)

Waste %	0%	10%	11%	12%	13%	14%	15%	20%
Area (sq ft)	31,685	34,853	35,170	35,487	35,804	36,121	36,438	38,022
Squares	316.8	348.5	351.7	354.9	358.0	361.2	364.4	380.2

This table shows the total wall area excluding windows and doors, based upon different waste percentages. The waste factor is subject to the complexity of the structure, image quality, siding techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only the wall area is included in these waste calculations. Accessories may require additional material.

Report Comments

Due to obstructions in available images of this property, please verify measurements on portion of structure highlighted in yellow.



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Total Lengths & Areas

- Wall Area = 31,685 sq ft
- Wall Area with Windows and Doors = 34,088 sq ft
- Top of Walls = 1,875 ft
- Bottom of Walls = 1,844 ft
- Inside Corners = 174 ft
- Outside Corners = 499 ft
- Inside Corners > 90° = 67 ft
- Outside Corners > 90° = 5 ft
- Window and Door Area = 2403 sq ft
- Window and Door Perimeter = 2,090 ft
- Fascia (Eaves + Rake) = 665 ft

Total Wall Facets = 44
Total Windows and Doors = 126

Property Location

Longitude = -80.2814299
Latitude = 40.3451833

Notes

This was ordered as a commercial property. There were no changes to the structure in the past four years.

Wall measurements should be field verified to confirm accuracy. Wall areas assume that flat soffits exist at the eaves. If sloped soffits are present, wall height and wall area measurements will likely be off.



CONTRACTOR'S QUALIFICATION QUESTIONNAIRE

I. GENERAL

Company Legal Title: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Telephone No: (____) - _____ Website: _____

State Sales Tax Registration No: _____

State Unemployment Insurance No: _____

Contact No. 1: _____

Telephone No.: (____) - _____

E-Mail: _____

Contact No. 2: _____

Telephone No.: (____) - _____

E-Mail: _____

II. ORGANIZATION INFORMATION

Structure of company (please check one and answer applicable questions accordingly)

Corporation _____

Date of Incorporation: _____ State of Incorporation: _____

President's Name: _____

Vice President's Name: _____

Secretary's Name: _____

Treasurer's Name: _____

Individual _____ or Partnership _____

Date of Organization: _____

Name & Address of Principals (state general or limited partnership) & Date Position Assumed:

Limited Liability Company _____

Date of Formation: _____ State of Formation: _____

Manager's Name: _____

Member's Names, addresses: _____

How many years has your organization been in business as a contractor/supplier? _____

How many years has your organization been in business under its present business name? _____

Under what other or former names has your organization operated? _____

Has your organization ever been subject to bankruptcy proceedings?

No _____

Yes _____

(Explain) _____

Have any officers or principals of your organization been convicted of a felony?

No _____ Yes _____

(If Yes, Explain) _____

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

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

III. TRADE AND WORK HISTORY INFORMATION

Describe the specific types of work that your company normally contracts for:

List the trades normally performed by your direct employed workforce:

On the enclosed “MAJOR PROJECTS COMPLETED” form please list all major projects your organization has completed in the past five years, of similar scope to the services described in this RFP, giving the name of project, owner, engineer, contract amount, date of completion, percentage of the cost of the work performed with your own forces, and other information as required.

On the enclosed “MAJOR PROJECTS IN PROGRESS” form please list all major projects your organization has in progress giving the name of project, owner, engineer, contract amount, percentage complete, scheduled completion date and other information as required.

Have you ever defaulted on a contract awarded to you?

No_____ Yes_____

(If Yes, Explain Why, When, Name of Contact, Owner of Project, and Owner’s contact information)

IV. FINANCIAL INFORMATION

Attach a copy of your latest audited financial statement and most recent internal balance sheet and income statement. If audited financials aren’t available, please attach unaudited financial statements, balance sheets, etc.

If the attached financial statement is not for the identical organization named on the first page of this Contractor Qualification Questionnaire, explain the relationship and financial responsibility of the organization whose financial statement is provided:

MAJOR PROJECTS COMPLETED

Projects Completed which required compliance with the Pennsylvania Prevailing Wage Act will be weighted heavier than projects which did not.

Major Projects Completed by your Organization (within the last five years).

