ROOF REPLACEMENT

AT THE

SUN VALLEY ARMORY

2841 SOUTH COUNTY TRAIL

EAST GREENWICH,

RHODE ISLAND 02818

FOR THE

RHODE ISLAND
ARMY NATIONAL GUARD

MG CHRISTOPHER P. CALLAHAN,

ADJUTANT GENERAL

CONSTRUCTION & FACILITIES
MANAGEMENT OFFICE RHODE ISLAND
ARMY NATIONAL GUARD
705 NEW LONDON AVENUE
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BREWSTER THORNTON GROUP ARCHITECTS, LLP

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ROOF REPLACEMENT AT THE
SUN VALLEY ARMORY
2841 SOUTH COUNTY TRAIL
EAST GREENWICH, RHODE ISLAND 02818
FOR THE
RHODE ISLAND ARMY NATIONAL GUARD

The drawings for this project represent an integral part of the contract documents and should not be considered as a separate entity. They, along with the specifications, form a complete process of disseminating specific information required to perform the work of this project.

The following schedule indicates the drawings of this project, ordered for convenience only, and do not obligate the Contractor to perform the work in any specific sequence, nor construed as specific work for a specific trade, subcontractor or supplier. All drawings are dated 3/13/19 unless noted otherwise.

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END OF DOCUMENT

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INSTRUCTIONS TO BIDDERS

AIA Document A701, Instructions to Bidders - 1997 Edition to be issued by Addendum, as an integral part of the Bid Documents. Provisions which are not amended or supplemented remain in full force and effect.

END OF DOCUMENT

DOCUMENT 00 1010

ADDITIONAL INSTRUCTIONS TO BIDDERS

1. Refer to the State Agency Solicitation provided by the State for Additional Instructions to Bidders.

END OF DOCUMENT

DOCUMENT 00 4000

BID BOND

1. Refer to the State Agency Solicitation provided by the State for Bid Bond requirements.

END OF DOCUMENT

DOCUMENT 00 4060

CONTRACTOR'S QUALIFICATION STATEMENT

AIA Document A305 - Contractor's Qualification Statement, 1986 Edition shall be an integral part of the Bid Documents, for use in evaluating the qualifications of Contractors.

1. To demonstrate experience and qualifications, include the AIA Document A305 (document to be issued by addendum), with the bid submission:

END OF DOCUMENT

DOCUMENT 00 5000

CONTRACTING FORMS AND SUPPLEMENTS

PART 1 GENERAL

1.01 SEE DRAFT DOCUMENTS HEREIN FOR TERMS TO BE INCORPORATED IN CONTRACT AS LISTED BELOW.

1.02 AGREEMENT AND CONDITIONS OF THE CONTRACT

A. The Agreement is based on AIA A101 – 2017. Refer to the Document 00 5010 to be issued in the addendum.

B. The General Conditions are based on AIA A201 – 2017. Refer to the following Document 00 5020 to be issued in the addendum.

1.03 FORMS

A. Use the following forms for the specified purposes:
   1. Application for Payment, AIA G702 & G703
   2. Waiver of Lien: any form acceptable to the Owner.

B. Closeout Forms:

   1. Refer to Section 01780, Project Closeout, herein.

C. Payment and Performance Bond. Refer to Documents 00 5030 and 00 5040 included herein.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

DOCUMENT 00 5010

AGREEMENT FORM

AIA Document A101, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum - 2017 Edition, and as amended, forms the basis of Contract between the Owner and Contractor, and will be issued by addendum, as an integral part of the Bid Documents. Provisions which are not so amended or supplemented remain in full force and effect.

END OF DOCUMENT

DOCUMENT 00 5020

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

AIA Document A201, General Conditions of the Contract for Construction - 2017 Edition, and as amended, will be issued by Addendum, as an integral part of the Bidding and Contract Documents. Provisions which are not amended or supplemented remain in full force and effect.

END OF DOCUMENT

DOCUMENT 00 5030

SPECIAL CONDITIONS

1. PROJECT SITE

Sun Valley Armory
2841 South County Trail
East Greenwich, RI 02818

2. TIME FOR COMPLETION

A. The work shall be completed within seventy five (75) calendar days to Substantial Completion, and fifteen (15) days thereafter to Final Completion, for a total completion time of **ninety (90) calendar days**.

B. It is the Bidders' responsibility to anticipate and include, in their bid, allowances for normal weather conditions as necessary to complete the work. No claim for extra compensation or extension of time will be allowed on account of the contractor's failure to allow for normal seasonal weather conditions.

C. This time period was established using normal material ordering and delivery conditions and holidays for the time of the year that the work is expected to be undertaken.

D. The RI National Guard (the Owner) may at its sole discretion, agree to suspend work if weather conditions prevent the work from progressing in a satisfactory manner.

The contractor shall not be entitled to extra compensation for any reasons if the work is suspended by the State of Rhode Island for the reasons stated above.

3. COMMUNICATIONS

A. All notices, demands, requests, instructions, approvals, proposals and claims must be in writing.

A. Any notice to or demand upon the Contractor shall be sufficiently given if delivered at the office of the Contractor stated on the signature page of the Contract (or at such other office as he may from time to time designate in writing to the Authority) or deposited in the United States mail in a sealed, postage-prepaid envelope, or if delivered with charges prepaid to any telegraph company for transmission, in each case addressed to such office.

C. All papers required to be delivered to the Authority or Architect shall, unless otherwise specified in writing to the Contractor, be delivered to the contracting office at the Rhode Island National Guard, Construction and Facilities Management Office, 705 New London Avenue, Cranston, RI 02920 and any notice to or demand upon the Authority or Architect shall be sufficiently given if so delivered, or deposited in the United States mail in a sealed, postage-prepaid envelope, or delivered with charges prepaid to any telegraph company for transmission to said. The Rhode Island National Guard as such address, or to such other representatives of the Authority or to such other address as the Authority may subsequently specify in writing to the Contractor for such purpose.

D. Any such notice shall be deemed to have been given as of the time of actual delivery; or, in

the case of mailing, when the same should have been received in due course of post; or, in the case of telegrams, at the time of actual receipt.

4. MINIMUM RATES OF PAY

A. Refer to Section 00 6010 herein.

5. VISIT TO THE SITE

A. Each bidder is to visit the site, view the existing areas and acquaint himself with all of the conditions under which the work is to be performed. Failure of the Contractor to acquaint himself with all the conditions involved will not relieve him from fulfilling the Contract in all its details.

6. PAYMENTS TO CONTRACTOR

A. "Periodical Estimates for Partial Payment in their final form must be submitted to the Architect for review each month, not later than (10) calendar days prior to the Owner's Payment Schedule, in order to be considered and approved for payment by the Owner at its next regular meeting. Periodical Estimates not submitted to the Architect in accordance with this article will not be reviewed at the subsequent meeting of the Owner but, at the next subsequent meeting of the Owner."

B. *Five percent (5%)* of the Contract amount shall be retained until thirty (30) days after FINAL COMPLETION of the project.

C. The Architect may decline to approve any Periodical Estimate for payment in whole or in part, or he may nullify the whole or any part of a Periodical Estimate previously approved, to protect the Owner from loss because of:
   a) Defective work not corrected promptly.
   b) Third-party claims filed.
   c) Question whether the work can be completed on time or for the outstanding balance of the Contract Sum.
   d) Unsatisfactory prosecution of the work by the Contractor.
   e) Lack of Lien Releases
   f) Not submitting Payroll Affidavits
   g) Lack of revised Construction Implementation Schedule

D. Original Lien Releases from the G.C.'s Subcontractors and suppliers shall be submitted with each Payment Application, starting with Payment Application No. 2. Payment Applications <u>will not</u> be processed through the Architect's office otherwise.

   Lien Releases Shall Include:
   a) Amount of Agreement
   b) Amount Paid To Date
   c) Balance Owed

7. CHANGES IN THE WORK

A. The maximum allowance for overhead and profit combined, included in the total cost to the Owner, shall be based upon the following schedule:

   .1 To the Contractor, for Work performed by his own forces, a maximum of 10% of the cost;
   .2 To the Subcontractors for Work performed by his own forces or their subcontractors, a maximum of 10% of the cost;
   .3 The combined maximum overhead and profit for Contractor and Subcontractors, a maximum of fifteen percent (15%) of the cost.

8. CONDUCT OF THE WORK

A. During the progress of the Work, the Contractor shall so conduct his work that as little inconvenience as possible is caused to the occupants. At the close of the work each day, the Contractor shall pick up and stow all equipment and miscellaneous material leaving the site in a neat and safe condition.

9. WORKING HOURS

A. Regular working hours are between 7:30 a.m. and 4:00 p.m., Monday through Friday. If the Contractor finds it necessary to work other than regular working hours, he must obtain a written approval in advance from the RIARNG Construction and Facilities Management Office.

B. Days which the State is closed because of holidays will also be a day of non-work for the general contractor.

B. If necessary to complete work on nights or weekends, Contractor shall inform the Owner 72 hours in advance of night or weekend to allow time for supervisory personnel.

10. PROTECTION OF PEOPLE AND PROPERTY

A. The Contractor shall be solely responsible for initiating, maintaining and supervising safety, security and protection programs and shall comply with all applicable laws, ordinances, rules and regulations concerning safety of people and the protection of property.

B. The Contractor shall repair or replace, at his own expense, with new any item, surface, or object that is damaged by the Contractor or damaged because of the Contractor's actions during the course of the Work and during any guarantee period.

C. Site and building conditions shall be restored to their condition as they were at the start of the Work. Before commencing work, the Contractor shall report any existing damage to the Architect in writing to assure that the Contractor will not be liable for preexisting damage.

D. The Contractor shall, at his own expense, repair or replace with new any item, surface, or object that is damaged by the Contractor or damaged because of the Contractor's actions during the course of the Work and during any guarantee period.

11. SIGNS

A. No signs except for safety signs will be allowed to be displayed on the site or on the building.

12. INSURANCE

A. Refer to the State Agency Solicitation provided by the State for Insurance requirements.

13. DRAWINGS

B. Structural drawings need not show architectural finishes. Architectural drawings need not show completed structural and/or mechanical or electrical installation or viceversa.

C. Architectural drawings shall have precedence over all other drawings. Architect shall make final decision when precedence is questioned.

D. All work drawn on Plans and not specified, or all work specified and not drawn are part of Contract Work required to be completed and are to be executed as fully as if described in both of these ways. Only work specifically noted in the following manner shall beconsidered as not being in the contract.

"...by Owner"

"...NIC" (Not In Contract)

E. If, after examination of Contract Drawings and Specifications, or after a visit to the premises, any discrepancies, omissions, ambiguities, or conflicts are found in or about Contract Documents or there is doubt as to their meaning, Architect is to be notified at the earliest possible date prior to the Bid Opening. Where information sought is not clearly indicated or specified, the Architect shall issue an addendum to the Bidders clarifying conditions. The addendum shall become part of the Contract Documents. Neither the Owner nor the Architect shall be responsible for any oral instructions.

F. If there are two ways and/or instruction in drawings and/or specifications, it shall be assumed that the Contractor has based his base bid price on the most expensive way.

G. If duplication is shown on drawings and/or specifications of work by more than one trade, Architect shall determine which trade shall complete the work and rebate shall be provided from the other trades to Owner.

H. Excerpts From Chapter 1 to 6 of Title of the General Laws of Rhode Island 1956

1. The attentions of the General Contractor is hereby directed to excerpts from Chapters 1 to 6 of title 7 of the General Laws of Rhode Island 1956 relative to the conditions precedent, etc. to carrying on business within the State for Foreign Corporations.

2. The certificate and power of attorney mentioned in the General Corporations Law, properly filled out, subscribed and sworn to and accompanied by a certified copy of the charter, articles or association, or other similar organization papers, together with all amendments, must be filed in the Office of the Secretary by all foreign corporations intending to carry on business within this State, or for a foreign corporation to enforce in the courts of this State any Contract made within the State.

3. Detailed information regarding Chapters 1 to 6 of Title 7 of the General Laws of Rhode Island, 1956, relative to the conditions precedent, etc., to carrying on business with the State for Foreign Corporations may be obtained from the Secretary of State, State House, Smith Street, Providence, Rhode Island.

14. CONTRACTOR'S AGREEMENT

I. During the performance of this contract, the Contractor agrees to comply with all provisions of Executive Order 11246, as amended, relative to the Equal Employment Opportunity for all persons without regard to race, color, religion, sex or national origin, and the implementing rules and regulations prescribed by the Secretary of Labor.

J. In the event of the Contractor's non-compliance with the non-discrimination clauses of this contract or with any such rules, regulations or orders, this contract may be canceled.

15. STATE SALES TAX AND USE TAX EXEMPTION

a. Bidders and their subcontractors and material suppliers shall not include in their Bids, any Rhode Island State Sales and Use Taxes relative to the performance of the Work that is covered by the exemption.

16. NOTICE OF EQUAL OPPORTUNITY

a. The Bidder's attention is directed to the fact that it will be required to comply with the State's equal opportunity employment, employment of the handicapped, age discrimination, and provide a certificate of non-segregated facilities in accordance with Appendix A- General Conditions of Purchase of the State of Rhode Island Procurement Regulations.

b. This Contractor shall also comply with the applicable requirements of R.I. Gen Laws Section 37-14.1-1 and 37-14.1-8 relating to Minority Business Enterprise and all rules and regulations promulgated thereunder.

17. INDEMNIFICATION

a. The Contractor shall take all responsibility for the Work and take all precautions for preventing injuries to persons and property in or about the Work; shall bear all losses resulting to or on account of the amount or character of the Work. The Contractor shall pay or cause payment to be made for all labor performed or furnished and for all materials used or employed in carrying out this Contract. The Contractor shall assume the defense of, and indemnify and save harmless, the Architect, the Owner, and their officers and agents from all claims relating to labor performed or furnished and materials used or employed for the Work; to inventions, patents and patent rights used in and in doing the Work; unless such patent infringement is due to a product or process specified by the Owner; to injuries to any person or corporation received or sustained by or from the Contractor and any employees, and subcontractors and employees, in doing the work, or in consequence of any improper materials, implements or labor used or employed therein; and to any act, omission or neglect of the Contractor and any employees therein.

18. PUNCH LIST

a. At the completion of the Work, and prior to acceptance by the Owner, the Architect and the Contractor shall inspect the project and prepare a written Punch List of their findings. This list is to be submitted to the Owner (RIARNG) to assist it in its own Final Inspection. The Contractor shall notify the Architect in writing when work on the punch list has been completed. Architect shall then complete one (1) Final Punch List Inspection; Contractor shall be invoiced for all follow-up Punch List Inspections, if so required, at the Architect's standard hourly rate of $165/hr.

19. PAYROLL AFFIDAVITS

a. "Original" weekly payroll affidavits shall be submitted by the Contractor, to the Owner.

20. MONTHLY UTILIZATION FORMS

a. Contractor and subcontractor shall file Standard Form 257 with the Local Authority and the Compliance Agency. They are to accompany periodical estimates whenever such estimates are submitted.

END OF DOCUMENT

DOCUMENT 00 5040

PERFORMANCE BOND

1. Refer to the State Agency Solicitation provided by the State for Performance Bond requirements.

END OF DOCUMENT

DOCUMENT 00 5050

PAYMENT BOND

1. Refer to the State Agency Solicitation provided by the State for Payment Bond requirements.

END OF DOCUMENT

DOCUMENT 00 6010

LABOR REGULATIONS

PART 1 - GENERAL

1.01 WAGE RATES

A. The rate per hour to be paid to mechanics, apprentices, teamsters, chauffeurs, and laborers employed on the Work shall not be less than the rate of wages in the Davis-Bacon "Minimum Wage Rates". This schedule shall continue to be the minimum rate of wages for said employees during the life of this Contract.

B. Keep posted on the site a legible copy of said schedule. Keep on file the wage rates and classifications of labor employed on this Work in order that they may be available for inspection by the Owner, Administrator, or the Architect.

C. Apprentices employed pursuant to this determination of wage rates must be registered and approved by the State Apprenticeship Council wherever rates for journeymen or apprentices are not listed.

D. The State of Rhode Island Department of Labor, Division of Professional Regulation General Decision Modification document current as of the bid posting date for this Project, is an integral part of the Bid Documents for use in fulfilling prevailing wage rate requirements. A copy is available on the web site of the State of Rhode Island Department of Administration, Division of Purchases.

The Division of Purchases Web Site Address:

http://www.purchasing.ri.gov/bidinfo/geninfo/geninfo.aspx

Click on “Prevailing Wage Tables”.

END OF SECTION

SECTION 01 0120

CONTRACTOR'S USE OF THE PREMISES

PART 1 – GENERAL

1.01 DESCRIPTION:

A. Work Included: This Section applies to situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees, and field engineers, enter upon the Owner's property.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and sections of Division 1 of these specifications.

1.02 QUALITY ASSURANCE:

A. Promptly, upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.

B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.

C. The Prime Contractor and his subcontractors shall wear an appropriate form of identification, whether it be a photo ID, shirt or jacket with company logo, etc.

D. The Prime Contractor and his subcontractors shall park their personal vehicles in appropriate locations off the Owner's site. One company vehicle of the prime contractor may be parked on the site at any time unless otherwise authorized in writing, by the Owner.

1.03 SUBMITTALS:

A. Maintain an accurate record of the names and identification of all persons entering upon the Owner's property in connection with the work of this Contract, including times of entering and times of leaving, and submit a copy of the record to the Owner daily.

1.04 TRANSPORTATION FACILITIES:

A. Truck and equipment access:

1. To avoid traffic conflict with vehicles of the Owner's employees and customers, and to avoid over-loading of streets and driveways elsewhere on the Owner's property, limit the access of trucks and equipment to the route provided by or directed by the Owner.
2. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.

B. Contractor's Vehicles:

1. Contractor's vehicles, vehicles belonging to employees of the Contractor, and all other vehicles entering the Owner's property in performance of the work of the Contract, shall use only the access route provided by or directed by the Owner.

2. Do not permit such vehicles to park on any street or other area of the Owner's property except in the areas directed or provided by the Owner.

3. Contractor shall assume sole responsibility for all parking and traffic violation of employees, subcontractors, suppliers, etc.

1.05 SECURITY:

A. Restrict the access of all persons entering upon the Owner's property in connection with the work to an Access Route authorized by the Owner.

1.06 GENERAL:

A. Contain operations at site to areas permitted by:

1. Law
2. Ordinances
3. Owner
4. Contract Documents

B. Do not unreasonably encumber site with materials or equipment.

C. Do not load the building or building components with weight that will endanger the structures.

D. Assume full responsibility for protection and safekeeping of products stored on premises.

E. Move any stored products which interfere with operations of Owner or other Contractor.

F. Obtain and pay for use of additional storage or work areas needed for operations.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01 0150

EXISTING CONDITIONS

PART 1- GENERAL

1.01 SUMMARY

A. EXISTING CONDITIONS SURVEY

A. Before submitting a bid, the Contractor shall make a thorough examination of the conditions of the site, checking the requirements of the Plans and Specifications with the existing conditions.

B. No claim for extra compensation or extension of time will be allowed on account of the Contractor's failure to estimate properly the quantities, locations and measurements of all items required to complete the work.

C. The Contractor shall report any discrepancies to the Architect and request and interpretation before submitting a bid.

D. The Building will remain occupied for the duration of the Contract.

END OF SECTION

SECTION 01 0200

PROJECT

ALLOWANCES

PART 1 - GENERAL

1.01 DESCRIPTION

A. Intent: To provide adequate budget and bonding to cover items not precisely determined by the Owner prior to bidding. Allow within the proposed Contract Sum the amounts described below. Project Allowance shall be included in the Bid Price.

B. Entire Project Allowance and/or portions of any Project Allowances may be deleted to lower the Base Bid Price prior to Award of Contract and/or after Award of Contract.

C. Related Work:

1. Documents affecting work of this section including but not necessarily limited to General Conditions, Supplementary Conditions, and sections in Division 1 of these Specifications. Any unused portion of the following "Project Allowances" shall be refunded to the Owner upon final completion of the project.

