PROJECT MANUAL
Including Specifications
for Construction of

Fort Adams State Park
Visitor Center Rehabilitation
Newport, Rhode Island

For The
State of Rhode Island
Department of Environmental Management
Division of Planning and Development
235 Promenade Street
Providence, Rhode Island 02908

RIDEM Contract No. 03-17

Date of Release:
October 2018

SECTION 00002
PROJECT DIRECTORY

OWNER:

State of Rhode Island and Providence Plantations
Department of Administration
One Capitol Hill
Providence, Rhode Island 02908
www.purchasing.ri.gov

USER AGENCY:

State of Rhode Island and Providence Plantations
Department of Environmental Management
Division of Planning and Development
235 Promenade Street
Providence, Rhode Island 02908
(401) 222-2776
www.dem.ri.gov

CIVIL ENGINEER: Jacob Lautman
Department of Environmental Management
Division of Planning and Development
235 Promenade Street
Providence, Rhode Island 02908
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TECHNICAL SPECIFICATIONS

04 0120	Masonry Restoration and Cleaning
06 1000	Carpentry
07 3126	Slate Roof
07 6200	Flashing
08 5200	Wood Windows
08 7100	Door Hardware
09 0190	Maintenance Repainting

SECTION 001113 - BID PROPOSAL

Fort Adams Visitor Center
Fort Adams Drive, Newport, RI 02840

_____
Name of Bidder

_____
Address

_____
Address

_____
FEIN No.

TO THE CHIEF PURCHASING OFFICER OF THE STATE OF RHODE ISLAND, acting in the name and on behalf of the Department of Environmental Management, Division of Planning and Development.

The undersigned proposes to furnish all labor and materials required for the **Fort Adams Visitor Center, Fort Adams Drive, Newport, RI 02840** in accordance with the accompanying Contract Documents, plans and specifications prepared by the Department of Environmental Management, Division of Planning and Development for the Bid Price specified below, subject to additions and deductions according to the terms of the contract documents.

A. ADDENDA

This bid includes Addenda numbered:_____and dated:_____
This bid includes Addenda numbered:_____and dated:_____

B. BASE BID

Total proposed Base Bid Price is:

_____DOLLARS ($_____)
(Price in Words) (Numbers)

C. ALLOWANCES

1. Miscellaneous Carpentry Repairs (Doors, Windows): $20,000

D. UNIT PRICES

Unit Price No. 1: Unit Price for replacing existing brick:

$_____ _____
Cost per Each (EA) In Words Per EA

Unit Price No. 2: Unit Price for repointing existing joints:

_____ _____
Cost per Linear Foot (LF) In Words Per LF

Unit Price No. 3: Unit Price for replacing existing shingles:

$_____ _____
Cost per Each (EA) In Words Per EA

Unit Price No. 4: Unit Price for Maintenance Repainting:

$_____ _____
Cost per Each (SF) In Words Per SF

Unit Price No. 5: Unit Price for Brick Sealing:

$_____ _____
Cost per Each (SF) In Words Per SF

E. ALTERNATIVES:
N/A

F. GENERAL CONTRACTOR AND SUBCONTRACTOR BASE BID PRICE BREAKDOWN
The PROPOSED BASE BID PRICE IS SUBDIVIDED AS FOLLOWS:

ITEM 1. The work of the General Contractor, being all work performed by the General Contractor's own work force:
_____DOLLARS $_____
(Price in words) (Numbers)

ITEM 2. The work of the General Contractor, being all work performed by a subcontractor not part of the General Contractor's own work force covered by ITEM 1 above:

SUB-TRADE	NAME OF SUBCONTRACTOR	AMOUNT
_____	_____	$_____
_____	_____	$_____
_____	_____	$_____

TOTAL OF ITEM NO. 2:_____ $_____
(Price in Words) (Price in Numbers)

G. QUALIFICATIONS OF SUBCONTRACTORS

The undersigned agrees that each of the above-named will be used for the work indicated at the amounts stated, unless a substitution is made with prior written approval of the Owner.

The undersigned further agrees to pay the premiums for the performance and payment bonds furnished by the subcontractors as required herein and that all of the cost of all such premiums is included in the amount set forth in item 1 of this bid.

H. LEGAL ORGANIZATION

The undersigned is a (an)_____(Individual-Partnership-Corporation-Joint Venture). Attach copies of articles of incorporation or partnership agreement, and Rhode Island Secretary of State's Certificate of Good Standing.

I. QUALIFICATIONS TO PERFORM WORK

Because of the Historic importance of the building and the sensitive nature of work, it is important that the successful bidder have a high degree of experience in restoration and rehabilitation of older buildings with the Secretary of the Interior's Standards for Rehabilitation of Historic Places. The undersigned offers the following information as evidence of its organizational qualifications to perform the work as bid upon according to all requirements of the plans and the specifications.

i. Provide history of the firm, including number of years it has been in business doing historic preservation work; a list of representative projects with final cost, year completed and description of work (e.g. exterior painting, roof repairs, structural repairs, window replacement, finish carpentry, and distinguish between restoration work, remodeling, renovation or new construction).

ii. Provide resumes for principals and key personnel who will be assigned to the project, including a list of relevant historic preservation projects with which they were personally involved.

iii. List three or more historic preservation projects on buildings 100 years old or more that were completed by this firm within the last five years. Include the date of completion, the age of the building, the cost of the project, a detailed description of the work, and a project reference with phone number.

iv. Subcontractors should have similar experience with historic buildings within their area of expertise. Provide firm history, resume of principals, and a list of relevant projects for each subcontractor.