Name of Project: _____

Owner: _____

Contact: _____

Phone: _____

Location: _____

Contract Value: _____ Years Completed: _____

Description of Project: _____

PA Prevailing Wage Act Compliance? (Circle one) YES NO

Architect/Engineer: _____

Contact: _____

Phone: _____

General Contractor/Construction Manager (if applicable):

Contact: _____

Phone: _____

(Make copies of this form for additional projects)

MAJOR PROJECTS IN PROGRESS

Major Projects in Progress

Name of Project: _____

Owner: _____

Contact: _____

Phone: _____

Location: _____

Contract Value: _____ Years Completed: _____

Description of Project: _____

Architect/Engineer: _____

Contact: _____

Phone: _____

General Contractor/Construction Manager (if applicable):

Contact: _____

Phone: _____

(Make copies of this form for additional projects)

NON-COLLUSION AFFIDAVIT

INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT

1. This Non-Collusion Affidavit is material to any contract awarded pursuant to this bid.
2. This Non-Collusion Affidavit must be executed by the member, officer or employee of the bidder who makes the final decision on prices and the amount quoted in the bid.
3. Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of bids are unlawful and may be subject to criminal prosecution. The person who signs the Affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the bidder with responsibilities for the preparation, approval or submission of the bid.
4. In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and an Affidavit must be submitted separately on behalf of each party.
5. The term "complimentary bid" as used in the Affidavit has the meaning commonly associated with that term in the bidding process, and includes the knowing submission of bids higher than the bid of another firm, any intentionally high or noncompetitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.
6. Failure to file an Affidavit in compliance with these instructions will result in disqualification of the bid.

NON-COLLUSION AFFIDAVIT

Contract/Bid No. _____

State of _____:

County of _____:

I state that I am _____ of _____
(Title) *(Name of firm)*

and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my firm for the price(s) and the amount of this bid.

I state that:

- (1) The price(s) and amount of this bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder.
- (2) Neither the price(s) nor the amount of this bid, and neither the approximate price(s) or approximate amount of this bid, have been disclosed to any other firm or person who is a bidder nor potential bidder, and they will not be disclosed before bid opening.
- (3) No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complimentary bid.
- (4) The bid of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complimentary or other noncompetitive bid.

(5) _____, it affiliates, subsidiaries, officers,
(Name of firm)

directors and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as follows:

I state that _____ understands and acknowledges that the
(Name of my firm)
above representations are material and important, and will be relied on by _____
(Name of public entity)
in awarding the contract(s) for which this bid is and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from _____
(Name of public entity)
of the true facts relating to the submission of bids for this contract.

(Name and Company Position)

SWORN TO AND SUBSCRIBED
BEFORE ME THIS _____ DAY
OF _____, 2025

Notary Public My Commission Expires

SECTION 00 41 00.A - BID FORM EXHIBIT A

It is the intent of the Fort Cherry School District, located at 110 Fort Cherry Road, McDonald, PA 15057 in conjunction with the "Base Bid" to purchase materials for the "Fort Cherry School District Masonry Restoration Project" located at directly from Garland/DBS, Inc., based upon the Agency's participation in the OMNIA Partners, Public Sector (U.S. Communities™) Government Purchasing Alliance's program for Roofing Supplies and Related Products and Services, as priced by and awarded to Garland/DBS, resulting from the competitively solicited Sealed Bid # PW1925 issued by the Racine County, WI Board of Commissioners.

Junior / Senior High School Waterproofing Materials - Base Bid #1

Product Code	Product Name	Unit /Size	Coverage Rate	Quantity
1715-5	Seal-A-Pore WB	5 GAL PAIL	125 Sqft. / Gallon	110
2139	Green-Lock Sealant XL	20 OZ Sausage	12 Linear Feet per tube	550
1643-5-GRY-U	Tuff-Coat Gray	5 GAL Pail	2 GAL / SQ	1
1643-5-WHY-U	Tuff-Coat White	5 GAL Pail	2 GAL / SQ	4

Elementary School Waterproofing Materials - Base Bid #1 - Alternate #1

Product Code	Product Name	Unit /Size	Coverage Rate	Quantity
1715-5	Seal-A-Pore WB	5 GAL PAIL	125 Sqft. / Gallon	55
2139	Green-Lock Sealant XL	20 OZ Sausage	12 Linear Feet per tube	400

PLEASE NOTE:

1. It is the responsibility of the bidder to obtain any product-related information and pricing from the Garland representative prior to bid submission.
2. The bidder takes full responsibility for the material quantities entered above. Any additional materials required to complete the Project, over and above the quantities submitted by the bidder in this addendum, will be billed to the bidder directly and will not be the responsibility of the Agency.
3. Material quantities will be cross-referenced to an expected Project take-off to verify accuracy. Any bids that have material quantities substantially below or above the anticipated requirements for the Project will be rejected unless a detailed explanation is provided.