2. Other provisions concerning Project Allowances may also be stated in other Sections of these specifications.

3. Contractor shall submit original receipts and complete time and materials break-down for all Project Allowance items.

1.02 SPECIFIC PROJECT ALLOWANCES:

A. Unforeseen Conditions Allowance:

1. Allow the sum of Ten Thousand Dollars ($10,000) for unforeseen and unanticipated conditions encountered resulting from removal of existing building components.

1.03 GENERAL

A. Adjustment of Costs:

1. Should actual purchase cost be more than specified amount of allowance, the Contract Sum will be adjusted by Change Order, equal to the amount of the difference.

2. Contractor shall include in the Base Bid, the full amount of allowances

whether or not any Bid Alternate is implemented.

3. Any allowance amount or unused portion of each allowance amount shall be refunded to the Owner at any time after the Award of Contract and/or throughout the Construction Phase at Owner and Architect discretion.

4. Utilization of each and any project allowance shall be via written authorization of the Owner and/or Architect.

PART 2 – PRODUCTS

Note Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01 0700

ARCHITECTURAL ABBREVIATIONS AND SYMBOLS

1.01 Reference to a technical society, institution, association or governmental authority is made in the Specifications in accordance with the following abbreviations:

AAMA	Architectural Aluminum Manufacturers Association
AASHO	American Association of State Highway Officials
AC OR ACOUS	Acoustical
ACI	American Concrete Institute
ADJ	Adjustable
A/E	Architect/Engineer
A.F.F.	Above Finish Floor
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AL or ALUM	Aluminum
ALS	American Lumber Standards
ALT	Alternate
A.P.	Access Panel
APA	American Plywood Association
APPROX.	Approximate
ARCH	Architectural
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
@	At
ATI	Asphalt Tile Institute
A/V	Audio Visual
AWI	Architectural Woodwork Institute
AWPA	American Wood Preserver's Association
AWPI	American Wood Preserver's Institute
AWS	American Welding Society
B.C.I.	Background Criminal Investigation
BD.	Board
BLK'G.	Blocking
BM.	Beam
BOTT. or BOT.	Bottom
BRK	Brick
BS or BACKSP.	Back Splash
BULL.BD.	Bulletin Board
CAB.	Cabinet
CARP.	Carpet
C.B.	Catch Basin
CEIL'G or CLG.	Ceiling
CHBD.	Chalkboard
CHEM.	Chemical or Chemistry
C.J.	Control Joint
CLOS.	Closet
C.M.U.	Concrete Masonry Units
COL.	Column

COMP.	Computer
CONC.	Concrete
CONC.BLK.	Concrete Block
CONF.	Conference CONT. or CONTIN. Continuous
CONTR.	Contractor
COV'RD.	Covered
CR.	Classroom
C.S.	Commercial Standard U.S. Department of Commerce
C.S.I.	Construction Specifications Institute
C.T.	Ceramic Tile
DEPT.	Department
DET.	Detail
D.F.	Drinking Fountain
DIM.	Dimension
DISP.	Dispenser
DR.	Door
D.S.	Drench Shower or Downspout (use applicable)
D.W.	Dish Washer
DWG.	Drawing
EL. or ELEV.	Elevation
ELEC.	Electrical
ELEV.	Elevator
ENT. or ENTR.	Entrance
EP. RES.	Epoxy Resin
EQ.	Equal
EQUIP.	Equipment EXIST. or
EXT., EXIST'G or E.	Existing
EXP.	Exposed
EXP. JT.	Expansion Joint
EXP. STR.	Exposed Structure
F.A.	Fresh Air
F.B.	Fiber Board
F.D.	Floor Drain
F.E.	Fire Extinguisher
FGJA	Flat Glass Jobbers Association
FIN	Finish(ed)
FL. or FLR.	Floor (ing)
FLG.	Flashing
F.M.	Factory Mutual
F.N.D.	Feminine Napkin Disposal
F.O.	Face Of
F.P.	Fire Proofing
FS	Federal Specification
G.A.	Gypsum Association
GALV.	Galvanized
G.B.	Glazed Block or Grab Bar
G.C.	General Contractor
GEN.	General
GL.	Glass
G.P.D.W.	Gypsum Drywall
G.W.B.	Gypsum Wallboard
GYP.	Gypsum
GYP. BD.	Gypsum Board
H.C.	Handicap
H.M.	Hollow Metal

H.M.U.	Hollow Masonry Unit
HT. or HGT.	Height
HVAC	Heating, Ventilating and Air Conditioning
ICBO	Uniform Building Code
IES	Illuminating Engineering Society
INSUL.	Insulation or Insulated
J. or JAN.	Janitor
KIT.	Kitchen
LAB.	Laboratory
LAD.	Ladder
L.A.R.R.	Liquid Applied Rubber Roofing
L.C.C.	Lead Coated Copper
L.W.S.	Liquid Writing Surface
M.	Man
MAN.	Manual
MAS. or MSRY.	Masonry
MAX.	Maximum
MECH.	Mechanical
MED.	Medium
MFGR. or MANF.	Manufacturer
MIA	Marble Institute of America
MIN.	Minimum
M. or MIR.	Mirror
MLMA	Metal Lath Manufacturers Association
M.O.	Masonry Opening
MOD.	Modular
MS	Military Specification
MSTD	Military Standard
MTD.	Mounted
MTL. or MET.	Metal
NAAMM	National Association for Architectural Metal Manufacturers
NAT.	Natural
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards'
NEC	National Electrical Code of NBFU
NFPA	National Fire Protection Association
N.F.R.	Nonwoven Fiberglass-Reinforced
NHLA	National Hardwood Lumber Association
N.I.C.	Not In Contract
NLMA	National Lumber Manufacturers Association
NO. or #	Number
NTMA	National Terrazzo and Mosaic Association, Inc.
N.T.S.	Not To Scale
NWMA	National Woodwork Manufacturers Association
O.C.	On Center
O. D.	Outside Diameter
OFF.	Office
O.H.	Overhead
O.I.	Owner's Insurance
OPP. HAND.	Opposite Hand
ORIG.	Original
OZ.	Ounce
PASS.	Passage
P.E.P.	Polyester Epoxy Paint

PL.	Plate
P.LAM.	Plastic Laminate
PLYD. or PWD.	Plywood
PNL.	Panel
PORT.	Portable
P.P.	Pitch Pocket
PREP.	Preparation
PROJ.	Project(ion)
PTD. or PT.	Painted
P.T.	Pressure Treated
P.T.D.	Paper Towel Dispenser
P.T.H.	Paper Towel Holder
PTN. or PART.	Partition
R.	Riser
R.B.	Rubber Base
R.D.	Roof Drain
REF.	Reference
REFRIG.	Refrigerator
REFIN.	Refinish
REQ'D or REQ.	Required
REINF.	Reinforced(ing)
RESIS.	Resistant
R.H.	Roof Hatch
R.L. or R.W.L.	Rain Water Leader
RM.	Room
R.T.U.	Roof Top Unit
RUB.	Rubber
R.V.	Roof Vent
R.V.T.	Reinforced Vinyl Tile
S.	Sink
SAN.	Sanitary
S.A.T.	Suspended Acoustical Tile
S.B.C.C.I.	Standard (Southern) Building Code
S.C.	Solid Core
SCHED.	Schedule
SCPI	Structural Clay Products Institutes
S.D.	Standard Detail or Soap Dispenser
SDI	Steel Deck Institute
SECT.	Section
SH. or SHLV.	Shelf - Shelving
SHT.	Sheet
SHWR.	Shower
SIM.	Similar
SMACNA	Sheet Metal and Air Conditioning Contractors National Association Inc.
S.N.D.	Sanitary Napkin Dispenser
SPEC.	Specification
SPR	Simplified Practice Recommendation, U.S. Department of Commerce
SSPC	Steel Structures Painting Council
STL. or ST.	Steel
STN. STL. or S.S.	Stainless Steel
STOR.	Storage
STRUCT.	Structural
SUPP.	Supplementary
SUSP.	Suspended
T. or TOIL.	Toilet

T.B. or TKBD.	Tackboard
TCA	Tile Council of America
TEL.	Telephone
TEMP.	Tempered
THK.	Thickness
TKS.	Thickness
T.M.	Tilt Mirror
T.O.S.	Top of Steel
TYP.	Typical
U.L.	Underwriter's Laboratories, Inc.
ULC	Underwriter's Laboratories of Canada
USA	U.S. of America Standards Association
U.V.	Unit Ventilator
VAR.	Varnish
V.A.T.	Vinyl Asbestos Tile
V.C.B.	Vinyl Cover Base
V.B.	Vinyl Base
VEST.	Vestibule
VERT.	Vertical
W.	Women
W/	With
WD.	Wood
WDW. or WIN.	Window
W.H.	Wall Hung
W.R.	Wall Receptacle
W.W.F.	Welded Wire Fabric

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01 0720

DEFINITIONS

PART 1 - GENERAL

1.01 DESCRIPTION:

A. The General Conditions and applicable portions of Division 1 of the Project Manual are a part of this Section.

1.02 DEFINITIONS:

A. Purchaser, State, Owner Agent, Rhode Island Army National Guard means the Owner.

B. A/E shall mean the Architect who has a Contract with the Owner.

C. Contractor shall mean the person or firm under Contract with the Owner to construct the project.

D. “Furnish” and “provide” means to supply, erect, install and connect up complete in readiness for regular operation, particular work referred to, unless otherwise specified.

E. “Supply” means purchase and delivery of material to the site.

F. “Install” means to erect in place the supplied item.

G. The term “Owner-Contractor Agreement” where used therein shall refer to the Owner’s purchase order.

H. The term “Change Order” where used herein shall refer to the Owner’s purchase change order.

I. Award of Contract and Date of Purchase Order refer to the same.

J. “Day”, as used throughout the contract unless otherwise stated, means “calendar day”.

1.03 THE WORK:

A. The work comprises the completed construction and documentation required by the Contract Documents and includes all labor needed to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction, and all manuals, reports, tests, releases, punch lists, operating instructions and the like to provide new work as shown on the Contract Documents.

1.04 DATE OF SUBSTANTIAL COMPLETION:

A. The Date of Substantial Completion of the Work or designated portion thereof, is the date certified by the Architect when construction is sufficiently complete, in accordance with the Contract Documents, so the Owner can occupy or utilize the Work or designated portion thereof, for the use for which it is intended.

1.05 DATE OF FINAL COMPLETION (FULLY COMPLETED):

A. The Date of Final Completion of the Work is the date certified by the A/E when she finds all Work is acceptable and has been performed and completed in accordance with the terms and conditions of the Contract Documents.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 01 1000

SUMMARY OF THE WORK

PART 1 - GENERAL

1.01 SUMMARY

A. Project Identification:

Roof Replacement at the Sun Valley Armory

The scope of work involves roof system replacement (low-sloped PVC) at the engineering building and its entrance canopies, with trim repair and painting, replacement of roof hatch, metal flashings, fascia and downspouts as well as associated siding and exterior masonry repairs and canopy lighting.

B. Permits and Fees:

1. Apply for, obtain and pay for permits and fees required.
2. The Building permit will be issued by the State of Rhode Island Building Code Commission.
3. All other applicable permits will also be issued by the State of Rhode Island.
4. Submit copies of all permits to Architect.

C. Codes: Comply with applicable codes and regulations of authorities having jurisdiction. Submit copies of inspection reports, notices and similar communications to Architect.

D. Dimensions: Verify dimensions indicated on drawings with field dimensions, prior to submitting Bid. Do not scale drawings.

E. Existing Conditions: Notify Architect of existing conditions differing from those indicated on the drawings.

F. Mock-Up Wall Sample: Provide a mock-up wall sample to establish an acceptable standard of work for masonry repair and serve as a benchmark for evaluating and accepting subsequent work.

1.02 RELATED WORK:

A. The General Conditions, Supplementary Conditions and applicable portions of Division 1 of the Project Manual are a part of this section which shall consist of all labor, equipment and materials necessary to complete all work indicated on the drawings, herein specified, or both; and as related to the project or projects defined in the Bidding and Contract requirements.

B. The specification format used herein is in accordance with the master CSI format, and in no way intends to restrict this Contractor from expediting his work as he sees fit, nor is there any intention of segregating the units of work as related to specific trades involving jurisdictional labor problems.

1.03 PROJECT COORDINATION:

A. The Contractor selected to complete work specified herein shall also be responsible for coordinating the work of other trades. All work or portions thereof shall be completed simultaneously.

B. Deleted.

C. The Contractor shall provide all work incidental to and necessary for a complete and proper installation of the specified and intended work of the Project.

D. Prior to removing existing improvements, consult with Owner to determine which improvements will be turned-in to the Owner. If Owner does not wish to keep existing improvements, Contractor shall dispose of item in a legal and approved manner.

E. Provide all core drilling and demolition work necessary to accommodate the specified work and all related work without creating structural or other damage. Patch and repair all wall, floor and ceiling assemblies with approved construction materials to match existing construction materials. Provide fire rated materials between fire separation wall assemblies, minimum two (2)-hour U.L. approved. Visit the site and become familiar with the intended work prior to submitting bid.

F. Visit the site and become familiar with the specified and the intended work prior to submitting bid.

G. Provide all saw cutting, paving, removals and disposal of paving, patching, repairing, seal coating, painting, etc. of concrete and bituminous paving which is required for a complete and proper installation of the entire irrigation systems.

H. Secure and pay for, as necessary for proper execution and completion of the work, and as applicable at time of receipt of bids, the following:

1. All permits
2. Government Fees
3. Licenses
4. Utility Company Charges.

I. Give required notices.

J. Lay out all work and be responsible for all lines, elevations and measurements. Verify the figures shown before laying out the work and be responsible for any error resulting from failure to do so.

K. Notify all trades, subcontractors and suppliers of all designated alternative and be responsible for their coordination.

L. Coordinate the work of all trades. All mechanical and electrical work shall be completed by qualified Contractors licensed in the State in which the work is being performed.

M. The Contractor shall be responsible for carefully coordinating all proposed demolition work and new construction work with the Owner. The Owner must maintain use of the sites during the Construction Phase. The Contractor may be required to complete work in several phases. Plan accordingly and include all related costs in the Base Bid. Consult Owner prior to submitting bid.

1.04 GENERAL RESPONSIBILITIES OF THE CONTRACTOR:

A. The Contractor shall be responsible for all personnel involved in the work, including those of his direct employ, his subcontractors and suppliers of materials and equipment and/or labor. The Technical Specifications have been divided for convenience only, to cover the Scope of Work, and where reference to a particular Contractor is noted, it is for convenience only. **The Owner and A/E recognize only one Contractor as a party to this Contract.**

B. Except as specifically noted, provide and pay for:

1. Labor, materials and equipment
2. Tools, construction equipment and machinery
3. Water, heat and utilities required for construction - unless otherwise directed herein.
4. Other facilities and services necessary for proper execution and completion of work

C. Owner is exempt from sales tax on products permanently incorporated in the work.

D. The Contractor and his subcontractors who are selected to complete the proposed new work shall have a minimum of five (5) consecutive years' experience providing similar work to that specified.

E. Certain portions of the proposed new work may require civil, structural, mechanical, fire sprinkler, and electrical work which may be described with notes only and may not be specifically drawn and/or detailed. The Contractor shall be responsible for engaging the services of a qualified State-Island Licensed Civil, Structural, Electrical, Mechanical, and/or Fire Sprinkler System Engineer to consult and/or design any work the Contractor and his subcontractors feel they are not familiar with. Furthermore, all civil, structural, mechanical, fire sprinkler system, and electrical work shall be completed by Qualified State-Licensed Contractors applicable to each discipline.

F. This Contractor shall complete all work within the specified amount of days described in other sections herein.

G. The Contractor shall be responsible for patching, repairing and restoring to original new condition, <u>all</u> portions of the site and building damaged and or adversely affected in any way during construction. The Owner and the Architect shall review and approve any and all new work and related restoration work prior to the Contractor considering work to be complete.

H. Submit original receipts for <u>all</u> work completed with Allowance moneys. Do not utilize Allowance moneys without the written authorization of the Architect.

I. The Contractor, upon Substantial Completion of this project, shall provide the Owner and Architect with a certified statement stating that all work has been provided in conformance with the Contract Documents, applicable manufacturer(s) written specifications and recommendations.

J. This Scope of Work may be completed during the winter months or may lapse into the winter months. The Contractor shall prepare his bid as if the work will be completed during winter conditions.

K. Provide <u>all</u> temporary fencing, hay bales and other related barriers and protection/prevention materials and equipment required to protect the property of the Owner and others and if applicable, to conform to Wetlands rules and regulations.

L. The Contractor shall provide adequate dust control at each site throughout the duration of the Construction Phase.

M. The Contractor shall install all products in strict conformance with these specifications and/or the manufacturers' written instructions and recommended practices, whichever is most stringent. No exceptions will be allowed.

N. Comply with codes, ordinances, rule, regulations, orders and legal requirements of public authorities which bear on performance of work.

O. Promptly submit written notice to A/E of observed variance of Contract Documents from legal requirements.

1. Appropriate modifications to Contract Documents will adjust necessary changes.

2. Assume responsibility for work known to be contrary to such requirements, without notice.

P. Enforce strict discipline and good order among employees. Do not employ persons not skilled in assigned task.

Q. The Contractor shall provide all as-built reproducible drawings, disk and/or CD compatible with Owner's computer equipment at no additional cost to the Owner. The as-built drawings shall reflect actual systems installation and work completed. No exceptions will be allowed.

R. The Contractor shall be responsible for patching, repairing and restoring to original new condition, all portions of the site and building damaged and or adversely affected in any way during construction. The Owner and the A/E shall review and approve any and all new work and related restoration work prior to the Contractor considering work to be complete. If any portion of the Owner's property is damaged during the course of construction, Contractor shall assume sole responsibility to complete repairs.

1.05 WORK BY OWNER: Not Applicable.

1.06 RESOLUTION OF CONTRACT DOCUMENT CONFLICTS OR CONFUSION:

A. Conflicts or Confusion: Prior to submitting bid, the Contractor shall carefully study and compare the Contract Documents and shall request clarification in all cases of apparent conflict or confusion. **In case of conflict or confusion where the Contractor did not request clarification prior to submitting his bid, the Contractor shall interpret the Contract Documents to require the greater quantity, higher quality, most restrictive, and most expensive of the possible interpretations**.

1.07 PLANNING THE WORK:

A. The Contractor shall plan his schedule to produce the work expeditiously in an orderly manner without interfering with the Owner's operations or the operations of other building tenants (occupants).

B. The Contractor shall substantially complete one phase of construction prior to beginning another phase of construction related work.

C. Coordinate and carefully plan work described herein and as shown and described elsewhere and on the drawings.

D. Owner shall be notified by the contractor at least seventy-two (72) hours prior to all "downtime" of systems involved in construction.

E. The Contractor shall direct all questions and submittals to the office of the Architect, only. The Contractor shall assume all responsibility for work associated with the project if the Architect is not first advised.

F. The Contractor shall visit the site and become familiar with the specified and the intended work prior to submitting his bid. No additional costs will be allowed for work obviously intended to be a part of this Contract. Architect's decision shall be final.

G. Contractor shall be responsible for coordinating and cross-referencing all drawings and portions of the Project Manual. **DO NOT SEPARATE THE DRAWINGS AND PAGES OF THE PROJECT MANUAL.**

1.08 SAFETY PRECAUTIONS:

A. OSHA:

1. These construction documents of construction hereby contemplated are to be governed at all times by applicable provisions of the Federal Law (s), including but not limited to the latest amendments of the following:

   a) Williams; Steiger Occupational Safety & Health Act of 1970, Public Law 91-956;
   b) Part 1510 - Occupational Safety & Health Standards, Chapter XVII of Title 29, Code of Federal Regulations.

2. This project, the Contractor and his subcontractors shall, at all times, be governed by Chapter XIII of Title 29, Code of Federal Regulations, Part 1518 - Safety and Health Regulations for Contraction, (36 FR 75), as amended to date.

B. Asbestos Abatement: Hazardous Materials Abatement is a part of this contract. The Contractor will be responsible for the removal of asbestos or any other hazardous materials that are present on the project site. It is the intent of the Owner to have the Contractor remove and legally dispose all asbestos and any other hazardous materials from the site, in full accordance with the requirements of the Rhode Island Department of Health; Division of Occupational Health/Radiation Control and this agency's issue "Rules and Regulations for Asbestos Control, January, 1986 (R23-24.5 - ASB), or as amended to date.