The owner reserves the right and sole discretion to determine equivalent or prior experience and the right to reject any or all bids which fail to demonstrate equivalent prior experience. The owner will contact project references, and reserves the right to reject bids based on poor performance with similar projects.

2. List at least two and no more than five recent projects on which the undersigned served as the General Contractor for work of similar character as required for the above named project, along with the date of the project, the name of the Architect/Engineer, and the contract price:

PROJECT NAME	DATE	ARCHITECT/ENGINEER	CONTRACT PRICE
1._____	_____	_____	$_____
2._____	_____	_____	$_____
3._____	_____	_____	$_____
4._____	_____	_____	$_____
5._____	_____	_____	$_____

3. List all construction contracts between the undersigned and the State of Rhode Island in the past five (5) years:

	PROJECT NAME	DATE	STATE AGENCY	STATE CONTACT PERSON	CONTRACT PRICE
1.					$
2.					$
3.					$
4.					$
5.					$
6.					$
7.					$
8.					$
9.					$
10					$

J. VIOLATION OF RI/DEM LAWS AND REGULATIONS

The undersigned is / is not (Please circle one) currently cited as being in violation of any law or regulation administered by the Department of Environmental Management.
If Yes please explain._____

K. REQUIREMENT FOR LICENSE NUMBER

In compliance with the requirements of Rhode Island General Law, Section 5-65-23, my Rhode Island license number for work to be performed by this firm as prime contractor is:

LICENSE NUMBER: _____

The undersigned acknowledges by signature below that the undersigned has read and understands the Information to Bidders, the terms of which are hereby incorporated into this Proposal.

DATE: _____

BIDDER: _____

BY: _____ _____
Signature Title

BUSINESS ADDRESS: _____

_____

_____

_____

TELEPHONE NUMBER: (_____)_____

FEIN NO.: __ __ -__ __ __ __ __ __ __

**************END OF BID FORM**************

THE STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Business Regulation

BUILDING CODE COMMISSION

560 Jefferson Blvd., Warwick, Rhode Island 02886

November 01, 2018

Project Approval Letter

RISBC Project Number and Name	Location: 80 Fort Adams Drive	**DESIGNER**	Name: Company: Address:
DESCRIPTION	Rehabilitation including repointing, repainting, reshingling, and carpentry repair.	**AGENCY**	Agency Contact Name: Jacob Lautman Agency/Department Name: Department of Environmental Management Agency Address: 235 Promenade Street; Providence, RI 02908

Dear Sirs/Madams:

Plans and Specifications submitted for the above-referenced project have been reviewed and approved. Please be advised that permits will be issued upon application and payment of fees by the select Contractor.

The approval letter does not constitute permission to proceed to reproduce documents required by the agency or purchasing division for bidding purposes. Such authorization can only be granted by the User Agency or Department, who you should contact for authorization to proceed.

The User, Department, or Agency, is advised by copy of this notice that documents required for bidding purposes must be in a format designated by the Division of Purchasing. The contract recipient will submit a copy of this document and a copy of an approval requisition for the project to proceed to permitting, along with any conditions of this approval to be accepted by the Building Code Commission.

Very truly yours,

John P. Leyden, CBO
State Building Commissioner

To learn more, scan this barcode or visit rhodeisland.viewpointcloud.com/#/records/28221

SECTION 01 1000

SUMMARY OF WORK

PART 1 GENERAL

1.1 PROJECT

A. Project Name: Fort Adams State Park – Fort Adams Visitor Center

B. User Agency: Rhode Island Department of Environmental Management

C. Design Agent: Rhode Island Department of Environmental Management

1.2 CONTRACT DESCRIPTION

A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 5001 - Agreement Form.

1.3 DESCRIPTION OF WORK

1. Repoint and replace brick as needed on the interior and exterior faces of the Fort Adams Visitor Center
2. Replace broken, deteriorated, and black shingles on Fort Adams Visitor Center roof.
3. Seal interior and exterior brick masonry work as noted.
4. Miscellaneous carpentry as noted.
5. Perform work upon windows as provided in window schedule. See C5 in plan set.
6. Replace door hardware, as specified in plan set.
7. Repaint trim, including soffits and gable ends.

1.4 ITEMS TO BE SALVAGED FOR REINSTALLATION

1. Remove and reset bricks in areas that require mortar joint reconstruction if the bricks are deemed to be structurally sound.

1.5 OWNER OCCUPANCY

A. Owner intends to use the facilities during the summer months. No work will be allowed between May 1st and September 30th.

B. Owner intends to occupy the Project upon Substantial Completion.

C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

D. Schedule the Work to accommodate Owner occupancy.

1.6 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Arrange use of site and premises to allow:

1. Owner occupancy.
2. Use of site and premises by the public.

C. Provide access to and from site as required by law and by Owner:

1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
2. Do not obstruct roadways, sidewalks, or other public ways without permit.

D. Existing building spaces may not be used for storage.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2200

UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 RELATED REQUIREMENTS – Not Used

1.03 COSTS INCLUDE

A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.
B. The unit price of replacing masonry brick shall include the removal and disposal of building material, including joint mortar. This cost shall also include finishing and sealing the face of the brick.

1.04 UNIT QUANTITIES SPECIFIED

A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.

1.05 MEASUREMENT OF QUANTITIES

A. Take all measurements and compute quantities. Measurements and quantities will be verified by Owner.

1.06 PAYMENT

A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Architect, multiplied by the unit price.