C. Emergencies:

1. Should a tornado, hurricane, gale or heavy wind warnings be issued, every practicable precaution shall be taken by the Contractor to minimize the danger to persons, to the work and to the adjacent property. Such damage caused to any part of the work shall be rectified or replaced to complete satisfaction of the A/E and at no expense to the Owner. Injury to personnel or damage to adjacent property because of the work shall be the complete responsibility of the Contractor, and he accepts exclusive liability for same.

D. Loading:

1. No part of any structure involved in this Contract shall be loaded during construction with a weight greater than it is calculated to carry with safety. Should any accidents or damage occur through any violation of this requirement, the Contractor shall be held solely responsible under his Contract and bond. When, in the opinion of the A/E, portions of the structure appear to be overloaded, it shall be the Contractor's responsibility to prove otherwise, or the Contractor shall follow the instructions of the A/E in connection with reduction of the loads.

E. Compliance with the Owner's Insurer, hereinafter referred to as OI.

1. If applicable, plans and final installation of Fire Suppression Systems are subject to acceptance by the OI.

2. All proposed uses of plastic construction materials shall be referred to the OI for review and appropriate recommendations.

3. Fire protection equipment shall be installed in conformance with the standards to the National Fire Protection Association (NFPA). Devices listed by Underwriters Laboratories Inc. (UL) or any other recognized testing laboratory shall be used.

4. Electrical installation shall conform to the National Electrical Code (NEC).

5. Combustible stock and processing equipment should not be moved into the buildings until recommended suppression systems are properly installed, tested, and in full service.

6. Fire prevention and protection during the construction period shall include the following:

   a) Use of public fire department, plant fire brigade, and portable extinguishing equipment.

   b) Early contract awards and expediting of fire protection equipment.

   c) Proper supervision of open flames and temporary wiring.

   d) Suitable access to the site with hydrants and water available on the site in early stages of construction.

   e) Supervision of welding or cutting operations, including use of flame-proofed tarpaulins.

   f) Keeping combustible material, including process equipment awaiting installation, to a minimum, and as far away as possible from buildings under construction.

   g) Keeping the construction site clean and orderly.

   h) Detaching Contractor's sheds from buildings under construction, if applicable.

   i) Special precautions such as shoring of masonry walls and temporary tie-bracing of structural steel work to prevent windstorm damage during construction.

1.09 WORK SEQUENCE:

A. The Contractor shall plan his schedule to produce the work expeditiously in an orderly manner without interfering with the Owner's operations.

B. Work Hours: all work shall be conducted between the normal working hours of 7:30 A.M. and 4:00 P.M. local time, and during regular weekdays, unless otherwise adjusted by the Owner. No work shall be performed before or after the normal working hours or during Saturdays, Sundays and Holidays as defined by the Department of Labor. The Owner may waive this requirement in an emergency situation.

PART 2 – PRODUCTS: Not Used.

PART 3 – EXECUTION:

3.01 RECORD DOCUMENTS:

A. Maintain at job site, a minimum of one (1) copy of:

1. Signed Contract Drawings
2. Project Manual
3. Addenda
4. Reviewed Shop Drawings
5. Change Orders
6. Other Modifications to Contract
7. Field Test Records
8. Approved material samples
9. As-built Drawings

B. The Owner or Architect will accept only those Contract Documents that are signed or initialed and dated on each page.

C. Store documents in field construction office(s), apart from documents used for construction.

D. Provide files and racks for storage of documents.

E. File documents in accordance with CSI Master Format.

F. Maintain documents in clean, dry, legible condition.

G. Do not use record document for construction purposes.

H. Make documents available at all times for inspection by A/E and Owner.

I. At Final Completion of the Project, turn over to the Architect, all Project Record Documents. All items such as reviewed shop drawings, Change Orders, test reports, etc. shall be delivered in bound book form and on CD, disk compatible with the Owner's and the Architect's computer systems.

3.02 RECORDING:

A. Label each document "PROJECT RECORD DRAWINGS"

B. Keep record documents current.

C. Do not permanently conceal any work until required information has been recorded and inspected.

D. Contract Drawings: Legibly mark to record actual construction.

1. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.

2. Field change of dimension and detail.

3. Changes made by Change Order or Field Order.
4. Details not on original contract drawings.

E. Specification and Addenda: legibly mark up each section to record:

1. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

2. Changes made by change order or field order.

3. Other matters not originally specified.

F. Shop Drawings: Maintain as record documents; legibly annotate drawings to record changes made after review.

3.03 CUTTING AND PATCHING

A. Execute cutting, fitting or patching or work, required to:

1. Make several parts fit properly.

2. Uncover work to provide for installation of ill-timed work.

3. Remove and replace defective work.

4. Remove and replace work not conforming to requirements of Contract Documents.

5. Install specified work in existing construction.

B. In addition to contract requirements, upon written instruction of the A/E:

1. Uncover work to provide for A/E's observation of covered work, as required by the General Conditions.

2. Remove samples of installed materials for testing; as required by the General Conditions.

3. Remove work to provide for alteration of existing work.

C. Do not endanger any work by cutting or altering work or any of it.

D. Do not cut or alter work of another contractor without written consent of A/E.

E. Prior to cutting which affects the structural integrity and safety of project work or that of another contractor, seek prior written notice to the Architect requesting consent to proceed with cutting. All such cutting shall be certified by a Rhode Island licensed structural engineer at no additional cost to the Owner or Architect. All related costs shall be the sole responsibility of the Contractor.

F. Prior to cutting and patching done on instruction of AE, submit cost estimate.

G. Should conditions of work, or schedule indicate change of materials or methods, submit written recommendation to A/E, including:

1. Conditions indicating change.

2. Recommendations for alternative materials or methods.

3. Submittals as required for substitutions.

H. Submit written notice to A/E, designating time work will be covered, to provide for observation.

I. Payment for costs caused by ill-timed or defective work, or work not conforming to Contract Documents, including costs for additional services of A/E, will be borne solely by the Contractor.

J. Preparation (prior to cutting):

1. Provide shoring, bracing and support as required to maintain structural integrity.

2. Provide protection for other portions of project.

3. Provide protection from elements.

K. Performance: Perform all work of fitting, adjustment, cutting, patching, finishing and restoration to perfectly match the quality as specified throughout these specifications, and in accordance with section 01 7600

3.04 CONTRACTOR INSPECTION:

A. Inspect existing conditions of work, including elements subject to movement or damage during cutting and patching.

B. Repair/replacement of defective work will not constitute sufficient cause to extend the contract deadline

END OF SECTION

SECTION 01 1130

HAZARDOUS-MATERIALS PROCEDURES

PART 1 - GENERAL

1.01 HAZARDOUS MATERIALS DISCOVERY

A. The Owner has determined that there are hazardous materials to be encountered under the work of this Project.

1.02 SECTION INCLUDES

A. The Contractor may be required to provide testing to verify the presence of other unknown potentially hazardous materials using the Allowances.

B. The Prime Contractor shall be responsible for the removal and disposal of all hazardous- containing materials that have been found on the site per testing report following this section. It is the intent of the Owner to have the Contractor remove and dispose all hazardous materials in full accordance with the Rhode Island Department of Health; Division of Occupational Health/Radiation Control and this Agency's issue "Rules and Regulation for Hazardous Materials Control", as amended to date. Contractor shall submit enclosed abatement plan, arrange and pay for all remaining testing and fees, and complete abatement as part of this Contract Base Bid.

"Invoices for removal and abatement shall be accompanied by approved shipping documents which describe final disposal location, date or disposal, approved signatures and General Contractor signature of acknowledgment."

1.03 RELATED WORK:

A. Documents affecting work of this section including but not necessarily limited to General Conditions, Supplementary Conditions, and sections in Division 1 of these Specifications.

1.04 RELATED REPORTS

A. Pertinent portions of applicable Survey and Sampling Reports are included herein, following this page. They consist of:

1. Environmental Consulting & Management (ECM) - Asbestos Abatement Plan (pertinent to roof only), dated January 2019.

2. CONTRACTOR NOTE WELL: Quantities and estimated removal costs if applicable, are for reference only. The Contractor shall verify all quantities and assume all costs relative to the complete and proper removal and disposal of hazardous materials abatement.

1.05 ABATEMENT PROCEDURES (By the Contractor)

A. Obtain the services of a State Certified Abatement Contractor to remove and dispose the hazardous materials in accordance with Federal, State and Local rules and regulations.

B. Retain hazardous materials abatement invoices for submittal with required close-out record documents. Invoices must be accompanied by complete shipping documents showing final disposal location.

C. A Pre-abatement Meeting with the Owner's Representative, the Prime Contractor, and the designated Abatement Contractor shall be held one (1) week prior to removal.

D. Provide other abatement related services not specifically described herein, but needed for a complete and proper job.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

Asbestos Abatement Plan

RI Army National Guard
Camp Fogarty – Sun Valley Armory
ECM #190009B

Prepared for:
RI Army National Guard
Facilities & Maintenance Office
Attn: Ms. Ann Marie Ethier
705 New London Avenue
Cranston, RI 02920

Prepared by:

181 Amaral Street
Riverside, RI 02915

January 2019

RHODE ISLAND DEPARTMENT OF HEALTH

NOTARIZED CERTIFICATION OF ASBESTOS ABATEMENT PLAN

Facility: **Camp Fogarty – Sun Valley Armory**

Address: **2841 South County Trail**

City/Town: **East Greenwich** Zip: **02818** Amendment Phase No:

Abatement Plan Written By: **Daniel J. Simas** Certification No: **AAC-0567**

Summary of specific waivers/variances being requested:

Type of Asbestos Abatement ( ) Removal ( ) Enclosure ( ) Encapsulation
( ) Demolition ( ) Glovebag (**X**) Asphalt Roofing
( ) Other (specify)

Is this plan being submitted in response to a Notice of Violation and/or a Notice of Requirement to Submit an Asbestos Abatement Plan? ( ) Yes (**X**) No

If yes, Indicate Notice/Building Evaluation No(s):
Contractor: **To be selected** License No: **LAC-**

Estimated Starting Date: **2/28/19**

Pre-Abatement Sampling Information

Bulk Samples Collected By: **Charles Prescott** Certification No: **AAC-0642**

Bulk Samples Analyzed By: **SanAir Technologies Laboratory** Certification No: **AAL-126**

Air Samples Analyzed By: **N/A** Certification No: **AAL-**

Clearance Air Sampling Information

Air Samples to be Collected By: **N/A**

Air Samples to be Analyzed By: **N/A** Certification No: **AAL-**

CERTIFICATION

I certify that: this asbestos abatement plan is prepared and submitted under the provisions of Section 23-24.5-6 of the RI Asbestos Control Act and Parts A and C of the RI Rules and Regulations for Asbestos Control; all abatement/management activities performed in conjunction with this plan must be in compliance with the specifications prescribed in this plan (when approved) and the most current revision of all applicable federal and state regulations; and the asbestos abatement/management activities described in this plan must be performed by a RI licensed asbestos abatement contractor.

Certified by: _____ Title: _____
(Signature of Building Owner or Agent)

_____ Date: _____
(Typed/Printed Name of Certifier)

Subscribed and sworn before me this _____ day of _____, 20_____

_____ My Commission Expires: _____
(Notary Public)

AFFIX NOTARY SEAL HERE

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
Department of Health
Office of Occupational & Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

1. Building Owner's Name:
   RI Army National Guard

2. Application Prepared By:
   Daniel J. Simas
   RI certification No: **AAC-0567**
   Telephone No: **401-304-6612**

3. Building Owner's Mailing Address and Telephone Number:

   Street: **705 New London Avenue**

   City/State: **Cranston, RI**

   Zip: **02882**

   Telephone No.: **401-275-4189**
   (Area Code, No., Ext.)

4. Person to be contacted regarding this application:

   Name: **Ms. Ann Marie Ethier**

   Telephone No: **401-275-4189**
   (Area Code, No., Ext.)

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5. Location where abatement work will be performed:

   Name (if applicable): **Camp Fogarty – Sun Valley Armory**
   Street: **2841 South County Trail**
   City/Town: **East Greenwich** Zip: **02818**

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6. Is this application being submitted in response to a "Notice of Requirement to Submit an Asbestos Abatement plan"? ( ) Yes (**X**) No

If Yes, what is the due date for submittal of Abatement plan? _____
(Mo.) (Day) (Yr.)

Evaluation Number on the Notice: _____

---

7. Contractor who will be performing abatement work (if selected):

   Name: **To be selected** R.I. License No.: **LAC-**

8. Estimated Starting Date of Abatement Work **02** (Month) **28** (Day) **2019** (Year)

9. Estimated Completion Date of Abatement Work: **12** (Month) **31** (Day) **2019** (Year)

10. Type of Asbestos Abatement: **(Check all that apply)**

(**X**) Removal
( ) Encapsulation
( ) Operations and Maintenance Only
( ) Enclosure
( ) Demolition

11. Type of Building:

( ) School
(**X**) Privately Owned Building
( ) Publicly Owned Building
( ) Residence
( ) Other (Specify) _____

12. Building Access:

( ) Public Access (≥ 25% of Building Area)
( ) Limited Public Access (< 25% of Building Area)
(**X**) No Public Access

13. Bulk Sample Collection and Analysis:

A). Person collecting bulk samples:

Name: **Charles Prescott** RI Certification No.: **AAC-0642**

B). Sampling Methodology:
(**X**) EPA AHERA Sampling requirements [40 CFR 763.86].

( ) EPA's Asbestos Containing Material in School Buildings: A Guidance Document (EPA-405/2-78-014) or Guidance for Controlling Asbestos Containing Materials – 1985 Edition (EPA-560-5-85-024)

( ) Other (Specify) _____

C). Laboratory performing the analysis of the bulk samples

Name: **SanAir Technologies Laboratory** RI Certification No.: **AAL-126**

D). Analytical Methodology:

(**X**) EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples [PLM method only].

( ) Other (Specify) _____

14. Pre-Abatement Air Sample Collection and Analysis:

A). Person collecting pre-abatement air samples:

Name: **N/A** Affiliation:

B). Laboratory performing analysis of pre-abatement air samples.
Name: **N/A** RI Certification No.: **AAL-**

C). Methodology used in the collection and analysis of pre-abatement samples:

( ) NIOSH Method 7400 [Most Current Revision]

( ) OSHA 29 CFR 1926.1101 – Appendix A & B

( ) Other (Specify) _____

---

15. A. Indicate how the regulated asbestos containing material (RACM) will be removed from the abatement site. If a hauler or broker will be used to transport the RACM to a disposal site, they must also be identified.

To be determined_____

B. Provide the name and location of the authorized asbestos waste facility to which the removed material will be transferred for disposal (if known).

To be determined_____

---

16. Person designated as compliance monitor for abatement work. **[NOT REQUIRED]**

Name: **ECM Personnel**

Affiliation: **ECM**

17. In-Process & Clearance Air Sampling: **See Attachment #1**

    A. Describe on an attachment the type, number and location of air samples that will be collected outside the work area during the abatement project.

    B. Describe on an attachment the plan of action to be followed if the Indoor Non-Occupational Air Exposure Standard for Asbestos (0.01 fibers per cubic centimeter) is exceeded outside the work area during the abatement project.

    C. Describe on an attachment the type, number and location of air samples that will be collected as part of the final clearance testing.

    D. Describe on an attachment the plan of action to be followed if the Indoor Non-Occupational Air Exposure Standard for Asbestos (0.01 fiber per cubic centimeter) is exceed during final clearance testing.

---

18. A separate and fully completed Form ASB-16A must be submitted for each area to be abated. List below the entry in Item 1 from each attached ASB-16A.

    Area 1 – Roof

---

19. I certify that this plan was prepared by me and I am responsible for its content.

    Signature: _____ Date: 1/30/2019
    (Month) (Day) (Year)

    Affiliation: **Environmental Consulting and Management, Inc**

---

20. ASBESTOS ABATEMENT PLAN APPLICATION FEE:

( ) Operation & Maintenance Only	$ 75
( ) Up to One (1) NESHAP Unit	$ 75
( ) Between One (1) & Ten (10) NESHAP Units	$ 300
( ) Between Ten (10) & Fifty (50) NESHAP Units	$ 600
( ) Over Fifty (50) NESHAP Units	$ 900

(**X**) RI State Agency Waived Application Fee

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Health

Office of Occupational & Radiological Health

APPLICATION FOR APPROVAL OF AN ASBESTOS ABATEMENT PLAN

SUPPLEMENTAL INFORMATION: AREA DESCRIPTION AND PROPOSED REMEDY

BUILDING LOCATION: **Sun Valley Armory, 2841 South County Trail, East Greenwich**

INSTRUCTIONS: All items on this form must be addressed. All references to attachments must be clearly identified. All attachments must be marked with the specific item numbers on this form to which they pertain.

---

(1) Area Location/Identification (Room Name/No., Evaluation Number, etc.):

Area 1 – Roof

(2) Attach a description of each type (e.g. pipe, ceiling, etc.) of regulated asbestos containing material (RACM) in this area, including condition, location, quantity and asbestos content. Attach a copy of the laboratory report(s) for all samples. (NOTE: All laboratory reports must include the name of the building(s) and the location(s) of the sample(s).

Refer to Attachment #2

---

(3) Attach a current scale drawing of this area, showing direction of North and East, which has been clearly annotated to show the type, location and quantity of all RACM in this area. This drawing must include a legend which acts as a guide to the scale, symbols and nomenclature used in the drawing. If a master plan or multiple drawings are provided, indicate the specific location(s) and drawing number(s) which depict this area. The location of the decontamination chamber must also be so indicated on the appropriate drawing(s).

Refer to Attached Building Drawing

---

(4) PROPOSED REMEDIES:

A). Attach a description of the interim Operations and Maintenance Plan that will be implemented in accordance with C.1.2 (b).

Refer to Attachment #3

---

(4) PROPOSED REMEDIES (cont.):

B). Will any portion of this area be abated by use of B.8 work procedures?

(**X**) Yes ( ) No

If Yes, indicate below which RACM in this area will be abated by use of the following B.8 work procedures:

B.8.2 & B.8.3	[REMOVAL]	_____
B.8.2 & B.8.4	[ENCAPSULATION]	_____
B.8.2 & B.8.5	[ENCLOSURE]	_____
B.8.6	[DEMOLITION]	_____
B.8.7	[GLOVEBAG]	_____
B.8.8	[ASP. ROOFING]	**Vapor Barrier/Contaminated ISO Board**

C). Are you requesting any waivers to the above selected B.8 procedure for any of the abatement activities in this area?

( ) Yes (**X**) No

If yes, attach a detailed description of the waivers requested you are proposing to utilize. All items must be keyed to the specific section(s) of the regulations for which waivers are requested.

D). Are you proposing alternative procedures under B.11 for any of the abatement activities in this area?

( ) Yes (**X**) No

If yes, attach a detailed description of the alternate procedures requested you are proposing to utilize. Alternate procedures must include a justification for not following specific section(s) of the regulations and be as protective of public health.

E). Will any RACM remain in this area after abatement?

( ) Yes (**X**) No ( ) Beyond scope of inspection

If Yes, attach a description of the RACM that will remain and the details of the on-going Operations and Maintenance Plan that will be implemented in accordance with C.1.2(b).

AGENCY USE ONLY

ATTACHMENT #1

In Process and Clearance Air Sampling

A. If requested by the building owner, ECM will be on site for part time monitoring and will collect downwind air samples daily for the duration of asbestos removal operations inside this building.

B. Any deviation in proper procedures on the part of the contractor shall be reported to the building owner. This includes inadequate paperwork on site, disagreement and/or any deviation from previously outlined work procedures, or if compliance samples in the work area vicinity exceed 0.01 f/cc. The contractor's work shall then be stopped, without repercussion to the building owner or the project-monitoring firm until any conflicts and/or problems have been resolved.

C. After Area 1 has passed the consultant's visual inspection, he or his authorized representative will collect:

Area 1 – Clearance air samples will not be required as removal is exterior. A qualified individual will perform a visual inspection to confirm all asbestos containing materials identified within this abatement plan have been removed. It is the responsibility of the asbestos abatement contractor to collect personnel air samples in compliance with OSHA 29 CFR 1926.1101 (f). These samples must be submitted to the RIDOH at the completion of the abatement area.

D. If the visual clearance results in failure, the project area shall be cleaned until a satisfactory clearance level is attained.

The asbestos contractor is held responsible for any costs associated with the re-cleaning of an area.

ATTACHMENT #2

ASB-16A-2

Description of Asbestos Containing Material

Camp Fogarty – Asbestos Sample Results ID# 19002886

Sample #	Material	Location	Asbestos %	Quantity
01A-H	Vapor Barrier	All Main Roofs – On Corrugated Deck	10% Chrysotile	~20,250 sf

The bottom layer of ISO board is on top of the asbestos containing vapor barrier and will need to be removed by the asbestos abatement contractor as the vapor barrier may come up with it. Contaminated ISO board will need to be discarded as asbestos contaminated waste. Any ISO board that is removed cleanly may go out as general construction waste.

It is the contractor's responsibility to verify all material quantities and locations.

ATTACHMENT #2 (Cont.)

Laboratory Analysis Reports:

1. Bulk Sample Results

SanAir Technologies Laboratory

The Identification Specialists

Analysis Report
prepared for
Environmental Consulting & Management Inc

Report Date: 1/25/2019

Project Name: Camp Fogarty - Sun Valley Armory

Project #: 190009

SanAir ID#: 19002686

NVLAP TESTING

NVLAP LAB CODE 200870-0

1551 Oakbridge Dr. Suite B | Powhatan, Virginia 23139-8061
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | IAQ@SanAir.com | SanAir.com

SanAir ID Number
19002686
FINAL REPORT
1/25/2019 4:21:53 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 190009
P.O. Number:
Project Name: Camp Fogarty - Sun Valley Armory
Collected Date: 1/17/2019
Received Date: 1/18/2019 9:40:00 AM

Dear Chad Prescott,

We at SanAir would like to thank you for the work you recently submitted. The 10 sample(s) were received on Friday, January 18, 2019 via FedEx. The final report(s) is enclosed for the following sample(s): 01A, 01B, 01C, 01D, 01E, 01F, 01G, 01H, 02A, 02B.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:
- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:
- 10 samples in Good condition.

SanAir Technologies Laboratory

SanAir ID Number
19002686
FINAL REPORT
1/25/2019 4:21:53 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 190009
P.O. Number:
Project Name: Camp Fogarty - Sun Valley Armory
Collected Date: 1/17/2019
Received Date: 1/18/2019 9:40:00 AM

Analyst: Marko, Jared

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non-fibrous	Asbestos Fibers
01A / 19002686-001 Vapor Barrier	Black Non-Fibrous Heterogeneous	25% Cellulose	65% Other	10% Chrysotile
01B / 19002686-002 Vapor Barrier	Black Non-Fibrous Heterogeneous	25% Cellulose	65% Other	10% Chrysotile
01C / 19002686-003 Vapor Barrier	Black Non-Fibrous Heterogeneous	25% Cellulose	65% Other	10% Chrysotile
01D / 19002686-004 Vapor Barrier	Black Non-Fibrous Heterogeneous	25% Cellulose	65% Other	10% Chrysotile
01E / 19002686-005 Vapor Barrier	Black Non-Fibrous Heterogeneous	25% Cellulose	65% Other	10% Chrysotile
01F / 19002686-006 Vapor Barrier	Black Non-Fibrous Heterogeneous	25% Cellulose	65% Other	10% Chrysotile
01G / 19002686-007 Vapor Barrier	Black Non-Fibrous Heterogeneous	25% Cellulose	65% Other	10% Chrysotile
01H / 19002686-008 Vapor Barrier	Black Non-Fibrous Heterogeneous	25% Cellulose	65% Other	10% Chrysotile
02A / 19002686-009 Lexonite	Black Non-Fibrous Homogeneous		100% Other	None Detected
02B / 19002686-010 Lexonite	Black Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: Jared Marko

Approved Signatory: Johnathan Wilson

Analysis Date: 1/25/2019

Date: 1/25/2019

SanAir ID Number
19002686
FINAL REPORT
1/25/2019 4:21:53 PM

Name: Environmental Consulting & Management Inc
Address: 50 Kickemuit Ave
Bristol, RI 02809
Phone: 401-438-1360

Project Number: 190009
P.O. Number:
Project Name: Camp Fogarty - Sun Valley Armory
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Received Date: 1/18/2019 9:40:00 AM

Disclaimer

The final report cannot be reproduced, except in full, without written authorization from SanAir. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample and information provided by the client. This report may not be used by the client to claim product endorsement by NVLAP or any other agency of the U.S. government. Samples are held for a period of 60 days.

For NY state samples, method EPA 600/M4-82-020 is performed.

Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Certifications
NVLAP lab code 200870
City of Philadelphia: ALL-460
PA Department of Environmental Protection Number: 68-05397
California License Number: 2915
Colorado License Number: AL-23143
Connecticut License Number: PH-0105
Massachusetts License Number: AA000222
Maine License Number: LB-0075
New York ELAP lab ID: 11983
Rhode Island License Number: AAL-126
Texas Department of State Health Services License Number: 300440
Commonwealth of Virginia 3333000323
Washington State License Number: C989
West Virginia License Number: LT000566
Vermont License: AL166318

Revision Date: 11/30/2017

ATTACHMENT #3

Interim Operations & Maintenance Plan

The contractors, maintenance personnel and staff associated with Camp Fogarty – Sun Valley Armory are aware of the presence and location of ACBM within the above stated areas. They have been instructed not to disturb the material due to the potential health hazards if fibers become airborne.

1. Notification

All building occupants, also any contractors entering the building and/or premises to perform work, shall be notified of the presence and location of asbestos-containing material(s) and cautioned regarding disturbance of the material(s). Also, the building occupants must be notified regarding the occurrence of asbestos abatement activities. If an emergency fiber release occurs, the following procedures shall be initiated.

2. Fiber Release Episodes

A. Minor Release Episode

If a minor fiber release episode occurs (release of less than 10 linear feet or 25 square feet of material), trained maintenance staff may perform the cleaning. Access to the area shall be restricted during clean-up. All debris shall be thoroughly wetted using amended water and placed in labeled, double six-mil polyethylene bags. The area shall then be cleaned using HEPA filtered vacuums and/or wet cleaning methods. Damaged material must be cleaned and repaired with non-asbestos-containing material. The area shall then be evaluated to decide if further action is necessary.

B. Major Release Episode

If a major fiber release episode occurs (falling or dislodging of more than 10 linear feet or 25 square feet of ACBM), the cleaning must be carried out and directed by persons accredited to conduct and design response actions. After such an episode, the area shall be immediately restricted and entry to the area prevented. Warning signs shall be posted to caution people other than those qualified to deal with the problem. Air handling units in the area shall be shut down to prevent the spread of fibers beyond the problem area. A response action shall be designed and carried out by qualified personnel.

3. Training

Any employee who, because of their work, may disturb asbestos-containing material shall be trained and certified as a Competent Person as described by the RI Rules and Regulations for Asbestos Control. The program coordinator shall ensure that the procedures described above to protect the building occupants shall be followed for any operations and maintenance activities disturbing or involving ACBM.

ATTACHMENT #4

Scope of Work / Description of Waivers

It is the contractor's responsibility to verify material locations and quantities.

All proper OSHA, federal, state, and local safety regulations shall be followed.

All roof materials will be removed utilizing B.8.8 work procedures.

Camp Fogarty - Sun Valley Armory

Department of Health

Three Capitol Hill
Room 206
Providence, RI 02908-5097

401-222-5960
RI Relay 711
www.health.ri.gov

February 11, 2019

Rhode Island Army National Guard
Ann Marie Etier
705 New London Avenue
Cranston, RI 02882

Plan Number: 81397

Dear Ann Marie Etier :

This is in reference to the asbestos abatement plan which you submitted for:
Camp Fogarty - Sun Valley Armory 2841 South County Trl East Greenwich, RI 02818.
The above referenced asbestos abatement plan is hereby approved as conforming with Part C of the Rhode Island Rules and Regulations for Asbestos Control.

A review of your request for a waiver of pre-abatement, in-process, and clearance air sampling (Personal air sampling will be completed in lieu of clearance air sampling) as described in attachment #1 has been approved by this office.

Please note that a licensed asbestos abatement contractor shall submit an ASB-22 start work notification at least 10 working days before any on-site work begins at a planned asbestos project. In addition, a licensed site supervisor shall notify this office by telephone when the licensed asbestos contractor begins site preparation.

A "Confirmation of Receipt of Asbestos for Disposal" must be forwarded to this office within five (5) working days of receipt.

If you have any further questions concerning the above referenced asbestos abatement plan, please contact Erin Ferreira, 222-7777.

Sincerely,

Bonnie Cassani-Brandt
Asbestos, Lead, and Radon Program Manager
Center for Healthy Homes and Environment

[StandardPlanApprovalWithWaiver_cb1]

SECTION 01 2500

ALTERNATES

PART 1 - GENERAL

1.01 SUMMARY

A. List price for each alternate in the Form of Bid. Include cost of modifications to other work to accommodate alterations. Include related costs such as overhead and profit.

B. Owner will decide which alternates are selected for inclusion in the Contract.

C. Alternates are described briefly in this section. The contract documents define the requirements for alternates.

D. Coordinate alternates with related work to ensure that work affected by each selected alternate is properly accomplished.

E. Alternates will be taken in order.

PART 2 – ALTERNATES

2.01 LIST OF ALTERNATES

1. None

END OF SECTION

SECTION 01 2700

UNIT PRICES

PART 1 – GENERAL:

1.01 SUMMARY

A. Related Documents: Provisions established in General and Supplementary Conditions of the Contract, Division 1 - General Requirements, and the Drawings are collectively applicable to this Section.

B. Section Includes: Unit Prices.

1.02 GENERAL REQUIREMENTS

A. Perform Work required by Unit Prices in accordance with Contract Documents.

B. Unit Prices cover portions of Work added to or deducted from quantities indicated by Contract Documents.

C. Unit Prices are for work in place, except where indicated otherwise.

D. Acceptance or rejection of Unit Prices, partially or completely, will be declared at time of Contract award.

E. Unit Prices for additions or deletions include:

1. Products.
2. Delivery to site.
3. Supervision and labor.
4. Installation, including associated accessories.
5. Insurance.
6. Applicable taxes.
7. Overhead and profit.
8. Handling, including receiving, unloading, uncrating, storage, and distribution.
9. Protection from damage and from elements.
10. Submittal and processing of product data, shop drawings, samples, and other required submittals.
11. Other expenses required to complete installation.

1.03 SCHEDULE OF UNIT PRICES:

A. Contractor's Unit Price Note: The following Unit Prices are intended to provide the Owner with predetermined prices should changes to the Base Bid Contract be required. The Owner reserves the right to include any Unit Price Item for adding or deleting work. The Contractor agrees to modify his Base Bid by the shown amount.

1. Add to or deduct from the Bid Price, the cost to complete additional work associated with the specified *pointing of exterior brick masonry mortar joints* in accordance with the Bidding Documents. NOTE: Include **10 square feet** of the same in the Base Bid

$_____/square ft.

2. Add to or deduct from the Bid Price, the cost to complete the work associated with the specified *exterior brick replacement* in accordance with the Bidding Documents.
   Note: **10 square feet** of the same shall be included in the Base Bid.

$_____/square ft.

PART 2 – PRODUCTS:

Not Used.

PART 3 – EXECUTION:

Not Used.

END OF SECTION

SECTION 01300

SCHEDULING

PART 1 – GENERAL

1.01 SUMMARY

A. Working hours shall be between 7:30 a.m. and 4:00 p.m., Monday through Friday. The contractor will not be allowed to work on holidays observed by the State of Rhode Island. A list of these holidays can be obtained from the State of Rhode Island official website.

1.02 DESCRIPTION:

A. Work Included: To assure adequate planning and execution of the work so that the work is completed within the number of calendar days allowed in the Contract, and to assist the Architect in appraising the reasonableness of the proposed schedule and in evaluating progress of the work, prepare and maintain the schedules and reports described in this section.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. Requirements for Progress Schedule: General Conditions.

3. Construction Period: Form of Agreement.

1.03 QUALITY ASSURANCE:

A. Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule date, and in preparing and issuing periodic reports as required below.

B. Perform data preparation, analysis, charting, and updating in accordance with standards approved by the Architect.

C. Reliance upon the approved schedule:

1. The construction schedule as approved by the Architect will be an integral part of the Contract and will establish interim completion dates for the various activities under the Contract.

2. Should any activity not be completed within seven (7) days after the stated scheduled date, the Owner shall have the right to require the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.

3. Should any activity be thirty (30) days or more behind schedule, the Owner shall have the right to perform the activity or have the activity performed by whatever method the Owner deems appropriate.

4. Costs incurred by the Owner and by the Architect in connection with expediting construction activity under this Article shall be reimbursed by the Contractor.

5. It is expressly understood and agreed that failure by the Owner to exercise the option either to order the Contractor to expedite an activity or to expedite the activity by other means shall not be considered to set a precedent for any other activities or waive the Owner's right to do so.

1.04 SUBMITTALS:

A. Submit initial schedules within seven (7) calendar days after date of Award of Contract.

1. A/E will review schedules and, if changes are required by A/E, return reviewed copy within five (5) workdays after receipt.

2. If required, Contractor shall resubmit within five (5) workdays after return of reviewed copy.

B. Submit monthly, updated schedules accurately depicting progress to first day of each month.

C. Comply with pertinent provisions of Section 01300.

1.05 FORM OF SCHEDULE:

A. Prepare in form of horizontal bar chart:

1. Provide separate horizontal bar column for each trade or operation.
2. Order: Chronological order of beginning of each item of work.
3. Identify each column:
   a) By major specification number.
   b) By distinct graphic delineation.
4. Horizontal Time Scale: Identify first workday of each week.
5. Scale and Spacing: To allow space for updating.

B. Minimum sheet size: 11" × 17".

1.06 CONTENT OF SCHEDULE:

A. Provide complete sequence of construction by activity.

1. Decision dates for:
   a) Products specified by allowances.
   b) Selection of finishes.
2. Dates for beginning and completion of each element of construction.

B. Identify work of separate floors, or separate phases, or other logically grouped activities.

C. Show projected percentage of completion for each item of work as of the first day of every other week.

1.07 UPDATING:

A. At least every other week, show all changes occurring since previous submission of updated schedule.

B. Indicate progress of each activity, show completion dates.

C. Include:

1. Major changes in scope.
2. Activities modified since previous updating.
3. Revised projections due to changes.
4. Other identifiable changes.

1.08 DISTRIBUTION:

A. Distribute copies of reviewed schedules to:

1. Job site file.
2. Subcontractor.
3. Other concerned parties.

B. Instruct recipients to report any inability to comply, and provide detailed explanation with suggested remedies.

PART 2 – PRODUCTS:

Not Used.

PART 3 – EXECUTION:

Not Used.

END OF
SECTION

SECTION 01 3300

SUBMITTALS - SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.01 SUMMARY

A. Consult the individual sections of the specifications for the specific submittals required under those sections and for further details and descriptions of the requirements.

1.02. GENERAL PROCEDURES FOR SUBMITTALS

A. Timeliness - The Contractor shall transmit each submittal to the Architect sufficiently in advance of performing related Work or other applicable activities, so that the installation not be delayed by processing times, including disapproval and resubmittal (if required), coordination with other submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Architect in advance of the Work.

B. Contractor's Review and Approval - Only submittals received from and bearing the stamp of approval of the Contractor will be considered for review by the Architect. Submittals shall be accompanied by a transmittal notice stating name of Project, date of submittal, "To", "From", (Contractor, Subcontractor, Installer, Manufacturer, Supplier), Specification Section, or Drawing No. to which the submittal refers, purpose (first submittal, resubmittal), description, remarks, distribution record, and signature of transmitter.

C. Or-Equals - On the transmittal or on a separate sheet attached to the transmittal, the Contractor shall direct attention to any deviations including minor limitations and variations, from the Contract Documents.

1. The Contractor and all Subcontractors shall submit to the Architect for consideration of any Or-Equal, a written point by point comparison containing the name and full particulars of the proposed product to the product named or described in the Contract Documents.

2. Upon receipt of a written request for approval of an Or-Equal, the Architect shall investigate whether the proposed item shall be considered equal to the item named or described in the Contract Documents. Upon conclusion of the investigation, the Architect shall promptly advise that the item is, or is not, considered acceptable as on Or-Equal. Such written notice must have the concurrence of the Administrator.

4. In no case may an item be furnished on the Work other than the item named or described, unless the Architect considers the item equal to the item so named or described.

5. Substitutions for items not specified with an “or equal” clause must be made during bidding or in accordance with Section 01 6000.

6. The equality of items offered as "equal" to items named or described shall be proved to the satisfaction of the Architect at the expense of the Contractor or Subcontractor submitting the substitution.

7. The Architect may require that full size samples of both the specified and proposed products be submitted for review and evaluation. The Contractor or

Subcontractor, as the case may be, shall bear full cost for providing, delivering, and disposal of all such samples.

8. The Contractor or Subcontractor, as the case may be, shall assume full responsibility for the performance of any item submitted as an "Or-Equal" and assume the costs of any changes in any Work which may be due to such substitution.

D. Processing - All costs for printing, preparing, packaging, submitting, resubmitting, and mailing, or delivering submittals required by this contract shall be included in the Contract Sum.

1.03 ARCHITECT'S ACTION

A. The Architect will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:

1. **No Exceptions Taken**: the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.

2. **Make Corrections Noted**: the Work may proceed provided it complies with the Architect's notations or corrections on the submittal and complies with the requirements of the Contract Documents. Acceptance of the Work will depend upon these compliances.

3. **Provide Corrected Copies:** Fabrication/ Installation may be undertaken. Approval does not authorize changes to the contract sum or contract time.

4. **Revise and Resubmit**: Fabrication and or/ installation may not be undertaken, in resubmitting, limit corrections to items marked.

5. **Rejected** - the work covered by the submittal is not in accordance with the Contract Documents and shall not proceed. The contractor shall resubmit without delay.

6. **Submit:** Submit information as requested.

7. **No Action**

1.04 SUBMISSION OF SHOP DRAWINGS

A. Shop Drawings shall be complete, give all information necessary or requested in the individual section of the specifications. They shall also show adjoining Work and details of connection thereto.

B. Shop Drawings shall be for whole systems. Partial submissions will not be accepted.

C. The Architect reserves the right to review and approve shop drawings only after approval of related product data and samples.

D. Shop drawings shall be properly identified and contain the name of the project, name of the firm submitting the shop drawings, shop drawing number, date of shop drawings and revisions, Contractor's stamp of approval, and sufficient spaces near the title block for the Architect's stamp.

E. The Contractor shall submit to the Architect one legible, electronic copy on email, dropbox, or flash drive of each shop drawing with copy to the Owner. Transparency and prints shall be mailed or delivered in roll form. Each submittal shall be accompanied by a transmittal notice.

F. When the shop drawing is returned by the Architect with the stamp "Revise and Resubmit" or "Disapproved", the Contractor shall correct the original drawing or prepare a new drawing and resubmit to the Architect for approval. This procedure shall be repeated until the Architect's approval is obtained.

G. When the shop drawing is returned by the Architect with the stamp "Reviewed" or "Make Corrections Noted", the Contractor shall provide and distribute the prints for all Contractor and Subcontractors use, and for record sets.

H. The Contractor shall maintain one full set of approved shop drawings at the site.

1.05 SUBMISSION OF PRODUCT DATA

A. The Contractor shall submit electronic copies of Product Data to the Architect Data via email with copy to the Owner. All such data shall be specific and identification of material or equipment submitted shall be clearly marked. Data of general nature will not be accepted.

B. Product Data shall be accompanied by a transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself, in a location which will not mar legibility.

C. Product Data returned by, the Architect as "Disapproved" shall be resubmitted in until the Architects approval is obtained.

D. When the Product Data are acceptable, the Architect will stamp them "Reviewed" or "Make Corrections Noted ", return via email to the Contractor and Owner. The Contractor shall distribute additional copies as may be required to complete the Work.