B. Payment will not be made for any of the following:
1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.

1.07 SCHEDULE OF UNIT PRICES

A. Item: Brick Replacement

1. The Contractor shall note that the unit costs presented below are for materials that may be encountered during the project work not part of the original Base Bid Price that affects the work issued by changes in scope of work, or otherwise clearly not part of the original scope of work. Quantity classification delineated below shall be determined based on the scope of work being performed and may be considered cumulative for work that is being performed in localized areas of the project, and/or project wide depending on the circumstances and/or phase of work underway. The Contractor and Owner shall review the status of work underway and mutually agree on the unit costs to be carried as the project progresses and shall adjust the unit cost accordingly based on the overall work effort undertaken and determination that multiple mobilizations and/or unique and/or separate set up efforts were required to perform the work.

Unit Price Number	Description of Service
1	**Replace Masonry Bricks** EACH
2	**Repointing Brick Masonry Joints** LINEAR FOOT
3	**Replace Slate Shingles** EACH
4	**Replace Copper Ridge Cap** LINEAR FOOT
5	**Replace Copper Drip Edge** LINEAR FOOT
6	**Maintenance Repainting** SQUARE FOOT

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 3000

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Preconstruction meeting.

B. Site mobilization meeting.

C. Progress meetings.

D. Submittals for review, information, and project closeout.

E. Number of copies of submittals.

F. Submittal procedures.

1.2 RELATED REQUIREMENTS

A. Document 00 7001 - General Conditions: Dates for applications for payment.

B. Section 01 7000 - Closeout Submittals: Project record documents.

1.3 PROJECT COORDINATION

A. Project Coordinator: Owner.

B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for construction access, traffic, and parking facilities.

C. During construction, coordinate use of site and facilities through the Project Coordinator.

D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.

E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.

F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Make the following types of submittals to the Project Coordinator:
   1. Requests for interpretation.
   2. Requests for substitution.
   3. Shop drawings, product data, and samples.
   4. Test and inspection reports.
   5. Design data.
   6. Manufacturer's instructions and field reports.
   7. Applications for payment and change order requests.
   8. Progress schedules.
   9. Coordination drawings.
   10. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 PRECONSTRUCTION MEETING

A. Owner will schedule a meeting after Notice of Award.

B. Attendance Required:
   1. Owner.
   2. Contractor.

C. Agenda:
   1. Execution of Owner- Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Owner, participants, and those affected by decisions made.

3.2 SITE MOBILIZATION MEETING

A. Owner will schedule a meeting at the Project site prior to Contractor occupancy.

B. Attendance Required:
   1. Contractor
   2. Owner.
   3. Contractor's Superintendent.
   4. Major Subcontractors.

C. Agenda:
   1. Use of premises by Owner and Contractor.
   2. Owner's requirements and occupancy prior to completion.
   3. Construction facilities and controls provided by Owner.
   4. Temporary utilities provided by Owner.
   5. Survey and building layout.
   6. Security and housekeeping procedures.
   7. Schedules.
   8. Application for payment procedures.
   9. Procedures for testing.
   10. Procedures for maintaining record documents.
   11. Requirements for start-up of equipment.
   12. Inspection and acceptance of equipment put into service during construction period.

D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.3 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.

B. Make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, as appropriate to agenda topics for each meeting.

D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.

5. Review of submittals schedule and status of submittals.
6. Maintenance of progress schedule.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Coordination of projected progress.
10. Maintenance of quality and work standards.
11. Effect of proposed changes on progress schedule and coordination.
12. Other business relating to Work.

E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Owner, participants, and those affected by decisions made.

3.4 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Owner for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed only for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7000 - CLOSEOUT SUBMITTALS.

3.5 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner. No action will be taken.

3.6 SUBMITTALS FOR PROJECT CLOSEOUT

A. When the following are specified in individual sections, submit them at project closeout:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.

B. Submit for Owner's benefit during and after project completion.

3.7 SUBMITTAL PROCEDURES

A. Transmit each submittal with approved form.

B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in

accordance with the requirements of the Work and Contract Documents.

E. Deliver submittals to Owner at business address.

F. Schedule submittals to expedite the Project, and coordinate submission of related items.

G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

I. Provide space for Contractor and Owner review stamps.

J. When revised for resubmission, identify all changes made since previous submission.

K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

L. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 4000
QUALITY REQUIREMENTS

PART I - GENERAL

1.01 SECTION INCLUDES

A. Quality assurance submittals.
B. Mock-ups.
C. Control of installation.
D. Tolerances.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittal procedures.
B. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.03 SUBMITTALS

A. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Owner, in quantities specified for Product Data.

1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.

B. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

C. Manufacturer's Field Reports: Submit reports for Owner's benefit as contract administrator.

1. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.04 REFERENCES AND STANDARDS

A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.

C. Obtain copies of standards where required by product specification sections.

D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

E. Should specified reference standards conflict with Contract Documents, request clarification from Owner before proceeding.

F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS - NOT USED

PART 3 - EXECUTION

3.1 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner before proceeding.

D. 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.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.2 MOCK-UPS

A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.

B. Accepted mock-ups shall be a comparison standard for the remaining Work.

C. Where mock-up has been accepted by Owner and is specified in product specification sections to be removed, remove mock-up and clear area when directed to do so.

3.3 TOLERANCES

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

B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Owner before proceeding.

C. Adjust products to appropriate dimensions; position before securing products in place.

3.4 MANUFACTURERS' FIELD SERVICES

A. 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, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.5 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

B. If, in the opinion of Owner, it is not practical to remove and replace the Work, Owner will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Temporary utilities.

B. Temporary sanitary facilities.

C. Temporary Controls: Barriers, enclosures, and fencing.

D. Security requirements.

E. Vehicular access and parking.

F. Waste removal facilities and services.

G. Project identification sign.

H. Field offices.

1.2 RELATED REQUIREMENTS

A. Section 01 5213 - Field Offices and Sheds.

B. Section 01 5500 - Vehicular Access and Parking.

C. Section 01 15813 - Temporary Project Signage.

1.3 BARRIERS

A. Maintain access by the public to the areas around the Visitor Center.

B. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

C. Provide barricades and covered walkways required by governing authorities for public rights-of-way.

D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.4 FENCING

A. Construction: Commercial grade chain link fence.

B. Provide 6 foot (1.8 m) high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.5 EXTERIOR ENCLOSURES

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

1.6 SECURITY

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.7 VEHICULAR ACCESS AND PARKING

A. Allow unimpeded public access to the existing main parking lot and roadways.

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

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

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

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

1.8 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site periodically.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.9 PROJECT IDENTIFICATION

A. Provide project identification as described in Section 01 15813 – Temporary Project Signage.

B. Erect on site at location approved by Owner and RIHPHC.

C. No other signs are allowed without Owner permission except those required by law.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Transportation, handling, storage and protection.

B. Product option requirements.

C. Substitution limitations and procedures.

D. Procedures for Owner-supplied products.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.2 RELATED REQUIREMENTS

A. Section 01 4000 - Quality Requirements: Product quality monitoring.

1.3 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.

1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.1 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

2.2 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.

C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.3 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.1 SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.

B. Substitutions may be considered when a product becomes unavailable through no fault of the Contractor.

C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

D. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Will provide the same warranty for the substitution as for the specified product.
   3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.
   5. Will reimburse Owner for review or redesign services associated with review of material's fitness as a substitute if for other than lack of availability, integration/use of the revised material in the Work, and/or re-approval by authorities.

E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

F. Substitution Submittal Procedure:
   1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
   3. The Owner will notify Contractor in writing of decision to accept or reject request.

3.2 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:
   1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
   2. Arrange and pay for product delivery to site.
   3. On delivery, inspect products jointly with Contractor.
   4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
   5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
   1. Review Owner reviewed shop drawings, product data, and samples.
   2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
   3. Handle, store, install and finish products.
   4. Repair or replace items damaged after receipt.

3.3 TRANSPORTATION AND HANDLING

A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

B. Transport and handle products in accordance with manufacturer's instructions.

C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.4 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

G. Prevent contact with material that may cause corrosion, discoloration, or staining.

H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Cleaning and protection.

C. Closeout procedures, including Contractor's Correction Punch List.

1.2 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.

B. Section 01 4000 - Quality Requirements: Testing and inspection procedures.

1.3 SUBMITTALS

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

1.4 QUALIFICATIONS

A. For repointing work, employ a mason with at least 5 years of historic preservation construction registered in Rhode Island and acceptable to RIHPHC Architect.

1.5 PROJECT CONDITIONS

A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

1.6 COORDINATION

A. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.

B. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.

C. Coordinate completion and clean-up of work of separate sections.

D. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.1 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine and verify specific conditions described in individual specification sections.

B. Take field measurements before confirming product orders to minimize waste due to over-ordering.

C. Verify that utility services are available, of the correct characteristics, and in the correct locations.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

D. Make neat transitions between different surfaces, maintaining texture and appearance.

3.4 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.5 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

E. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.6 FINAL CLEANING

A. Use cleaning materials that are nonhazardous.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.

E. Clean site; sweep paved areas, rake clean landscaped surfaces.

F. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.7 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify RIHPHC Architect when work is considered ready for Owner's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Owner's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Owner's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Owner.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Complete items of work determined by Owner listed in executed Certificate of Substantial Completion.

3.8 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:

1. Drawings and Specifications.
2. Addenda.
3. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:

1. Manufacturer's name and product model and number.
2. Changes made by Addenda and modifications.

F. Record Drawings: Legibly mark each item to record actual construction including:

1. Field changes of dimension and detail.
2. Details not on original Contract drawings.

3.9 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:

1. Product data, with catalog number, size, composition, and color and texture designations.

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.10 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 04 0120

MASONRY RESTORATION AND CLEANING

PART I – GENERAL

1.1 SECTION INCLUDES

A. Replacing brick as necessary.

B. Repointing of mortar joints.

C. Cleaning of brick surfaces

D. Applying exterior sealant.

E. See Work Schedule at end of this Section.

1.2 RELATED SECTIONS

NONE THIS SECTION

1.3 SUBMITTALS

A. Submit product data under provisions of Section 01 6000

B. Provide product data on cleaning solutions, mortar mix and patching material.

C. Submit following samples under provisions of Section 01 6000:

1. Cleaning of masonry surfaces.
2. Pointing mix.
3. New and/or salvaged brick to match existing.
4. Sealant.

D. Submit manufacturer's application instructions under provisions of Section 01 6000.

1.5 QUALITY ASSURANCE

A. Masonry Restorer: Company with ten (10) years documented experience in masonry restoration.

1.6 FIELD SAMPLES / MOCK-UPS

A. Provide samples under provisions of Section 01 6000.

B. Provide a sample brick to be used to replace existing deteriorated brock. Sample brick must exactly match the existing brick in length, height, color and texture.

C. Provide a sample where deteriorated brick has been removed of new brick placed adjacent to existing brick to remain. Sample area to be at least three bricks long and three bricks high

D. Clean a test panel of each type of masonry to determine appropriate cleaning method and degree of cleanliness. Repeat as necessary to arrive at approved sample and as directed by Owner.

E. Cut out mortar joints in a 12" long joint panel of brick to illustrate method of mortar removal and absence of damage to brick work. Repeat as necessary to achieve satisfactory results. Replace damaged brick at no additional cost to Owner.

F. Repoint a panel of brick to represent appearance, mortar composition and joint tooling. Architect to indicate sample location in field. Repeat as necessary to achieve an acceptable match to original joints (as determined by Architect).