E. The Contractor shall print in color and maintain one full set of approved, original, Product Data at the site.

1.06 SUBMISSION OF SAMPLES

A. Unless otherwise specified in the individual section, the Contractor shall submit two specimens of each sample.

B. Samples shall be of adequate size to permit proper evaluation of materials. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of approved samples will not be approved on the Work.

C. Samples of items of interior finishes shall be submitted all at once to permit a coordinated selection of colors and finishes.

D. Samples which can be conveniently mailed shall be sent directly to the Architect, accompanied by a transmittal notice. All transmittals shall be stamped with the Contractor's approval stamp of the material submitted.

E. All other samples shall be delivered at the field office of the Project Representative with sample identification tag attached and properly filled in. Transmittal notice of

samples so delivered with the Contractor's stamp of approval shall be mailed to the Architect.

F. If a sample is rejected by the Architect, a new sample shall be resubmitted in a manner specified herein above. This procedure shall be repeated until the sample is approved by the Architect.

G. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not particular mention is made in the specifications.

1.07 ADDITIONAL REQUIREMENTS

A. See Specification Sections for additional requirements.

END OF SECTION

SECTION 01 4000

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions and workmanship, to produce Work of specified quality. Provide the necessary quality control requirements for a complete and proper job.

B. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

1.02 TOLERANCES

A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate. Comply with manufacturers' tolerances.

1.03 REFERENCES

A. For products or workmanship specified by association, trade, or other consensus standards, complies with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

1.04 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to perform the following as applicable and to initiate instructions when necessary.

1. Observe site conditions.
2. Conditions of surfaces and installation.
3. Quality of workmanship.

1.05 CONTRACTOR'S QUALITY CONTROL

A. Perform quality control during installation.

1.06 MOCK-UP REQUIREMENTS

A. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals and finishes. Accepted mock-ups shall be a comparison standard for the remaining Work.

B. Where mock-up has been accepted by Architect and no longer needed, remove mock-up and clear area when directed to do so.

1.07 VERIFICATION OF CREDENTIALS AND LICENSES

A. Persons employed on the project site shall have appropriate and current credentials and licenses in their possession, at the project site, for the work they are performing.

B. Owner's Representative will also be reviewing Contractor's Certified Payroll Records for conformance with Prevailing Wage Requirements.

C. A Background Criminal Investigation (B.C.I.) will be required of the Contractor and his subcontractors prior to the scheduled construction start date. The Contractor shall complete this task and shall do so within a ten (10) workday allotment of time, prior to the construction start date.

D. Those persons without the appropriate credentials and licenses, including B.C.I.'s, will be subject to dismissal from the project site.

1.08 REFERENCES

A. Conform to reference standards by date of issue.

B. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.

C. The contractual relationship, duties, and responsibilities of the parties of the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.09 FIELD SAMPLES

A. Install field samples at the site as required by individual specification Sections for approval.

B. Approved samples represent a quality level for the Work.

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

1.10 MOCK-UP

A. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals, and finishes.

B. Where mock-up is specified in individual Sections to be removed, clear area after mock-up has been approved by Architect.

C. Mock-up may be actual part of specified work with the approval of the Owner and/or Architect.

1.11 INSPECTION AND LABORATORY SERVICES

A. Contractor shall appoint and employ the services of an independent firm to perform inspection and testing. Contractor shall pay for all services unless specifically stated otherwise herein.

B. The independent firm shall perform inspections, tests, and other services specified in individual specification sections and as required by the Architect.

C. Reports shall be submitted by the independent firm to the Architect, in duplicate, indicating observations and results of tests and indicating compliance or not-compliance with Contract Documents.

D. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, and assistance as requested.

1. Notify Architect and independent firm 24 hours prior to expected time for operations requiring services.

2. Make arrangement with independent firm and pay for additional samples and tests required for Contractor's use.

E. Contractor shall be solely responsible for retesting required because of non-conformance to specified requirements. Payment for retesting shall be charged to the Contractor by deducting inspection or testing costs from the Contract Sum. The Project Allowance(s) shall not be utilized.

F. Where and when testing is required as an "Industry Standard Procedure" for this type of work, the cost of all testing shall be paid for by the Contractor unless otherwise noted in other sections herein. Architect's decision shall be final.

1.12 MANUFACTURERS' FIELD SERVICES AND REPORTS

A. Observer subject to approval of Architect.

B. When specified in individual specification Sections, require material or Product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to initiate instructions when necessary.

C. Individuals shall report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturer' written instructions.

D. Submit report in duplicate within seven (7) days of observation to Architect for review.

E. Upon Substantial Completion of the installation, Contractor shall engage the manufacturer of the materials and equipment supplied, to review and inspect all work. Submit written report of evaluation and statement that the systems have been tested and determined to be fully functional and installed in accordance with the Construction Documents.

PART 2 - PRODUCTS - Not Applicable To This Section

PART 3 - EXECUTION - Not Applicable To This Section

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES

PART 1 – GENERAL

1.01 SUMMARY

A. The Contractor shall be responsible for providing and maintaining all temporary facilities until Substantial Completion. Removal of such prior to Substantial Completion must be with the concurrence of the Architect. The Contractor bears full responsibility for providing any facility removed prior to Substantial Completion if required for the Work.

1.02. TEMPORARY TELEPHONES

A. The Contractor shall provide cellular phone service for the use of the Contractor's authorized personnel and Subcontractors, and communications with Architect.

B. The Contractor shall pay for all calls and charges in connection therewith.

C. The building telephone shall not be used by the Contractor.

1.03 TEMPORARY TOILETS

A. The Contractor may use portions of the Owner's sanitary facilities as approved by the Owner and Architect, provided that the Contractor (1) assumes full responsibility for the used portions of the sanitary system, and (2) pays all costs for operation, maintenance, cleaning, and restoration of used portions.

1.04 TEMPORARY STRUCTURES AND MATERIAL HANDLING

A. The Contractor shall provide such storage sheds, temporary buildings, or trailers as required for the performance of the Contract.

B. Materials shall be handled, stored, installed, cleaned, and protected in accordance with the best practice in the industry and, except where otherwise specified in the Contract Documents, in accordance with manufacturer's specifications and directions.

1.05 TEMPORARY STAGING, STAIRS, CHUTES

A. Except as otherwise specified, the Contractor shall furnish, install, maintain in safe condition, and remove all scaffolds, staging, and planking, as required for the use of all trades for proper execution of the Work.

B. The Contractor shall furnish, install, maintain, and remove all temporary ramps, stairs, ladders, and similar items as required for the use of all trades for the proper execution of the Work.

1.06 HOISTING FACILITIES

A. Except as otherwise specified, the Contractor shall provide, operate, and remove material hoists, cranes, and other hoisting as required for the performance of the Work by all trades.

1.07 WATER

A. The Contractor shall provide an adequate supply of cool drinking water with individual drinking cups for personnel on the job.

1.08 TEMPORARY ELECTRICITY

A. The Contractor will be allowed to tie into the existing electric panels (house panels); the Owner will pay the energy-related costs. The Contractor shall make arrangements for, and furnish and install all necessary equipment to provide temporary power for his use on a during construction.

B. Temporary electrical Work shall be performed under the direct supervision of at least one master electrician, who will be present on the project at all times when such work is being performed.

C. All temporary Work shall be provided in conformity with the National Electric Code, State laws, and requirements of the power company.

D. The Contractor shall dismantle and completely remove from the project site, temporary electrical facilities upon Substantial Completion.

1.09 PARKING AND ACCESS TO THE BUILDING

A. The Owner’s front parking lot is not to be used by the Contractor or his personnel for the duration of the project. Parking will be designated by the Owner.

B. Full access to the buildings must be maintained at all times, for use by building occupants.

1.10 WEATHER PROTECTION

A. "Weather Protection" means the temporary protection of that Work adversely affected by moisture and wind. The Contractor shall furnish and install "Weather Protection" material and be responsible for all costs associated with the same.

B. The Contractor shall assume the entire responsibility for weather protection during construction (until Substantial Completion), and shall be liable for any damage to any Work caused by failure to supply proper weather protection and proper ventilation.

C. It is to be specifically understood that the Contractor shall do no work under any conditions deemed unsuitable by the Architect to the satisfactory execution of the Work. This provision shall not constitute any waiver, release, or lessening of the Contractor's obligation to bring the Work to Substantial Completion within the period of time set forth in the Contract Documents.

END OF SECTION

SECTION 01 5500

PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Contractor shall schedule and administer pre-construction meetings, periodic progress meetings, and schedule meetings throughout the progress of the work.

1. Prepare agenda for meetings.
2. Distribute written notice of each meeting.
3. Make physical arrangements for meetings.
4. Preside at meetings.
5. Prepare minutes of meetings unless otherwise directed in writing by the Architect.

B. Representatives of contractors, subcontractors and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.

C. A/E will attend meetings to ascertain that work is expedited consistent with Contract Documents and the Construction Schedules.

D. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

2. The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility and normally are not part of project meetings content.

1.02 QUALITY ASSURANCE:

A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority and commit the Contractor to solutions agreed upon in the project meetings.

1.03 SUBMITTALS:

A. Report in and submittals of shop drawings, samples, substitution requests, and other items in accordance with the provisions of this section.

PART 2 – PRODUCTS:

Not Used.

PART 3 – EXECUTION:

3.01 PRE-CONSTRUCTION MEETING

A. Schedule within ten (10) calendar days after date of Purchase Order.

1. Minutes:
   a.) The Contractor shall compile minutes of each project meeting, and will furnish three copies to the Architect and required copies to the Owner.
   b.) Recipients of copies may make and distribute such other copies as they wish.

B. Locations: On Site. (Location to be determined)

C. Attendance:

1. Owner's Representative
2. A/E and his/her professional consultants
3. Resident Project Representative
4. Contractor's Superintendent
5. Major Subcontractors

D. Suggested Addenda:

1. Distribution and discussion of:
   a) List of major subcontractors and suppliers.
   b) Projected Construction Schedules
2. Critical work sequencing.
3. Major equipment deliveries and priorities.
4. Project Coordination
   a) Designation of responsible personnel.
5. Procedures and processing of:
   a) Field decisions
   b) Proposal requests
   c) Submittals
   d) Change Orders
   e) Applications for Payment
6. Adequacy of distribution of Contract Documents.
7. Procedures for maintaining Record Documents.
8. Use of premises:
   a) Office, work and storage areas.
   b) Owner's requirements.
9. Construction facilities, controls and construction aids.
10. Temporary utilities.
11. Safety and first-aid procedures.
12. Security procedures.
13. Housekeeping procedures.

3.02 PROGRESS MEETINGS:

A. Schedule regular periodic meetings, as required.

B. Hold called meetings as required by progress of work.

C. Location of Meetings: The offices of the Owner or other location as determined necessary.

D. Attendance:

1. Owner, Contractor, A/E and his professional consultants as needed or when requested by the Owner.
2. Subcontractors as appropriate to the agenda.
3. Suppliers as appropriate to the agenda.
4. Others.

E. Suggested Agenda:

1. Review, approval of minutes of previous meeting.
2. Review of work progress since previous meeting.
3. Field observations, problems, conflicts.
4. Problems which impede Construction Schedule.
5. Review of off-site fabrication, delivery schedules.
6. Corrective measures and procedures to regain projected schedule.
7. Revisions to Construction Schedule.
8. Plan progress, schedule, during succeeding work period.
9. Coordination of schedules.
10. Review submittal schedules; expedite as required.
11. Maintenance of quality standards.
12. Life/safety issues.

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Provide products from one manufacturer for each type or kind as applicable. Provide secondary materials as acceptable to manufacturers of primary materials.

B. Provide products selected or equal approved by Architect. Products submitted for substitution shall be submitted with complete documentation and include construction costs of substitution including related work.

C. Request for substitution must be in writing. Conditions for substitution include:

1. An 'or equal' phrase in the specifications.
2. Specified material cannot be coordinated with other work.
3. Specified material is not acceptable to authorities having jurisdiction.
4. Substantial advantage is offered to the Owner in terms of cost, time, or other valuable consideration.

D. Substitutions shall be submitted subsequent to the opening of bids but prior to award of contract, unless otherwise acceptable. Approval of shop drawings, product data, or samples containing substitutions is not an approval of a substitution unless items are clearly presented as a substitution at the time of submittal.

E. In making request for substitution, Bidder/Contractor represents:

1. He has personally investigated proposed product or method, and determined that it is equal or superior in all respects to that specified.

2. He will provide the same guarantee for substitution as for product or method specified.

3. He will coordinate installation of accepted substitution into work, making such changes as may be required for work to be complete in all respects.

4. He waives all claims for additional costs related to substitution which consequently becomes apparent.

5. Cost data is complete and includes all related costs under his/her Contract, but excludes:
   a) Costs under separate contracts.
   b) Architect/Engineer's redesign.

PART 2 - PRODUCTS - Not Applicable To This Section

PART 3 - EXECUTION - Not Applicable To This Section

END OF SECTION

SECTION 01630

WARRANTY

PART 1 - GENERAL

1.01 SUMMARY

A. The Contractor shall submit a written warranty covering his work for a period of two (2) years. All warranties shall go into effect on the date of **Substantial** completion.

B. Refer to the General Conditions of the Contract for Construction for additional information.

PART 2 - PRODUCTS - Not Applicable To This Section

PART 3 - EXECUTION - Not Applicable To This Section

END OF SECTION

SECTION 01660

CLEANING UP

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Work Included: Throughout the construction period, maintain the building and site in a standard of cleanliness as described in this Section.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other sections of these specifications.

1.02 QUALITY ASSURANCE:

A. Conduct daily inspection, and more often if necessary, to verify that requirements for cleanliness are being met.

B. In addition to the standards described in this section, comply with pertinent requirements of governmental agencies having jurisdiction.

1.03 RESPONSIBILITIES OF THE CONTRACTOR:

A. The General Contractor shall be responsible for the work of this Section, however, each subcontractor engaged upon the work shall bear his/her full responsibility in cleaning up immediately each day upon completion of his work in accordance with the provisions of this Section or other applicable Sections of the Specifications and shall cooperate with the Contractor to that effect.

B. The above shall in no way be construed to relieve the Contractor of his responsibility for leaving all work in a clean and proper condition, satisfactory to the Owner and the A/E.

1.04 REQUIREMENTS OF REGULATORY AGENCIES:

A. Safety Standards: Maintain project in accordance with the following safety and insurance standard: Federal Occupational Safety and Health Act - Latest Edition.

B. Fire Protection: Store volatile waste in approved metal containers,and remove from premises daily.

C. Pollution Control: Conduct clean-up and disposal operations to comply with local ordinances and anti-pollution laws.

1. Burning or burying of rubbish and waste materials on project site is not permitted.
2. Disposal of volatile fluid wastes (such as mineral spirits, oil or paint thinner) in storm sanitary sewer systems or into streams or waterways is

not permitted.

PART 2 - PRODUCTS:

2.01 CLEANING MATERIALS:

A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

B. Use cleaning materials only on surfaces recommended by cleaning materials manufacturer.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION:

A. Oversee cleaning and insure that building and grounds are maintained free from accumulations of waste material and rubbish.

B. Sprinkle dusty debris with water and calcium chloride as needed. Calcium chloride shall be utilized only as directed by the Architect.

C. At reasonable intervals daily, during the progress of work, clean up site and access and dispose of waste materials, rubbish and debris.

D. Do not allow waste material, rubbish and debris to accumulate and become an unsightly or hazardous condition.

E. Remove waste materials, rubbish and debris from the site and legally dispose of at public or private dumping areas off the Owner's property.

F. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for acceptance or occupancy.

G. Lower waste materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.

H. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet newly painted surfaces.

3.02 FINAL CLEANING:

A. Use experienced workmen, or professional cleaners for final cleaning.

B. At completion of construction and just prior to acceptance or occupancy, conduct a final inspection of exposed exterior and interior surfaces.

C. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from interior and exterior surfaces.

D. Repair, patch and touch-up marred surfaces to match adjacent surfaces.

E. Broom clean paved surfaces; rake clean other surfaces of grounds, daily.

F. Maintain cleaning until the building or portion thereof is occupied by the Owner.

END OF SECTION

SECTION 01 6700

PROTECTION

PART 1 - GENERAL

1.01 SUMMARY

A. Any damage to buildings, roads, public roads, bituminous concrete areas, fences, lawn areas, trees, shrubbery, poles, underground utilities, etc. shall be made good by and at the Contractor's own expense, all to the satisfaction of the Owner. The Contractor shall patch, repair and/or replace all adjacent materials and surfaces damaged after the installation of new work at no expense to the Owner. All repair and replacement work shall match the existing in kind and appearance.

PART 2 - PRODUCTS - Not Applicable To This Section

PART 3 - EXECUTION - Not Applicable To This Section

END OF SECTION

SECTION 01 7000

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. The following are prerequisites to substantial completion. Provide the following:

1. Punch list prepared by Contractor and subcontractors as applicable.
2. Supporting documentation.
3. Warranties.
4. Certifications.

B. Provide the following prerequisites to final acceptance:

1. Final payment request with supporting affidavits and waivers of lien.
2. Completed punch list.

C. Provide a marked-up set of drawings including changes which occurred during construction.

D. Provide the following during project closeout:

1. Submission of record documents.
2. Submission of maintenance manuals.
3. Removal of temporary facilities.

PART 2 - PRODUCTS - Not Applicable To This Section

PART 3 - EXECUTION - Not Applicable To This Section

END OF SECTION

SECTION 01 7110

DEMOLITION AND REPAIR

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work included: Carefully demolish and remove from the building and site those items to be demolished and removed and those materials required to be removed to facilitate installation of the new work. Provide patching and repairs to all surfaces noted as indicated and/ or as required for a complete and proper job.

B. Demolition shall not begin within the construction area or any other portions of the job site until all materials needed to complete the affected areas have been delivered to the job site.

C. Scope: The demolition and repair work generally consists of, but is not necessarily limited to that work described and shown on the drawings:

1. The work of this section also consists of, but is not necessarily limited to that work described in Section 01100, Summary of the Work and elsewhere herein.

D. Related Work:

1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these specifications.
2. Section 01740: Cutting and Patching.

1.02 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

PART 2 - PRODUCTS

2.01 GENERAL

A. Match existing materials unless otherwise specified.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS:

A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.02 DEMOLITION

A. By careful study of the Contract Documents, determine the location and extent of selective demolition and repairs to be performed.

B. Prepare and follow an organized plan for demolition and removal of items:

1. Shut off, cap, and otherwise protect existing utility lines.

2. Completely remove items scheduled to be so demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified elsewhere.

3. Remove rocks larger than 6” diameter, roots, and debris.

4. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.

C. The Contractor shall be responsible for the removal and disposal of all materials and equipment from the site and building during the project. Unless directed otherwise by the Owner, all demolition materials to be removed from the site shall be disposed of in accordance with applicable laws and regulations.

D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

E. Demolished material shall be considered to be the property of the Contractor unless Owner otherwise directs Contractor, and shall be completely removed from the job site. The Contractor shall, prior to any removal of rubbish from the site, furnish written evidence satisfactory to the Architect and/or Owner, that he has disposed of all debris from his demolition in an approved dumping location. **Owner shall have first right of refusal of any and all materials and equipment scheduled for removal.**

F. All demolition work shall be carried on in such a manner that the existing building and site and their component parts will not be damaged. Any damage to the building shall be corrected by the Contractor, to the satisfaction of the Owner and Architect, at no additional cost to the Owner.

G. Demolition of any of the material to be removed shall be carefully scheduled so that no portion of the buildings shall remain unprotected from the weather when work is not in progress. The Contractor and/or Subcontractor shall have on hand at all times, temporary covers and other materials to make weather tight areas that may be without protection in the event of a sudden shower, snowfall, freezing weather, etc.

3.02 REPLACEMENTS

A. In the event of demolition of items not so scheduled to be demolished, promptly replace such items to the approval of the Architect and at no additional cost to the Owner.

3.03 CUTTING, PATCHING, REPAIR

A. Patch and repair all surfaces damaged as a result of the work of this Contract. When completed, patches or repairs shall not be visible to the naked eye from a distance of 6 feet.