G. Provide a sample 2’ x 2’ of sealant application. Sample should not discolor or change the appearance of the brick in any manner including adding a sheen to the surface.

H. Locate samples and mock-ups where directed by Architect.

I. Repeat procedures as necessary to achieve satisfactory results as determined by Architect.

J. Accepted samples shall be clearly marked and shall remain in place through the course of the project. Accepted samples may remain as part of the Work.

1.7 PRE-INSTALLATION CONFERENCE

A. Convene a pre-installation conference one week prior to commencing work of this Section, under provisions of Section 01 3000.

B. Require attendance of parties directly affecting work of this Section.

C. Review conditions of installation, installation procedures, and coordination with related work.

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site under provisions of Section 01 6000.

B. Store and protect products under provisions of Section 01 6000.

C. Deliver masonry neatly stacked and tied on pallets. Store clear of ground, cover with waterproof covering, and secure from theft and/or vandalism.

D. Furnish all materials in manufacturer's packaging, including instructions for use.

1.9 ENVIRONMENTAL REQUIREMENTS

A. Do not lay masonry, repoint, caulk, wash down or wet surfaces when temperature may drop below 40° F within 24 hours.

B. Follow cold weather procedures in accordance with ANSI A41.2 when temperatures may drop below 40° F.

C. Do not use processes creating dust, dirt and spray when wind is over 10 miles/hr.

1.10 PROTECTION

A. Protect passers-by and surrounding area from wind drift during any procedures that generate dust, dirt or spray. Note: Contractor shall be required to completely enclose scaffolding to prevent wind drift during procedures that generate spray, dust or debris.

1.11 SEQUENCING/ SCHEDULING

A. Perform cleaning, raking out of mortar joints and repointing of exterior masonry in consultation with Owner and in compliance with relevant regulations.

B. Perform repointing, and brick matching after cleaning existing masonry surfaces.

1.12 TESTING

A. Upon request, Contractor shall engage and pay for a certified testing agency or laboratory to test up to four existing mortar samples selected by Owner to determine compressive strength and material composition. Note: Original mortar as determined by Owner shall be tested. Submit test results to Owner for review.

PART 2 - PRODUCTS

2.1 MANUFACTURERS: CLEANING MATERIALS

A. ProSoCo, Inc. of Kansas City, KS.
B. Substitutions: Under provisions of Section 01 6000.

2.2 CLEANING MATERIALS

A. Cleaning Agents: ProSoCo's Sure Klean Restoration Cleaner and/or Sure Klean Heavy Duty Restoration Cleaner or approved equal.

B. Water: Clean and potable.

2.3 MORTAR MATERIALS

A. Water: Clean and free of deleterious amounts of oils, acids, alkalis, and organic matter.

B. Cement: ASTM C150, Type I or II White or Federal Spec. SS-C-192G(3) with not more than 0.60% alkali (sodium oxide) or not more than 0.15% water soluble alkali by weight (in combination of lime and cement).

C. Hydrated Lime: Type S, ASTM C207.

D. Sand: ASTM C144. Provide sand of constant color, as approved, and delivered from the same source at the same time.

E. Mortar used for repointing shall match original (based on tests) in composition and appearance as closely as possible.

1. Provide mortar, in accord with ASTM C270, Type K with high water retentivity; tinted as directed by the Owner, with no antifreeze liquids, salts or other substances to lower the freezing point.

a. Mix cementitious materials and aggregate with the maximum amount of water consistent with satisfactory workability for a minimum period of time, three minutes, in a drum type batch mixer.

b. Measure mortar materials so that the specified proportions can be controlled and accurately maintained during the entire progress of the work. Measure mortar materials in approved containers. Do not measure materials with shovels.

c. Measure all materials for mortars by volume; sand and cement mixed dry, lime added and then water added to bring to the proper consistency for use, and retempering as required. Do not use mortar that has stood for more than one and one-half (1-1/2) hours.

2. Note: The following mortar composition may be used as a starting point for developing a pointing mortar mix:

1 part hydrated lime
1/4 part Portland cement
3 parts sand, suitable for repointing, to match original
3. It may be necessary to add a color additive and to make adjustments to mortar mix to achieve proper match.

2.4 MASONRY MATERIALS

A. Bricks: to match existing bricks in length, height, color and texture.

2.6 CAULKING MATERIALS

A. Joint sealants (for exposed masonry joints between dissimilar materials at

openings): 2-part polyurethane (equal to TREMCO Dymeric sealant), tinted to match original mortar or colors. Where called for, sand or finely crushed stone should be set in sealant as necessary to match original mortar joints.

A. Backer rod: Polyethylene foam rod or polyethylene tape.

2.7 SEALANT

A. Product Description: Sure Klean® Weather Seal Siloxane WB Concentrate is a concentrated water repellent designed for dilution with fresh water at the job site. This solvent-free blend of silanes and oligomeric alkoxysiloxanes mixes easily with water to produce a penetrating low-VOC water repellent ideal for application to dense or porous masonry surfaces.

Manufacturer: PROSOCO, Inc., 3741 Greenway Circle, Lawrence, KS 66046. Phone: (800) 255-4255; Fax: (785) 830-9797. E-mail: CustomerCare@prosoco.com; or approved equal.