END OF SECTION

SECTION 01 7200

PERMITS AND FEES

PART 1 - GENERAL

1.01 SUMMARY

A. The Contractor shall apply for, obtain and pay for all required permits and fees and shall arrange and schedule all inspections required.

B. No work shall begin until all pertinent permits are obtained.

C. The building permit shall be posted in a location that is protected from the weather and clearly visible from the exterior of the building.

D. The Contractor shall submit a copy of the building permit to the Architect and Owner.

PART 2 - PRODUCTS - Not Applicable To This Section

PART 3 - EXECUTION - Not Applicable To This Section

END OF SECTION

SECTION 01 7400

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SUMMARY

A. Provide cutting and patching work to properly complete the work of the project, complying with the applicable project requirements for:

1. Structural work.
2. Mechanical/Electrical Systems.
3. Visual requirements, including detailing and tolerances.
4. Operational and safety limitations.
5. Fire-resistance ratings.
6. Inspection, preparation, and performance.
7. Cleaning.

B. Do not cut and patch in a manner that would result in a failure of the work to perform as intended, decrease energy performance, increase maintenance, decrease operational life, or decrease safety performance.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Match existing materials for cutting and patching work with new materials conforming to project requirements.

PART 3 – EXECUTION

3.01 INSPECTION

A. Inspect existing conditions of the Project, including elements subject to damage or to movement during cutting and patching.

B. After uncovering work, inspect the conditions affecting the installation of products, or performance of the work.

C. Report unsatisfactory or questionable conditions to the A/E in writing; do not proceed with the work until the A/E has provided further instructions.

3.02 PREPARATION:

A. Provide adequate temporary support as necessary to assure the structural value or integrity of the affected portion of the work.

B. Provide devices and methods to protect other portions of the project from damage.

C. Provide protection from the elements for that portion of the project which may be exposed by cutting and patching work and maintain excavations free from water.

3.03 PERFORMANCE:

A. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.

B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.

C. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.

D. Restore work which has been cut or removed; install new products to provide completed work in accord with requirements of Contract Documents.

E. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.

F. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes.

1. For continuous surfaces, refinish to nearest intersection.
2. For an assembly, refinish the entire unit.

END OF SECTION

SECTION 01 7600

SURVEYS AND RECORD DRAWINGS

PART 1 - GENERAL

1.02 RECORD DRAWINGS

A. Record Drawings shall consist of all the Contract Drawings.

B. From the sets of drawings furnished by the Owner, the Contractor shall reserve one set for record purposes. From this set, the Contractor shall detach and furnish, at no charge to the Mechanical and Electrical Subcontractors the drawings of their portion of the Work for the same purpose.

C. The Contractor and the above Subcontractors shall keep their record set on the site at all times and note on it in colored ink or pencil, neatly and accurately, at the end of each working day, the exact location of their work as actually installed. This shall include the location and dimensions of underground and concealed Work and any architectural, mechanical, or electrical variations from the Contract Drawings. All changes, including those issued by Addendum, Change Order, or instructions by the Architect shall be recorded. Record Drawings shall be prepared for the entire project and include all Work.

D. The Architect may periodically inspect the Record Drawings at the site. The proper and current maintenance of the information required on these drawings shall be a condition precedent to approval of the monthly requisitions for periodic payment.

E. At Substantial Completion the Contractor shall submit the complete set of Record Drawings to the Architect. The Architect will review these drawings and return them to the Contractor with necessary comments.

F. Upon receipt of a set of electronic media files of the original contract drawings from the Architect, the Contractor and Subcontractors shall transfer the As-Built information shown on the Record Drawings. This drafting shall be done by an experienced draftsperson and match the original drawings.

G. The Contractor shall, at its own expense, prepare two sets of prints and then submit copies of the prints to the Architect. Each sheet shall be clearly marked "Record Drawing" and bear the date of printing. Submission of accurate Record Drawings and their approval by the Architect shall be a condition precedent to final payment.

END OF SECTION

SECTION 01 7800

PROJECT CLOSEOUT

PART 1 – GENERAL

1.01 SUMMARY

A. This section supplements the General Conditions.

B. Consult the individual sections of the specifications for specific items required under those sections.

1.02 DESCRIPTION:

A. Work Included: Provide an orderly and efficient transfer of the completed work to the Owner.

B. Related Work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

2. Activities relative to contract closeout are described in, but not necessarily limited to the General Conditions.

3. “Substantial Completion” is defined in the General Conditions, and herein.

1.03 QUALITY ASSURANCE:

A. Prior to requesting inspection by the Architect, use adequate means to assure that the work is completed in accordance with the specified requirements and is ready for the requested inspection.

1.04 OCCUPANCY PERMIT (as applicable)

A. The Contractor shall coordinate the efforts of all Subcontractors and obtain the Completion Certificate from the local Building Department, as required by the Building Official. The Contractor shall pay any Building Department fee associated with the Occupancy Permit.

1.05 RECORD DRAWINGS

A. Consult the individual sections of the Specifications for the specific requirements of those sections. In cases of inconsistency the more stringent requirement, as directed by the Architect, shall be required.

B. Prior to final payment and completion the Contractor shall provide all Record Drawings and media (CDs,flash drives, etc.) as required under other sections of the Specifications.

1.06 OPERATING AND MAINTENANCE INSTRUCTIONS

A. Prior to final payment and completion the Contractor shall provide all Maintenance Instructions as required by the Contract Documents.

B. Consult the individual sections of the specifications for the specific requirements for those sections and for further details and descriptions of the requirements.

C. OPERATING INSTRUCTIONS AND MANUALS

1. Subcontractors, installers and suppliers shall furnish to the Contractor two sets of operating and maintenance instructions of all mechanical, electrical and manually operated equipment furnished and installed by them. Mechanical and electrical Subcontractors shall furnish instructions as specified in their respective sections.

2. The Contractor shall collect all of the above instructions, bind them into two complete sets and submit them to the Architect who will deliver them to the Owner.

3. Submission of operating and maintenance instructions shall be a condition precedent to final payment.

D. INSTRUCTION OF OWNER'S PERSONNEL.

1. Where specified in the individual sections of the specifications, the Contractor and Subcontractor shall instruct the Owner's personnel at the site, in the use and maintenance of equipment installed under the Contract.

2. Submission to the Architect of a certificate of compliance to this requirement, signed by the Contractor and the Owner's Representative, shall be a condition precedent to final payment.

1.07 SUBSTANTIAL COMPLETION:

A. When Contractor considers the work is substantially complete, he shall submit to A/E:

1. A written notice that the work, or designated portion thereof is substantially complete.

2. A list of items to be completed or corrected.

B. Within a reasonable time after receipt of such notice, A/E will make an inspection to determine the status of completion.

C. Should A/E determine that the work is not substantially complete:

1. A/E will promptly notify the Contractor in writing, giving reasons thereof.

2. Contractor shall remedy the deficiencies in the work and send a second written notice of substantial completion to the A/E.

3. A/E will re-inspect the work.

D. When A/E concurs that the work is substantially complete he will:

1. Prepare a Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected, as verified and amended by the A/E.

1.08 FINAL INSPECTION:

A. When Contractor considers the work is complete, he shall submit written certification that:

1. Contract Documents have been reviewed.

2. Work has been inspected for compliance with Contract Documents.

3. Work has been completed in accordance with Contract Documents.

4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.

5. Work is completed and ready for final inspection.

B. A/E will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.

C. Should A/E consider that the work is incomplete or defective:

1. A/E will promptly notify the Contractor in writing, listing the incomplete or defective work.

2. Contractor shall take immediate steps to remedy the stated deficiencies and send a second written certification to A/E that the work is complete.

3. A/E will re-inspect the Work.

D. When the A/E finds that the work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

1.09 RE-INSPECTION FEES:

A. Should A/E perform re-inspections due to failure of the work to comply with the claims of status of completion made by the Contractor, and site visits are required in addition to those noted previously under Substantial Completion and Final Inspection:

1. Contractor shall compensate A/E for such additional services. A/E fees shall be charged to the General Contractor at the A/E standard hourly rate of *$165.00/hr*.

2. Processing of Final Payment to the Contractor will not be completed until full payment for additional A/E Services is made by the Contractor to the Architect.

1.10 CONTRACTOR'S CLOSEOUT SUBMITTALS AND PROCEDURES:

A. Provide submittals to Architect that are required by governing or other authorities, including the following closeout documents. Four (4) originally executed copies of all documentation shall be submitted. **Note: these items must be submitted prior to issuance of the Final Application for Payment**.

1. AIA Document G706 - Contractor's Affidavit of Payment of Debts and Claims, latest Edition.
2. AIA Document G706A - Contractor's Affidavit of Release of Liens, latest Edition.
3. AIA Document G707 - Consent of Surety Company to Final Payment, latest Edition.

B. Submit Final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

C. Convey fully corrected and updated set of Project Record Documents to Architect with Final Application for Payment.

D. Evidence of compliance with requirements of governing authorities:

1. Certificate of Occupancy.

E. Final Completion will be considered only when Architect has approved and accepted possession of required closeout documents, and has determined closeout procedures are completed.

F. Operating and Maintenance Data, Instructions to Owner's Personnel.

G. Warranties and Bonds.

H. Keys and Keying Schedule.

I. Spare Parts and Maintenance Materials.

1.11 FINAL ADJUSTMENT OF ACCOUNTS:

A. Submit a final statement of accounting to the Architect.

B. Statement shall reflect all adjustments to the Contract Sum:

1. The original Contract Sum.

2. Additions and deductions resulting from:
   a) Previous Change Orders.
   b) Allowances.
   c) Unit Prices.
   d) Deductions for uncorrected work.
   e) Penalties and Bonuses.
   f) Deduction for liquidated damages.
   g) Deductions for re-inspection payments.
   h) Other adjustments.

3. Total Contract Sum, as adjusted.

4. Previous payments.

5. Sum remaining due.

C. The Architect will prepare a final Change Order reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

1.12 FINAL APPLICATION FOR PAYMENT:

A. Contractor shall submit the final Application for Payment in accordance with procedures and requirements stated in the Provisions of the Contract.

B. See *1.09* regarding inspection fees, preceding.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

END OF SECTION

SECTION 04 0100

MAINTENANCE OF MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Chemical cleaning as needed.

B. Repointing mortar joints.

C. Sealants at masonry, provided in accordance with Section 07 9200.

1.02 RELATED REQUIREMENTS

A. Section 04 0511 - Mortar and Masonry Grout.

B. Section 07 9200 – Joint Sealants.

1.03 PRICE AND PAYMENT PROCEDURES

A. See Section 01 2000 - Unit Prices, for additional unit price requirements.

1.04 REFERENCE STANDARDS

A. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on cleaning compounds.

C. Samples: Submit four samples of face brick units to illustrate matching color, texture and extremes of color range.

D. Manufacturer's Instructions: For cleaning materials, indicate special procedures, conditions requiring special attention, and limitations.

1.06 QUALITY ASSURANCE

A. Restorer: Company specializing in masonry restoration with minimum three years of documented experience.

1.07 MOCK-UP

A. Restore and repoint an existing masonry wall area sized 8 feet long by 6 feet high; include in mock-up area instances of mortar, accessories, wall openings, and flashings.

B. Mock-up: Conduct 4’ x 4’ test panels in inconspicuous area to determine the mildest dilution ratio which produces the most effective cleaning solution.

C. Locate where directed.

D. Mock-up may remain as part of the Work.

1.08 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Restoration and Cleaning Chemicals:

1. Diedrich Technologies, Inc.: www.diedrichtechnologies.com

2. HMK Stone Care System: www.hmkstonecare.com
3. PROSOCO: www.prosoco.com
4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 CLEANING MATERIALS

A. Cleaning Agent for Brick: Detergent type. Non-acidic, not harmful to masonry work or adjacent materials. Basis of Design: PROSOCO SafRestorer

B. Mock-up as described above.

2.03 MORTAR MATERIALS

A. Comply with requirements of Section 04 0511.

2.04 MASONRY MATERIALS

A. Brick: Match existing

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces to be cleaned are ready for work of this section.

3.02 PREPARATION

A. Protect surrounding elements from damage due to restoration procedures.

B. Carefully remove and store removable items located in areas to be restored, including fixtures, fittings, finish hardware, and accessories; reinstall upon completion.

C. Separate areas to be protected from restoration areas using means adequate to prevent damage.

D. Mask immediately adjacent surfaces with material that will withstand cleaning and restoration procedures.

3.03 REPOINTING

A. Joint Raking:

1. Rake out mortar from joints to depths equal to 2-1/2 times their widths but not less than 3/4" nor less than that required to expose sound, unweathered mortar.
2. 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 or flush joints to remove dirt and loose debris.
3. Do not spall edges of masonry units or widen joints. Replace any masonry units which become damaged.
4. Cut out old mortar by hand with chisel and mallet, unless otherwise indicated.
5. Power operated rotary hand saws and grinders will be permitted but only on specific written approval of Architect based on submission by Contractor of a satisfactory quality control program and demonstrated ability of operators to use tools without damage to masonry. Quality control program shall include provisions for supervising performance and preventing damage due to worker fatigue.

B. Joint Pointing

1. Rinse masonry joint surfaces with water to remove any dust and mortar particles. Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.

2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint-hard before applying next layer.
3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling approximately 2/5 of joint depth and third layer the remaining 1/5. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges recess tool final layer slightly back from face of brick. Take care not to spread mortar over edges onto exposed masonry surfaces, or to featheredge mortar.
4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
5. Cure mortar by maintaining in a damp condition for not less than 72 hours.
6. Where repointing work precedes cleaning of existing masonry allow mortar to harden not less than 30 days before beginning cleaning work.
7. Owner shall have the right to perform periodic tests to verify depth of repointing. Contractor shall repair with like materials area where mortar has been removed to ascertain depth of repointing.

3.04 CLEANING EXISTING MASONRY

A. Cleaning Detergent: Brush clean masonry surfaces at indicated locations with cleaning agent in accordance with the manufacturer's instructions. Saturate masonry with clean water and flush loose mortar and dirt.

B. Follow cleaner manufacturer’s recommendations for each substrate and stain type. Neutralize limestone cleaner completely.

3.04 FINAL **CLEANING**

A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water, spray-applied at low pressure.

B. Use of metal scrapers or brushes will not be permitted.

C. Use of acid or alkali cleaning agents will not be permitted.

END OF SECTION

SECTION 04 0511
MORTAR AND MASONRY GROUT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Mortar for masonry.

B. Grout for masonry.

1.02 REFERENCE STANDARDS

A. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2016a.

B. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.

C. ASTM C387/C387M - Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar; 2015.

D. ASTM C476 - Standard Specification for Grout for Masonry; 2016.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Include design mix and indicate whether the Proportion or Property specification of ASTM C270 is to be used. Also include required environmental conditions and admixture limitations.

C. Samples: Submit two samples of mortar, illustrating mortar color and color range.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

1.05 FIELD CONDITIONS

A. Maintain materials and surrounding air temperature to minimum 40 degrees F (5 degrees C) prior to, during, and 48 hours after completion of masonry work.

B. Maintain materials and surrounding air temperature to maximum 90 degrees F (32 degrees C) prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.01 MORTAR AND GROUT APPLICATIONS

A. Mortar Color: To match existing.

B. Mortar Mix Designs: ASTM C270, Property Specification.
   1. Exterior Masonry Veneer: Type O. 6 parts damp sand, 1 part hydrated lime, 1 part Portland cement.

C. Grout Mix Designs:
   1. Engineered Masonry: 6,000 psi (21 MPa) strength at 28 days; 8-10 inches (200-250 mm) slump; provide premixed type in accordance with ASTM C 94/C 94M.
      a. Fine grout for spaces with smallest horizontal dimension of 2 inches (50 mm) or less.
      b. Coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

2.02 MATERIALS

A. Dry Material for Mortar for Unit Masonry: Portland cement, hydrated lime, and sand; complying with ASTM C387/C387M and capable of producing mortar of the specified strength in accordance with ASTM C270.
   1. Color: Match existing

SECTION 04 0511
MORTAR AND MASONRY GROUT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Mortar for masonry.

B. Grout for masonry.

1.02 REFERENCE STANDARDS

A. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2016a.

B. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.

C. ASTM C387/C387M - Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar; 2015.

D. ASTM C476 - Standard Specification for Grout for Masonry; 2016.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Include design mix and indicate whether the Proportion or Property specification of ASTM C270 is to be used. Also include required environmental conditions and admixture limitations.

C. Samples: Submit two samples of mortar, illustrating mortar color and color range.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

1.05 FIELD CONDITIONS

A. Maintain materials and surrounding air temperature to minimum 40 degrees F (5 degrees C) prior to, during, and 48 hours after completion of masonry work.

B. Maintain materials and surrounding air temperature to maximum 90 degrees F (32 degrees C) prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.01 MORTAR AND GROUT APPLICATIONS

A. Mortar Color: To match existing.

B. Mortar Mix Designs: ASTM C270, Property Specification.
   1. Exterior Masonry Veneer: Type O. 6 parts damp sand, 1 part hydrated lime, 1 part Portland cement.

C. Grout Mix Designs:
   1. Engineered Masonry: 6,000 psi (21 MPa) strength at 28 days; 8-10 inches (200-250 mm) slump; provide premixed type in accordance with ASTM C 94/C 94M.
      a. Fine grout for spaces with smallest horizontal dimension of 2 inches (50 mm) or less.
      b. Coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

2.02 MATERIALS

A. Dry Material for Mortar for Unit Masonry: Portland cement, hydrated lime, and sand; complying with ASTM C387/C387M and capable of producing mortar of the specified strength in accordance with ASTM C270.
   1. Color: Match existing

B. Packaged Dry Material for Grout for Masonry: Premixed cementitious materials and dried aggregates; capable of producing grout of the specified strength in accordance with ASTM C476 with the addition of water only.
   1. Manufacturers:
      a. Amerimix, an Oldcastle brand; AMX 600: www.amerimix.com or equal

C. Water: Clean and potable.

2.03 MORTAR MIXING

A. Thoroughly mix mortar ingredients using mechanical batch mixer, in accordance with ASTM C270 and in quantities needed for immediate use.

B. Maintain sand uniformly damp immediately before the mixing process.

C. Do not use anti-freeze compounds to lower the freezing point of mortar.

D. If water is lost by evaporation, do not re-temper, mix new.

2.04 GROUT MIXING

A. Mix grout in accordance with ASTM C94/C94M.

B. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476 for fine and coarse grout.

2.05 AUXILIARY MATERIALS

A. Cleaning Materials:
   1. Cleaning Solutions:
      a. Use Enviro Klean Safety Klean manufactured by Prosoco, Inc.; Mix one part cleaner with three parts water by volume; or approved equal.
      b. Do not use products containing hydrochloric (muriatic) acid, hydrofluoric acid, or ammonium bifluoride.
      c. For removing localized ferrous staining: Use oxalic acid or phosphoric acid; mix one part acid with ten parts water by volume. Higher concentrations may be used for local application.
   2. Clean, potable water.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install mortar and grout to requirements of section(s) in which masonry is specified.

B. Work grout into masonry cores and cavities to eliminate voids.

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END OF SECTION

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

A. Steel Sections: ASTM A36/A36M.

B. Steel Tubing: ASTM A501/A501M hot-formed structural tubing.

C. Plates: ASTM A283/A283M.

D. Pipe: ASTM A53/A53M, Grade B Schedule 40, black finish.

E. Slotted Channel Framing: ASTM A653/A653M, Grade 33.

F. Slotted Channel Fittings: ASTM A1011/A1011M.

G. Bolts, Nuts, and Washers: ASTM A307, Grade A, plain.

H. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

I. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

A. Fit and shop assemble items in largest practical sections, for delivery to site.

B. Fabricate items with joints tightly fitted and secured.

C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

D. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

2.03 FABRICATED ITEMS

A. Ledge Angles, Shelf Angles, Channels, and Plates Not Attached to Structural Framing: For support of metal decking; prime paint finish.

2.04 FINISHES - STEEL

A. Prime paint steel items.
   1. Exceptions: Galvanize items to be embedded in concrete, items to be embedded in masonry, and items specified for exterior locations.
   2. Exceptions: Do not prime surfaces in field welding is required, and items to be covered with sprayed fireproofing.

B. Prepare surfaces to be primed in accordance with SSPC-SP2.

C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

D. Prime Painting: One coat.

E. Galvanizing of Non-structural Items: Galvanize after fabrication to ASTM A123/A123M requirements.

2.06 FABRICATION TOLERANCES

A. Squareness: 1/8 inch (3 mm) maximum difference in diagonal measurements.

B. Maximum Offset Between Faces: 1/16 inch (1.5 mm).

C. Maximum Misalignment of Adjacent Members: 1/16 inch (1.5 mm).

D. Maximum Bow: 1/8 inch (3 mm) in 48 inches (1.2 m).

E. Maximum Deviation From Plane: 1/16 inch (1.5 mm) in 48 inches (1.2 m).

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

B. Supply setting templates to the appropriate entities for steel items required to be cast into concrete or embedded in masonry.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C. Obtain approval prior to site cutting or making adjustments not scheduled.

3.04 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch (6 mm) per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch (6 mm).

C. Maximum Out-of-Position: 1/4 inch (6 mm).

END OF SECTION

SECTION 05 5100
METAL STAIRS AND LADDERS

PART 1 GENERAL

1.1 SECTION INCLUDES
- A. Aluminum fixed vertical ladders.

1.2 RELATED SECTIONS
- A. Section 05 5000 - Metal Fabrications: Miscellaneous metal supports.
- B. Section 06 2000 - Carpentry: Roof framing and opening support.
- C. Section 07 5400 - PVC Sheet Roofing System

1.3 REFERENCES
- A. ANSI A14.3: Ladders - Fixed - Safety Requirements.
- B. OSHA 1910.27: Fixed Ladders.

1.4 SUBMITTALS
- A. Submit under provisions of Section 01 300.
- B. 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.
- C. Shop Drawings for Ladders:
  1. Plan and section of ladder installation.

1.5 DELIVERY, STORAGE, AND HANDLING
- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store products until installation inside under cover. If stored outside, under a tarp or suitable cover.

1.6 WARRANTY
- A. Limited Warranty: Five years against defective material and workmanship, covering parts only, no labor or freight. Defective parts, if deemed so by the manufacturer, will be replaced at no charge, freight excluded, upon inspection at manufacturer's plant which warrants same.

PART 2 PRODUCTS

2.1 MANUFACTURERS
- A. Precision Ladders, LLC, which is located at: P. O. Box 2279; Morristown, TN 37816-2279; Tel: 800-225-7814; www.PrecisionLadders.com
- B. Substitutions: See Section 01 6000 – Product Requirements.

2.2 ALUMINUM FIXED VERTICAL LADDER
- A. Aluminum Fixed Vertical Ladder and Components: Ladder, cage, rest platforms, floor mounting brackets, security doors, walk-thru, and side rails.
  1. Series: FLH Series Aluminum Fixed Vertical Ladder as manufactured by Precision Ladders LLC.
  2. Capacity: Unit shall support a 1500 lb loading without failure, and individual treads shall withstand a 3,000 lb loading without failure.
  3. Performance Standard: Units designed and manufactured to meet or exceed ANSI A14.3 and OSHA 1910.27.
- B. Components:
  1. Ladder Stringer: 3 inch by 1 inch by 1/8 inch (64 mm by 27 mm by 3 mm) extruded 6005-T5 aluminum tubing. Pitch: 90 degrees.
  2. Ladder Tread: 2-1/4 inch by 3/4 inch by 1/4 inch (57 mm by 19 mm by 6 mm) extruded

6005-T5 aluminum with deeply serrated top surface.

3. Ladder Mounting Bracket: 8-1/2 inch by 2 inch by 3 inch by 1/4 inch thick (216 mm by 51 mm by 76 mm by 6 mm) aluminum angle.
4. Walk-Thru:
   a. Handrails: 1-1/4 inch (32 mm) aluminum square tube with rounded edges.
   b. Mounting Brackets: 4 inch by 4 inch by 1/4 inch (102 mm by 102 mm by 6 mm) aluminum.
   c. Side Rails: 42 inch (1067 mm) side rail extension for through ladder exits.
5. Fall Arrest System: Complete system with rail, sleeves, and harness to limit any fall to 6 inches (152 mm) or less.
6. Floor Brackets: Floor bracket at foot of each stringer, 3 by 2 by 1/4 inch (76 by 51 by 6 mm).
7. Finishes:
   a. Standard: Mill finish on aluminum ladder components.
   b. Anodized

2.3 FABRICATION

A. Completely fabricate ladder ready for installation before shipment to the site.

B. Completely fabricate Walk-Thru and Fall Arrest System components and ship to site ready for field assembly and attachment to ladder.

PART 3 EXECUTION

3.1 EXAMINATION

A. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

B. Examine materials upon arrival at site. Notify the carrier and manufacturer of any damage.

3.2 INSTALLATION

A. Install in accordance with manufacturer's instructions.

3.3 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 06 2000
CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Sheathing.

B. Roofing nailers.

C. Preservative treated wood materials.

D. Installation of material in 06 6500

1.02 REFERENCE STANDARDS

A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.

B. AWPA U1 - Use Category System: User Specification for Treated Wood; 2016.

C. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2010.

D. PS 20 - American Softwood Lumber Standard; 2015.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide technical data on wood preservative materials, application instructions.

C. ABAA Field Quality Control Submittals: Submit third-party reports of testing and inspection required by ABAA QAP.

D. ABAA Manufacturer Qualification: Submit documentation of current evaluation of proposed manufacturer and materials.

E. ABAA Installer Qualification: Submit documentation of current contractor accreditation and current installer certification. Keep copies of all contractor accreditation and installer certification on site during and after installation. Present on-site documentation upon request.

1.04 QUALITY ASSURANCE

A. Air Barrier Association of America (ABAA) Quality Assurance Program (QAP); www.airbarrier.org/sle:

1. Installer Qualification: Use accredited contractor, certified installers, evaluated materials, and third-party field quality control audit.
2. Manufacturer Qualification: Use evaluated materials from a single manufacturer regularly engaged in air barrier material manufacture. Use secondary materials approved in writing by primary material manufacturer.

1.05 DELIVERY, STORAGE, AND HANDLING

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

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.

1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

2.03 CONSTRUCTION PANELS

A. Wall Sheathing: Any PS 2 type.
   1. Bond Classification: Exterior.
   2. Grade: Structural I Sheathing.
   3. Span Rating: 24.
   4. Performance Category: 5/16 PERF CAT.
   5. Edge Profile: Tongue and groove, A-C faced.

2.04 ACCESSORIES

A. Fasteners and Anchors:
   1. Metal and Finish: Stainless steel for all trim. Hot-dipped galvanized steel complying with ASTM A153/A153M for blocking, unfinished steel elsewhere.

B. Water-Resistive Barrier: Plastic sheet complying with ICC-ES AC38.

2.05 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
   1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

B. Preservative Treatment:
   1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative .
      a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
      b. Treat lumber exposed to weather.
      c. Treat lumber in contact with roofing, flashing, or waterproofing.
      d. Treat lumber in contact with masonry or concrete.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

3.02 ROOF-RELATED CARPENTRY

A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.03 INSTALLATION OF CONSTRUCTION PANELS

A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing, using nails. Use pieces long enough to cover entry full height without horizontal joint.
   1. Place water-resistive barrier horizontally behind wall sheathing, weather lapping edges and ends.

3.04 CLEANING

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

2. Do not burn scrap on project site.
3. Do not burn scraps that have been pressure treated.
4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 6500 EXTERIOR

SYNTHETIC TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Exterior synthetic (poly-ash) trim.

1.2 RELATED REQUIREMENTS

A. Section 09 9000 – Painting: Painting exterior synthetic trim.

1.3 REFERENCE STANDARDS

A. ASTM C 1185 – Standard Test Methods for Sampling and Testing Non-Asbestos Fiber-Cement Flat Sheet, Roofing and Siding Shingles, and Clapboards.
B. ASTM D 570 – Standard Test Method for Water Absorption of Plastics.
C. ASTM D 1761 – Standard Test Methods for Mechanical Fasteners in Wood.
D. ASTM D 6341 – Standard Test Method for Determination of the Linear Coefficient of Thermal Expansion of Plastic Lumber and Plastic Lumber Shapes Between -30 and 140°F (-34.4 and 60°C).
E. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
F. AWPA E1 – Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.
G. AWPA E10 – Standard Method of Testing Wood Preservatives by Laboratory Soil-Block Cultures.

1.4 SUBMITTALS

A. Comply with Section 01 3000 – Submittal Procedures.
B. Product Data: Submit manufacturer's product data, including installation instructions.
C. Samples: Submit manufacturer's sample of exterior synthetic trim, minimum 1 inch by 4 inches by 8 inches long.
D. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
E. Warranty Documentation: Submit manufacturer's standard warranty.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Storage and Handling Requirements:
   1. Store and handle materials in accordance with manufacturer's instructions.
   2. Keep materials in protective covering until installation.
   3. Store materials in clean, dry area.
   4. Store exterior synthetic trim on flat, level surface.
   5. Keep exterior synthetic trim covered and free of dirt and debris.
   6. Protect materials and finish during storage, handling, and installation to prevent damage.

1.6 WARRANTY

A. Warranty Period for Exterior Synthetic Trim: 20-year limited warranty.
   1. No decay due to rot.
   2. No excess swelling from moisture.
   3. Resist termite damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Boral Composites Inc., 200 Mansell Court East, Suite 305, Roswell, Georgia 30076. Toll Free 888-926-7259. www.BoralTruExterior.com. info@TruExterior.com.
B. Substitutions: See Section 01 6000 – Product Requirements.

2.2 EXTERIOR SYNTHETIC TRIM

A. Exterior Synthetic (Poly-ash) Trim: Boral TruExterior® Trim or approved equal.

B. Composition:
   1. Post-Industrial Recycled Content: Minimum 70 percent, by weight.
   2. Post-Consumer Recycled Content: Minimum 2 percent, by weight
   3. Pigments and dyes.
C. Physical Properties:
   1. Density, ASTM C 1185: 40 to 50 pcf.
   2. Water Absorption, ASTM D 570: Less than 1.5 percent.
   3. Fungi Rot, AWPA E10:
      a. White Rot: Negligible loss.
      b. Brown Rot: Negligible loss.
   4. Termite Resistance, AWPA E1: Greater than 9.0, with 10 being impervious.
D. Mechanical Properties:
   1. Flexural Strength, ASTM C 1185: Greater than 1,600 psi.
   2. Nail Withdrawal, ASTM D 1761: Greater than 40 lbf/in.
E. Thermal Properties:
   1. Coefficient of Linear Expansion, ASTM D 6341, Typical: 1.40E-05 in/in/degree F, tested at minus 30 to 140 degrees F.
   2. Flame Spread, ASTM E 84: Between 25 and 29
   3. Smoke Developed, ASTM E 84: Less than 450.
F. Trim Sizes:

Nominal Size	Actual Size
1 by 4	3/4” by 3-1/2”
1 by 6	3/4” by 5-1/2”
1 by 8	3/4” by 7-1/4”
1 by 10	3/4” by 9-1/4”
1 by 12	3/4” by 11-1/4”
5/4 by 4	1” by 3-1/2”
5/4 by 6	1” by 5-1/2”
5/4 by 8	1” by 7-1/4”
5/4 by 10	1” by 9-1/4”
5/4 by 12	1” by 11-1/4”
5/8 by 6 Beadboard	5/8” by 5 ¼”

   2. Manufacturing Tolerances:
      a. Width: Plus or minus 1/16 inch.
      b. Thickness: Plus or minus 1/16 inch.
      c. Length: Plus 2 inches, minus 0 inch.
      d. Edge Cut: Plus or minus 2 degrees.
   3. Exposed Texture: Smooth.

2.3 FINISHES

A. Primer:
   1. Acrylic based.
   2. Low VOC.
   3. Factory applied on all sides.

2.4 FASTENERS

A. Type: Nails
   1. Use compatible fastening materials. Use only hot-dipped galvanized metal, copper or stainless steel fasteners where used in conjunction with preservative treated wood.
   2. Finish: Stainless steel.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine surfaces to receive exterior synthetic trim.
B. Notify Architect of conditions that would adversely affect installation or subsequent use.
C. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

A. Install exterior synthetic trim in accordance with manufacturer's instructions at locations indicated on the Drawings.
B. Do not install exterior synthetic trim in structural or load-bearing applications.
C. Install exterior synthetic trim plumb, level, and square.
D. Install exterior synthetic trim with flush, tight joints.
E. Install Fasteners:
   1. Maximum of 24 inches on center.
   2. Within 2 inches of end of boards.
F. Fill nail and screw holes with acrylic caulk, wood filler, or auto body filler.
G. Repair minor damages to exterior synthetic trim in accordance with manufacturer's instructions and as approved by Architect.
H. Remove and replace damaged exterior synthetic trim that cannot be successfully repaired as determined by Architect.
I. Painting:
   1. Apply top coat to exterior synthetic trim over factory-applied primer.
      a. Within 150 days of installing trim.
      b. As specified in Section 09 91 00.

3.3 PROTECTION

A. Protect installed exterior synthetic trim to ensure that, except for normal weathering, trim will be without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 07 5400
PVC SHEET ROOFING SYSTEM

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Basis of Design: Sika Corporation - Roofing System: This specifies the following adhered roofing system.

1. Sarnafil G410, 60 mil – Fully adhered
2. GP Dens-Deck Prime. ½ in – Fully adhered
3. Sarnatherm ISO Fiber Reinforced Felt Facer – Mechanically attached
4. Existing roof deck

1.2 RELATED REQUIREMENTS

A. Section 07 6200 – Sheet Metal Flashing and Trim

B. Section 07 7100 – Roof Specialties

C. Section 07 7200 – Roof Accessories

1.3 REFERENCE STANDARDS

A. Current Edition of: Identified reference requirements as put forth by the project specification.

1. Rhode Island State Building Code
2. International Building Code (IBC)
3. American Society of Testing Materials (ASTM)
4. National Roofing Contractors Association (NRCA)
5. Single Ply Roofing Institute (SPRI)
6. Sika Corporation Roofing Applicator Handbook

B. In the event of discrepancy, the Roofnav designations on sheet A1.4 shall always govern.

1.4 SUBMITTALS

A. Literature: Copies of current relevant information pertaining to the primary components to be used in the roof system including but not limited to:

1. Specifications
2. Sika Corporation - Roofing's Warranty
3. Applicator's Warranty
4. Product Data Sheets
5. Material Safety Data Sheets
6. FM/UL listings/approvals
7. UL Environment validation of recycling claims

B. Samples for Verification: Representative samples of primary components to be used in the roof system.

C. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work, including:

1. Base flashings and membrane terminations.
2. Tapered insulation, including slopes.
3. Roof plan showing orientation of roof deck, orientation of roofing membrane, patterns for insulation attachment, and membrane fastening spacing.

4. Fastening patterns for corner, perimeter, and field-of-roof locations.

1.5 QUALITY ASSURANCE

A. Sika Corporation Roofing Qualifications:

1. Demonstrated performance history of producing PVC roof membranes no less, in duration of years, than the warranty duration specified.
2. Manufactured by membrane supplier and not private labeled.
3. Minimum of five years' experience recycling membranes at the end of their service life back into new membrane products. Provide a minimum of five reference projects.

B. Installer Qualifications:

1. A qualified firm that is authorized by Sika Corporation - Roofing to install all work pertaining to product manufacturer's roof system and that is eligible to receive manufacturer's warranty.

C. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Sika Corporation – Roofing representative, Owner, Architect, Owner's Insurer, Testing and Inspecting Agency representative, Roofing Installer, Deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's most current requirements.
3. Review base flashings, special roofing details and transitions, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
4. Review governing regulations and requirements for insurance and certificates.
5. Review temporary protection requirements for roofing system during and after installation.
6. Deviations from the project specifications or the approved shop drawings are not permitted without prior written approval by Sika Corporation – Roofing, the owner, the owner's representative, and the designer.

D. Fire Design:
1. Underwriters Laboratories, Inc. (Class B Assembly)

E. Wind Design:
1. System shall meet minimum requirements in accordance of ASCE 7 per code jurisdiction
   a) Field Pressure (90 psf)
   b) Perimeter Pressure (135 psf)
   c) Corner Pressure (210 psf)

F. Special Design:
1. See Roofnav designations on sheet A1.4.

1.6 DELIVERY, HANDLING, AND STORAGE

A. Deliver roofing materials to project site in original containers with seals unbroken and labeled with product manufacturer's name or product brand name.

B. Comply with most current product data sheet requirements when handling, storing, protecting, or installing roofing materials. Including but not limited to avoiding physical damage, deterioration by sunlight, excessive moisture, or other potentially damaging conditions.

C. Store liquid materials in their original undamaged containers in a clean, dry, protected location; away from direct sunlight; within the temperature range noted on the product data sheet.

D. Handle and store roofing materials and equipment in a manner to avoid permanent deflection of deck.

1.7 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's most current requirements and warranty requirements.

B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required and confirmed by roofing manufacturer.

1.8 WARRANTY

A. Manufacturer's Warranty: Must be no-dollar limit type and provide for completion of repairs, replacement of membrane or total replacement of the roofing system at the then-current material and labor prices throughout the life of the warranty. In addition, the warranty must meet the following criteria:

1. Warranty Period: 20 years from date issued by the manufacturer.
2. No exclusion for damage caused by biological growth.
3. Issued direct from and serviced by the roof membrane manufacturer.
4. Transferable for the full term of the warranty.

B. Applicator's Warranty: Signed by installing applicator, covering the work of a System Warranty, including all components of roofing system installation such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, vapor retarders, and walkway products, for the following warranty period:

1. Warranty Period: 5 years from date of substantial completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE / DESIGN CRITERIA

A. ASTM D4434: Type II
B. NSF/ANSI Standard 347: Platinum
C. Guarantee membrane thickness meets or exceeds specified thickness when tested according to ASTM D751

2.2 MANUFACTURER:

A. Sika Sarnafil: https://usa.sarnafil.sika.com
B. Duro-Last: www.duro-last.com
C. Carlisle: www.carlisle-syntec.com
D. GAF: www.gaf.com
E. Substitutions: See Section 01 6000 - Product Requirements.

2.3 BASIS OF DESIGN: SIKA CORPORATION – ROOFING MATERIALS

A. PVC Sheet: Thermoplastic membrane, fiberglass scrim reinforcement, with lacquer coating

1. Basis of Design: Sarnafil G410, 60 mil (1.5 mm)

B. PVC Sheet Exposed Face Color:

1. PVC-1: EnergySmart Light Gray, initial solar reflectance of 0.50, emittance of 0.84, and solar reflective index (SRI) of 56.

2. PVC-2: Energy Smart Lead Grey
3. PVC-3: Decore Feltback Lead Gray with applied ribs

C. Membrane Attachment Component:

1. Basis of Design: Sarnacol 2170 (solvent based adhesive)

D. Insulation Attachment Components:
1. Basis of Design: Sarnaplate
2. Basis of Design: Sarnafastener #12 (steel decks)

E. Cover Board: Glass mat faced gypsum panels, ASTM C1177/C1177M, fire resistant type, 1/2 inch thick.

1. Basis of Design: GP Dens-Deck Prime

F. Insulation: Polyisocyanurate (ISO) Board Insulation: ASTM C1289, Type II, Class 1- Faced with inorganic coated-glass facers: non-reinforced core foam.