B. **Typical Technical Data**

FORM: Clear amber liquid, vinegar like odor
SPECIFIC GRAVITY: 0.96
pH: not applicable
ACTIVE CONTENT: 100 percent
TOTAL SOLIDS: 48 percent ASTM D 5095
WEIGHT/GALLON: 7.9 pounds
FLASH POINT: 77 degrees F (25 degrees C) concentrate ASTM D 3278
140 degrees F (60 degrees C) in 1:9 dilution
145 degrees F (62 degrees C) in 1:14 dilution
FREEZE POINT: less than -22 degrees F (less than -30 degrees C)
VOC CONTENT: 16 to 41 grams per Liter as diluted, low solids coating. Complies with all known national, state and district AIM VOC regulations at recommended dilutions.

C. Limitations

- Product must be applied within 24 hours of dilution for maximum effectiveness.
- Will not prevent water penetration through structural cracks, defects or open joints.
- Not recommended for below-grade application

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that surfaces to be cleaned and restored are ready for work of this Section.

B. Beginning of installation means acceptance of existing surfaces and conditions.

3.2 GENERAL INTENT: RESTORATION OF EXTERIOR MASONRY SURFACES

A. BRICK REPLACEMENT: It is the intent to replace brick that is determined to be unsound and beyond reuse. Replacement brick must match the existing brick so as not to alter the historic appearance of the building surfaces.

B. MASONRY REPOINTING: It is the intent of this specification to create sound, weathertight joints without altering the historic appearance of the brick surfaces.

C. MASONRY SEALANT: It is the intent to seal the brick both new and existing to prevent further deterioration. The sealer must be applied without altering the historic appearance of the brick surfaces.

3.3 PREPARATION

A. Protect elements surrounding the work of this Section from damage or

disfiguration.

B. Carefully remove and store fixtures, fittings, finishing hardware, and accessories.

C. Close off, seal, mask, and/or board up areas, materials, and surfaces not receiving work of this Section to protect from damage. Seal off exterior of all windows and doors affected by this work.

D. Construct dust-proof and weather-proof partitions or enclosures to protect the public.

E. Provide sand or waterproof dams to divert flowing water to exterior drains if necessary.

3.4 GENERAL PROCEDURES FOR MASONRY RESTORATION

A. Test areas will be designated by Owner to test chemicals, techniques, and procedures required to clean masonry, remove mortars, and repoint masonry joints.

B. Clean masonry surfaces to achieve desired result (as determined by Owner) prior to performing repointing of masonry.

3.5 CLEANING EXISTING MASONRY

A. No mechanical or abrasive techniques will be permitted.

B. Use cleaning detergents and/or chemicals in strict accordance with manufacturer's instructions and environmental regulations.

C. Clean designated exposed masonry surfaces of atmospheric dirt, mildew, efflorescence, carbon stains and excess mortar, so as to restore masonry surfaces to a condition closer to their original appearance as directed by Owner. It is the intent of this procedure to remove excess dirt and discoloration, but not to attempt to make the building look new. Only cleaningwhich does not damage the existing masonry will be employed.

D. The gentlest means necessary to achieve acceptable results shall be used for each masonry surface and each condition, using the following steps, in order:

STEP #1 CLEANING WITH WATER: Apply a gentle, steady water wash over masonry surfaces using approximately 60 psi of water. Allow water to run over surface until dirt is loosened and begins to dissolve. Follow gentle wash with a high pressure wash not to exceed 600 psi, and being careful not to damage masonry or mortar. Protect openings as necessary.

STEP #2 CLEANING WITH MILD DETERGENT: Apply a mild solution of warm water and a gentle, non-ionic masonry detergent additive and scrub with a natural bristle brush. Rinse with water pressure not in excess of 600 psi. Protect openings as necessary.

STEP #3 CHEMICAL CLEANING: If above options do not achieve acceptable results (as determined by Architect), proceed with chemical cleaning of masonry surfaces using Sure Klean Restoration Cleaner and the following procedures and following all safety precautions stipulated by manufacturer:

1. Protect all surrounding window glass, aluminum, painted surfaces and foliage with polyethylene or other proven protective material.

2. Pre-wet surface to be cleaned with clean water.

3. Dilute chemicals to the greatest extent possible, while still achieving satisfactory results.
4. Apply the cleaning solution liberally to the masonry surface using low pressure spray (50 PSI), roller, or brush.

5. Allow the cleaning solution to remain on the surface for 3 to 5 minutes. Reapply. Light scrubbing of the surface will improve cleaning results especially where high pressure rinsing equipment is not available.

6. Rinse the treated area thoroughly being sure that water pressure used does not cause damage to the masonry (water pressure shall not exceed 600 PSI). Rinse from bottom of treated area to top, covering each section of surface with a concentrated stream of water.

7. To avoid streaking on vertical walls, care should be taken to keep wall surface immediately below area being cleaned wet and rinsed free of cleaner rundown residues.

8. Do not apply restoration cleaner with high pressure spray. Such application will drive the chemicals deep into the surface, making it difficult to rinse completely. Discoloration of the surface may result.

9. Cleaning process shall be repeated where necessary and as directed by Architect to remove concentrated staining.

STEP#4 STRONGER CHEMICAL CLEANING: If above steps do not achieve acceptable results (as determined by Architect), follow same procedures using Sure Klean Heavy Duty Restoration Cleaner or other approved and appropriate cleaning agents.

3.6 CLEANING NEW MASONRY

A. Verify mortar is fully set and cured.
B. Clean surfaces and remove large particles with wood scrapers, brass or nylon wire brushes.

C. Saturate masonry with clean water and flush loose mortar and dirt.
D. Scrub walls with non-acidic type detergent solution using stiff brush.
E. Thoroughly rinse and wash off cleaning solution, dirt, and mortar crumbs using clean, pressurized water.

3.7 REPOINTING

A. Cut out mortar in designated masonry joints to sound original mortar, or to a depth that is equal to 2-1/2 times the width of the joint, whichever is greater.