1. Basis of Design: Sarnatherm ISO Fiber Reinforced Felt Facer

G. Flashing Materials:

1. Wall/Curb Flashing:
   a. G459
   b. Detail Membrane
   c. Sarnaclad (PVC-coated sheet metal)

2. Perimeter Edge Flashing:
   a. Sarnaclad (PVC-coated sheet metal)

3. Misc. Flashing Accessories:
   a. Sarnacircles
   b. Sarnacorners Inside
   c. Sarnacorners Outside
   d. Sarnastack Universal
   e. Sarnastack Split
   f. Open Post Flashing
   g. Sarnareglet
   h. Sarnacol 2170 adhesive
   i. Sarnacol 2170 VC adhesive
   j. Sarnafelt
   k. Sarnadrain UFlow
   l. G410 Coverstrip

H. Miscellaneous Materials:

1. Accessories:
   a. Seam Cleaner
   b. Sarnastop
   c. Sarnacord

2. Sealants and Pitch Pocket Fillers:
   a. Sikaflex-1a, IIFC
   b. Sarnafiller
   c. Multi-Purpose Tape

3. Temporary Overnight Water Cut-Offs (must be removed prior to start of next day's roofing):

a. As recommended by PVC roof system manufacturer.
b. Provide water cut-offs daily at the completion of work and at the onset of inclement weather.
c. Provide water cut-offs to ensure that water does not flow beneath the roofing system.
d. The integrity of the water cut-off is the sole responsibility of the roofing contractor.
e. Any membrane contaminated by the water cut-off material shall be cleaned or removed.

4. PVC Welding Equipment:
   a. Basis of Design: Sarnamatic
   b. Hand Welder

I. Walkway Protection:

1. Basis of Design: Sarnatred-V

PART 3 - EXECUTION

3.1 EXAMINATION

A. Applicator shall verify that the work done under related sections meets the following conditions:

1. Roof drains and scuppers have been installed properly, or reconditioned, or replaced.
2. Roof curbs, nailers, equipment supports, vents and other roof penetrations are properly secured and prepared to receive new roofing materials.
3. All surfaces are smooth and free of dirt, debris and incompatible materials.
4. All roof surfaces shall be free of water, ice and snow.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's most current requirements. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and flashings and from spilling or migrating onto surfaces of other construction. Remove roof drain plugs when no work is taking place or when rain is forecast.

3.3 ROOFING INSTALLATION, GENERAL

A. Install roofing system according to product manufacturer's most current requirements including but not limited to roofing applicator handbook, product data sheets, specifications, and or relevant technical bulletins.

B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

C. For tie-in with existing roofing, install roofing and auxiliary materials to maintain weather tightness of transitions.

3.4 INSULATION / ROOF BOARD INSTALLATION

A. Coordinate installing roofing system components, so insulation or roof boards are not exposed to precipitation or other sources of moisture.

B. Comply with product manufacturer's most current requirements for installing insulation or roof boards.

C. Install tapered insulation to conform to slopes indicated.

D. Install insulation to achieve required thickness. Use at least 2 layers of insulation when the total insulation thickness exceeds 2.7 inches. Stagger joints in both directions at least 12 inches between layers.

1. Where installing composite and non-composite insulation in two or more layers, install non-composite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.

E. Trim insulation where necessary at roof drains so completed surface is smooth and does not restrict flow of water.

F. Drains shall be properly sumped to allow membrane to sit flat without stretching or wrinkling.

G. Fill gaps exceeding 1/4 inch with insulation. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

H. Installation Method:

1. Mechanically Fastened: Install layer/s of insulation or roof board and secure to deck using Sarnaplates and Sarnafasteners at the spacing rate according to Sika and Owner's Representative/Designer. Fasteners shall not penetrate bottom flute on steel decks.

3.5 ROOFING MEMBRANE INSTALLATION

A. The surface of the insulation or substrate shall be inspected prior to installation of the Sarnafil roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination. Broken, delaminated, wet or damaged insulation boards shall be removed and replaced.

B. Accurately align roofing and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

C. Apply roofing with side laps shingled with slope of roof deck where possible.

D. Make sure seam areas are free of debris, dirt, and dust, overlap membrane sheets, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's most current requirements to ensure a watertight seam installation.

1. Verify in-field weld strength of seams a minimum of twice daily, repair seam sample areas.
2. Test lap edges with probe to verify seam weld continuity.
3. If any tears or voids in lapped seams are found repair using appropriate approved technique.

E. Adhered System:

1. Solvent Based Adhesive (Bareback):

a) Roller apply Sarnacol 2170/VC adhesive to the substrate with solvent-resistant rollers. Only the substrate area which can be completely covered with membrane in the same day's operations shall be coated with adhesive. Allow adhesive to dry completely.

3.6 BASE / FIELD FLASHING INSTALLATION

A. Install all membrane and preformed flashings according to roofing system manufacturer's most current requirements.

B. Install membrane base flashing by applying bonding adhesive to substrate and underside of membrane flashing at required rate. Do not apply to seam area of flashing.

C. Flash field penetrations and inside/outside corners with appropriate prefab flashing components or by approved custom in-field fabrication technique.

D. Firmly roll membrane flashing into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.

E. Terminate and seal top of membrane flashings and mechanically anchor to substrate by approved Sika Corporation - Roofing detail.

F. Spread continuous sealant bead leaving no gaps over deck drain flange at roof drains, and securely seal roofing in place with clamping ring.

3.7 WALKWAY INSTALLATION

A. Sarnatred-V: Install walkway product in locations indicated, adhere (except edges) to deck sheet, and hot-air weld edges.

3.8 FIELD QUALITY CONTROL

A. Arrange for roofing system manufacturer's technical personnel to inspect roofing installation upon completion.

B. Repair or remove and replace components of roofing system that do not comply with specified requirements.

C. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.9 PROTECTION

A. Protect new roofing system from damage and wear during construction period. Inspect new roofing for damage if used during construction

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Fabricated sheet metal items, including flashings and fascia/coping edge.

B. Sealants for joints within sheet metal fabrications.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 – Rough Carpentry: Wood nailers for sheet metal work.

B. Section 07 5400 – PVC Sheet Roofing System

C. Section 07 9200 – Joint Sealants

1.03 REFERENCE STANDARDS

A. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

B. ANSI/SPRI/FM 4435/ES-1 - Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

C. Samples: Submit two samples 12” long in size illustrating metal finish color.

1.05 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

B. Prevent contact with materials that could cause discoloration or staining.

1.07 WARRANTY

A. Product Warranty:
   1. Wind, 120 mph: 20 years
   2. 5-year workmanship warranty covering replacement or repair of products that are defective in material or workmanship.

A. Finish Warranty:
   1. 20 years

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Sheet Metal Flashing and Trim Manufacturers:
   1. Fairview Architectural LLC ; VitraEdge, Bloomfield, CT: www.fairviewarchitecturalusa.com/sle.
   2. W.P. Hickman Company: www.wph.com..
   3. Riverside Sheet Metal ; Medford, MA: www.riversidesheetmetal.com
   4. Metal Era: www.metalera.com

2.02 SHEET MATERIALS

A. Pre-Finished Aluminum: 0.040 inch thick, Kynar Finish.

1. Color to be elected from Manufacturer's standard range.

B. Concealed Splice Plates

C. Formed Lengths: 12'-0"

D. Anchor Bar: Extruded Aluminum

2.03 FABRICATION

A. Form sections true to shape, accurate in size, square, and free from distortion or defects.

D. Hem exposed edges on underside 1/2 inch (13 mm); miter and seam corners.

E. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

F. Fabricate corners from one piece; seam for rigidity, seal with sealant.

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

H. Fabricate flashings to allow toe to extend as detailed. Return and brake edges.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.

B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

A. Install starter and edge strips, membrane flashing and cleats before starting installation.

B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil (0.4 mm).

3.03 INSTALLATION

A. Secure flashings in place using concealed fasteners and use exposed fasteners only where permitted.

B. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.

C. Seal metal joints watertight.

3.04 FIELD QUALITY CONTROL

A. See Section 01 4000 - Quality Requirements, for field inspection requirements.

B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

SECTION 07 7123
GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Pre-finished gutters and downspouts.

B. Precast concrete splash pads.

1.02 RELATED REQUIREMENTS

A. Section 07 6200 - Sheet Metal Flashing and Trim.

B. Section 09 9113 - Exterior Painting: Field painting of metal surfaces.

1.03 REFERENCE STANDARDS

A. AAMA 2603 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.

B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2017.

C. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

D. CDA A4050 - Copper in Architecture - Handbook; current edition.

E. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on prefabricated components.

C. Shop Drawings: Indicate locations, configurations, jointing methods, fastening methods, locations, and installation details.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.

B. Prevent contact with materials that could cause discoloration, staining, or damage.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Gutters and Downspouts:
   1. ATAS International, Inc; Water Control System: www.atas.com/#sle.
   2. Cheney Flashing Company: www.cheneyflashing.com/#sle.
   3. OMG Roofing Products: www.omgroofing.com/#sle.
   4. Metal Era: www.metalera.com
   5. Substitutions: See Section 01 6000 - Product Requirements.

B. Precast Concrete Splash Pads
   1. Modern Precast: www.modernprecast.com
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 MATERIALS

A. Pre-Finished Aluminum: 0.040 inch thick, Kynar Finish.
   1. Color to be elected from Manufacturer's standard range.
   2. Concealed Splice Plates

3. Formed Lengths: 12'-0" min.

B. Precast Concrete Splash Pads

1. Smooth Finish
2. Natural Gray
3. 36" long x 18" wide

2.03 FABRICATION

A. Form gutters and downspouts of profiles and size indicated.

1. Downspout size: 3" x 4"

B. Fabricate with required connection pieces.

2. Connect to underground drainage with transition sleeve.

C. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.

D. Hem exposed edges of metal.

E. Fabricate gutter and downspout accessories; seal watertight.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that surfaces are ready to receive work.

3.02 PREPARATION

A. Paint concealed metal surfaces and surfaces in contact with dissimilar metals with protective backing paint to a minimum dry film thickness of 15 mil (0.4 mm).

3.03 INSTALLATION

A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.

B. Sheet Metal: Join lengths with formed seams sealed watertight. Flash and seal gutters to downspouts and accessories.

C. Slope gutters:1/4 inch per foot.

D. Solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.

E. Connect downspouts to downspout boots at 8 inches above grade. Grout connection watertight.

F. Connect downspouts to storm sewer system. Grout connection watertight.

G. Set splash pads under downspouts. Secure in place with grout.

END OF SECTION

SECTION 07 7200
ROOF ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Manufactured curbs

B. Roof hatches, manual

1.02 RELATED REQUIREMENTS

A. Section 06 1000 – Rough Carpentry: Wood nailers for sheet metal work.

B. Section 07 6200 - Sheet Metal Flashing and Trim.

C. Section 07 5400 – PVC Sheet Roofing System

D. Section 07 9200 – Joint Sealants

1.03 REFERENCE STANDARDS

A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used.
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   4. Maintenance requirements.

C. Shop Drawings: Submit detailed layout developed for this project. Show dimensioned location and number for each type of roof accessory.
   1. Non-penetrating Rooftop Supports: Submit design calculations for loadings and spacings.

D. Warranty Documentation:
   1. Submit manufacturer warranty.
   2. Ensure that forms have been completed in Owner's name and registered with manufacturer.
   3. Submit documentation that roof accessories are acceptable to roofing manufacturer, and do not limit the roofing warranty.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store products under cover and elevated above grade.

1.06 WARRANTY

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

B. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 ROOF HATCHES, MANUAL AND AUTOMATIC OPERATION

A. Manufacturers - Roof Hatches:
   1. Acudor Products Inc; Galvanized Steel Roof Hatch: www.acudor.com/#sle.
   2. Babcock-Davis; ThermalMAX: www.babcockdavis.com/#sle.

3. Bilco Company; www.bilco.com/#sle.
4. Dur-Red Products; www.dur-red.com.
5. Milcor, Inc; www.milcorinc.com.
6. PS DOORS; Slidewise Roof Hatch: www.psdoors.com/#sle.
7. Williams Brothers Corporation of America; www.wbdoors.com/#sle.

B. Frames/Curbs: One-piece curb and frame with integral cap flashing to receive roof flashings; extended bottom flange to suit mounting.
1. Material: Galvanized steel, 14 gage, 0.0747 inch (1.90 mm) thick.
2. Finish: Factory prime paint.
3. Insulation: Manufacturer's standard; 1 inch (25 mm) rigid glass fiber, located on outside face of curb.
4. Curb Height: 12 inches (305 mm) from finished surface of roof, minimum.

C. Metal Covers: Flush, insulated, hollow metal construction.
1. Capable of supporting 40 psf (1.92 kPa) live load.
2. Material: Galvanized steel; outer cover 14 gage, 0.0747 inch (1.90 mm) thick, liner 22 gage, 0.03 inch (0.76 mm) thick.
3. Finish: Factory prime paint.
4. Insulation: Manufacturer's standard 1 inch (25 mm) rigid glass fiber.
5. Gasket: Neoprene, continuous around cover perimeter.

D. Hardware: Stainless steel, unless otherwise indicated or required by manufacturer.
1. Lifting Mechanisms: Compression or torsion spring operator with shock absorbers that automatically opens upon release of latch; capable of lifting covers despite 10 psf (475 kPa) load.
2. Hinges: Heavy duty pintle type.
3. Hold open arm with vinyl-coated handle for manual release.
4. Latch: Upon closing, engage latch automatically and reset manual release.
5. Manual Release: Pull handle on interior.
6. Locking: Padlock hasp on interior.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions, in manner that maintains roofing weather integrity.

3.04 CLEANING

A. Clean installed work to like-new condition.

3.05 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 07 9200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-sag gunnable joint sealants.

C. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

A. Section 05 5100 – Metal Stairs and Ladders

B. Section 06 6500 – Exterior Synthetic Trim

C. Section 07 5400 – PVC Sheet Roofing System

D. Section 07 6200 – Sheet Metal Flashing and Trim.

E. Section 07 7123 – Gutters and Downspouts

F. Section 07 7200 – Roof Accessories

1.03 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants; 2014.

B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2012.

C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014a.

D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.

E. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2008 (Reapproved 2012).

F. ASTM D2240 - Standard Test Method for Rubber Property--Durometer Hardness; 2005 (Reapproved 2010).

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
   1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
   2. List of backing materials approved for use with the specific product.
   3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
   4. Substrates the product should not be used on.

C. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.

1.05 QUALITY ASSURANCE

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

B. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.

C. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

1.06 WARRANTY

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

B. Correct defective work within a five year period after Date of Substantial Completion.

C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
   1. BASF Construction Chemicals-Building Systems; www.buildingsystems.basf.com.
   2. Dow Corning Corporation; www.dowcorning.com/construction/#sle.
   3. Sherwin-Williams Company; www.sherwin-williams.com/#sle.
   4. Sika Corporation; www.usa-sika.com/#sle.
   5. Tremco Commercial Sealants & Waterproofing; www.tremcosealants.com/#sle.
   6. W.R. Meadows, Inc; www.wrmeadows.com.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
   1. Exterior Joints: Seal open joints, whether or not the joint is indicated on the drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
      a. Wall expansion and control joints.
      b. Joints between door, window, and other frames and adjacent construction.
      c. Joints between different exposed materials.
      d. Openings below ledge angles in masonry.
      e. Joints between sidewalk sections and between sidewalks and building or sitewalls.
      f. Other joints indicated below.
   2. Do not seal the following types of joints.
      a. Intentional weepholes in masonry.
      b. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
      c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
      d. Joints where installation of sealant is specified in another section.
      e. Joints between suspended panel ceilings/grid and walls.

B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.

C. Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
   1. Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.

2.03 NONSAG JOINT SEALANTS

A. Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
   1. Color: White.
   2. Manufacturers:
      a. Sika Corporation; Sikasil GP: www.usa-sika.com/#sle.
      b. Or equal by Tremco or Pecora Corporation.

B. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
   1. Color: To be selected by Architect from manufacturer's standard range.
   2. Manufacturers:
      a. Tremco Commercial Sealants & Waterproofing; Tremflex 834: www.tremcosealants.com/#sle.

b. Or equal by Sherwin Williams, Sika, or Dow.

2.04 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.

E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

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

B. Perform installation in accordance with ASTM C1193.

C. Perform acoustical sealant application work in accordance with ASTM C919.

D. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
   1. Width/depth ratio of 2:1.
   2. Neck dimension no greater than 1/3 of the joint width.
   3. Surface bond area on each side not less than 75 percent of joint width.

E. Install bond breaker backing tape where backer rod cannot be used.

F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

G. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

H. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

I. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.04 FIELD QUALITY CONTROL

A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

3.05 POST-OCCUPANCY

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

END OF SECTION

SECTION 09 9000

PAINTS AND COATINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation. Assume all existing exterior paint contains lead and handle in accordance with all applicable regulations.

B. Field application of paints, stains, varnishes, and other coatings.

C. Scope: Finish all items indicated to be painted, all repaired surfaces, and all newly installed surfaces exposed to view, unless fully factory-finished and unless otherwise indicated. Carry finish to a break in the surface plane. Final colors to be selected from manufacturer's color palette by the Architect and Owner. Include the following:
1. Exterior Synthetic trim around the building exterior.
2. Exposed surfaces of all steel lintels and ledge angles after sealant removal.
3. Roof Hatch Cover
4. Existing Canopy Supports, steel and wood.

D. Do Not Paint or Finish the Following Items:
1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished. Aluminum windows are fully factory finished.
2. Items indicated to receive other finishes.
3. Items indicated to remain unfinished, including PVC siding at attic monitor.
4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
5. Stainless steel, anodized aluminum, bronze, terne, and lead items.
6. Floors, unless specifically so indicated.
7. Ceramic and other tiles.
8. Glass.
9. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

A. Section 07 9200 - Sealants: Removal prior to painting.

1.03 DEFINITIONS

A. Conform to ASTM D 16 for interpretation of terms used in this section.

1.04 REFERENCE STANDARDS

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

B. ASTM D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2008.

1.05 SUBMITTALS

A. See Section 01300 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on all finishing products, including VOC content.

C. Samples: Submit two painted samples, illustrating selected colors and textures for each color and system selected with specified coats cascaded. Submit on tempered hardboard, 12x12 inch in size.

D. Mock-up: Final paint selection for fascia depends on viewing a mock-up on metal panel from the upper roof level. Include painting this mock-up twice with different colors. Include panel prep as part of mock-up review.

E. Manufacturer's Letter: Submit letter from field rep that design coatings are appropriate to the field conditions and will adhere to surface prepped as specified.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

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

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide all paint and coating products used in any individual system from the same manufacturer without exception.

B. Paints:
1. ICI Paints: www.icipaintsinna.com.
2. Benjamin Moore & Co: www.benjaminmoore.com.
3. PPG Architectural Finishes, Inc: www.ppgaf.com.
4. Pratt & Lambert Paints: www.prattandlambert.com.

C. Substitutions: See Section 01600 - Product Requirements.

D. PPG Paints are listed below as the Basis of Design.

2.02 PAINTS AND COATINGS - GENERAL

A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
2. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
3. Supply each coating material in quantity required to complete entire project's work from a single production run.
4. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.

B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.

C. Volatile Organic Compound (VOC) Content:

1. Provide coatings that comply with the most stringent requirements specified in the following:
   a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

D. Colors: To be selected from manufacturer's full range of available colors.
   1. Selection to be made by Architect after award of contract.
   2. In finished areas, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.

2.03 PAINT SYSTEMS

A. Paint for interior gypsum board: Opaque, Latex, 3 Coat:
   1. One coat of appropriate primer sealer.
   2. Top coat - Semi-gloss: Two coats of latex enamel.

B. Paint for Wood and Exterior synthetic trim: Opaque, Latex, 3 Coat:
   1. One coat of appropriate primer sealer.
   2. Top coat - Semi-gloss: Two coats of latex enamel.

C. Paint for Ferrous Metals, Unprimed, Latex, 3 Coat:
   1. One coat of zinc-rich primer.
   2. Top Coat – Semi-Gloss: Two coats of latex enamel

D. Paint for Ferrous Metals, Primed, Latex, 2 Coat:
   1. Touch-up with zinc-rich primer recommended by top coat manufacturer.
   2. Top coat – Semi-Gloss: Two coats of latex enamel

2.04 ACCESSORY MATERIALS

A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

B. Patching Material: Latex filler.

C. Fastener Head Cover Material: Latex filler/glazing putty.

D. Cleaner: PPG PMC Prep 88 Water Based Alkaline Cleaner

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

C. Test shop-applied primer for compatibility with subsequent cover materials.

D. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
   1. Gypsum Wallboard: 12 percent.
   2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to coating application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.

G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.

H. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.

I. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-PC 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).

J. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.

K. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's instructions.

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance.

E. Sand wood and metal surfaces lightly between coats to achieve required finish.

F. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 CLEANING

A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

END OF SECTION