B. Remove old joint compounds, sealants, and patching materials taking special care not to damage masonry surfaces. Any chemical means for removal of sealants must not damage brick in any way and must be approved by Architect prior to execution.

C. For raking out mortar joints, utilize only those tools which will cause the least amount of damage to masonry. Power tools may be used only where it can be demonstrated that there is no damage to masonry units.

D. Remove mortar from both surfaces of adjacent masonry and cut square at the back of the joint.

E. Employ a regulated and light application of compressed air to clean masonry dust and debris.

F. Pre-moisten joint and apply pointing mortar. Pack tightly in maximum 1/4 inch layers. Leave a smooth, compact joint which matches the joint profile of original joints.
G. Masonry surrounding joint shall be left in a clean condition following repointing. Each worker shall be responsible for ensuring that his/her area is clean of excess

mortar at the end of each day. No overall masonry cleaning shall be necessary at the end of the job.

1. A dry natural bristle brush may be used to remove excess mortar from masonry surfaces during repointing.

2. Finished mortar joint shall match existing (original) tooling as determined by Architect.

3. Following tooling of the joints, a wet sponge or brush may be used to wipe off excess mortar.

H. Moist cure for 72 hours.

I. Where called for and required, apply joint sealant as follows:

1. Ratio of joint width to sealant depth should be about 2 to 1 as recommended by sealant manufacturer.

2. Use appropriate backer rod for wide, deep joints and polyethylene tape for joints or cracks too shallow to allow foam rod.

3. Prepare joints as stated above. Provide clean, sound substrate for optimum sealant adhesion. Apply primer as recommended by manufacturer.

4. Mask joint to assure neat sealant lines. Tooling should be completed in one continuous stroke immediately after sealant application and before skin forms. Masking should be removed immediately after tooling. Set sand in sealant as necessary to match original mortar joint.

5. Follow manufacturer's recommendations for method of application.

J. When all stabilizing, repair and repointing of brick have been completed, and loose and non-original mortar has been removed, wash entire wall down as required to remove all grime, dirt, residual particles, excess mortar, etc. Do not use any chemicals or cleaning methods that will alter the appearance or integrity of masonry or mortar joints.

3.8 BRICK REPAIR AND REPLACEMENT

A. Cut out mismatched, damaged and deteriorated brick masonry with care in a manner to prevent damage to any adjacent remaining materials. Remove obsolete anchors and fasteners.

B. Needle, shore, or support structure as necessary in advance of cutting out units.

C. Cut away loose or unsound adjoining masonry and mortar as directed to provide firm and solid bearing for new work.

D. Build in new or reclaimed masonry units.

E. Mortar mix: Colored to match existing and adjacent work.

F. Ensure that anchors, ties, reinforcing, and flashings are correctly located and built-in.

G. Build-in masonry work to match and align with existing, with joints and coursing true and level, faces plumb and in line. Build-in all openings, accessories, and fittings.

H. Where brick veneer or face brick has become detached from substrate or is out of plumb, portions of wall (as determined by Owner) shall be disassembled and rebuilt to restore the brick to its original condition and structural integrity.

3.9 SEALANT

D. Test a minimum 4 ft. by 4 ft. area on each type of masonry. Use the manufacturer's application instructions. Let test area protective treatment cure before inspection. Keep test panels available for comparison throughout the protective treatment project.

E. Application

1. Before applying, read "Preparation" and "Safety Information" sections in the Manufacturer's Product Data Sheet for Weather Seal Siloxane WB Concentrate. Refer to the Product Data Sheet for additional information about application and dilution rates of Weather Seal Siloxane WB Concentrate.

2. Dilute with clean, potable water only. Mixing vessels must be clean, dry and free of contaminants. When added to water, Siloxane WB turns milky white. Mix lightly to produce a uniform consistency. One gallon of Siloxane WB concentrate produces up to 20 gallons of water repellent (on dense vertical surfaces). Always test for most appropriate coverage rates.

3. Siloxane WB is most effective when prepared solutions are applied within 8 hours of dilution, and must be applied within 24 hours of dilution.

4. Dilution Ratios
   Vertical Surfaces - 1 part concentrate : 9 parts water
   Horizontal Surfaces - 1 part concentrate : 7 parts water

F. Application Instructions

1. For best results, apply wet-on-wet to a visibly dry and absorbent surface.

2. Vertical Application Instructions:

   Spray**:** Saturate from the bottom up, creating a 4 to 8 inch (15 to 20 centimeter) rundown below the spray contact point. Let the first application penetrate for 2-3 minutes. Re-saturate. Less material will be needed for the second application.

   Brush or roller**:** Uniformly saturate the surface. Let diluted protective treatment penetrate for 2 to 3 minutes. Brush out heavy runs and drips that do not penetrate.

3. Horizontal Application Instructions:

   Apply in a single, saturating application. Apply enough to keep the surface wet for 2 to 3 minutes before penetration. Broom out all puddles until they penetrate the surface.

4. Dense Surfaces:

   Apply enough in a single saturating application to completely wet the surface without creating drips, puddles or rundown. Brush out or back roll all runs and drips for uniform appearance. Do not over apply. Over application may cause unacceptable color change. One application is normally enough. Always test for application rate.

5. Protect treated surfaces from rain for 4 hours and from pedestrian and vehicular traffic until visibly dry.

6. Cleanup**:**

   Clean tools and equipment immediately with soap and warm water.

3.9 SCHEDULE

A. Masonry Cleaning: Exterior brick surfaces: 100%.
B. Raking out and repointing of masonry joints: 100%
C. Brick Replacement: As needed.

D. Rebuilding of both brick chimneys. (Provide through-flashing and reglets for counterflashing at base of chimneys). Salvage and re-use bricks, if possible.

E. Caulking of all joints between dissimilar materials as required and as directed.
F. Sealant: Exterior Brick Surfaces: 100%

END OF SECTION

SECTION 06 1000

CARPENTRY

PART I – GENERAL

1.1 SCOPE OF WORK

A. General: Provide all labor, materials, equipment, and services required to complete wood trim restoration/replacement in-kind as specified herein, and required by existing conditions and authorities having jurisdiction.

B. Wood trim restoration may include, but is not limited to, the following:

1. Restore/replace in-kind damaged or missing wood trim while maintaining current profiles.

. 2. Epoxy consolidate trim where possible deteriorated wood rafter ends, eave boards, rake boards etc.

C. Intent: It is the specific intent of this Section that repairs will maximize the retention of historic fabric.

1.2 QUALITY ASSURANCE

A. The Contractor performing the work of this Section shall have demonstrated experience approved by the Owner, ideally a minimum of ten years experience in the repair of wood trim and shall have successfully completed at least three projects of similar size and scope of work within the previous three years. Submit examples of previous similar repair projects completed within the previous three years. He/she shall demonstrate a working knowledge of The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings.

B. Laws, Codes, and Regulations: All work of this Section shall comply with all applicable federal, state, and local laws, codes, and regulations.

1.3 CONTRACTOR RESPONSIBILITY

A. Bidders shall visit the site beforehand to make themselves familiar with specific conditions relating to this Section.

B. Comply with relevant ASTM standards for all materials.

C. All Subcontractors are bound by the same requirements as the Contractor. Subcontractors shall not begin work unless approved by the Owner.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle all products and materials to prevent damage, deterioration, or degradation and intrusion of foreign material.

B. Discard and remove from site deteriorated or contaminated materials and products that have exceeded their expiration dates. Replace with fresh materials.

1.5 PROJECT CONDITIONS

A. Protection of Persons: Take all necessary precautions to protect all persons, whether engaged in work of this Section or not, from all hazards of any kind associated with the work of this Section.

B. Protection of Building: Protect building elements and finishes from damage or deterioration caused by work of this Section. Repair any damage to materials or finishes to Owner's satisfaction at no additional cost.

1. Take all necessary precautions to prevent fire and spread of fire.

2. Take all necessary precautions to protect building elements and finishes from damage by precipitation during work of this Section.

C. Coordination: Coordinate work of this Section with work specified in other sections to ensure proper completion of the Work. Every effort shall be made to accommodate the needs of RIDEM staff in relation to scheduling.

1.6 ENVIRONMENTAL CONDITIONS

A. General: Perform work only when temperature of products being used, temperatures of existing and new materials, and air temperature and humidity comply with product manufacturer's requirements and requirements of this Section. In case of conflict, the most stringent requirements shall govern.

B. Use of Epoxy Resins: Mix and apply epoxy resins only when temperatures are between 50 deg F and 80 deg F.

1.7 LEAD-CONTAINING PAINT (LCP)

A. General: Perform all work that disturbs lead-containing paint (LCP), handle all material that involves lead-containing paint, and transport and dispose of all lead-containing paint and residue in compliance with all applicable federal, state, and local laws and regulations for identification, removal, labeling, handling, containerization, transportation, and disposal of lead-containing material including, but not limited to, those referenced herein.

B. U.S. Department of Labor OSHA Regulations: Including but not limited to: Title 29, Code of Federal Regulations (CFR) Section 1926.62: "Lead Exposure in Construction" and Title 29, CFR Section 1910.1200: "Hazard Communication Standard."

C. U.S. Environmental Protection Agency (USEPA) Regulations: Including but not limited to: Title 40 CFR Part 262: "Standards Applicable to Generators of Hazardous Waste" and Part 263: "Standards Applicable to Transporters of Hazardous Waste."

D. U.S. Department of Transportation (USDOT) Regulations: Including but not limited to: 49 CFR Parts 172, 173, 174, 175, 177, 178, 179, and 180.

PART 2 - MATERIALS

2.1 GENERAL

A. Grade and Quality: Materials shall conform to requirements of this Section and shall be new, free from defects, and of recent manufacture.

B. Manufacturer's Instructions: Comply with material manufacturers' instructions for use of products (including surface preparation, mixing, applying, drying, etc.). In case of conflict with requirements of this Section, the more stringent requirements shall govern.

2.2 WOOD

A. Lumber shall be of sound stock, solid wood without finger joints or other joints within members, thoroughly seasoned, and kiln-dried to a moisture content not exceeding 8 percent.

B. Wood shall be free from defects or blemishes on surfaces exposed to view that will show after paints and finishes have been applied. Materials that do not comply with specifications for quality and grade, are in any way defective, or are otherwise not in proper condition will be rejected.

C. Wood for Repairs of Existing Elements shall match profile and grade of existing trim in species, quality, cut, and grain pattern in kind.

D. Preservative treatment shall be used for new wood after machining.

2.3 ADHESIVES

A. Adhesive for Dutchman Repairs, Member Replacement, and Fabrication: Epoxy resin glue designed for use with wood. Provide West System as manufactured by Gougeon Brothers, Inc., 706 Martin Street, Bay City, Michigan 48706 or approved equivalent. Provide the following materials: 105 Resin and 206 Slow Hardener or approved equivalent.

2.6 PAINTING AND FINISHING MATERIALS

A. General: Paint shall be of premium quality and match existing color exactly unless otherwise specified and shall comply with requirements of contract document. Primer shall be either oil-based or 100% acrylic and finish paint shall be 100% acrylic.

2.7 HARDWARE RESTORATION MATERIALS

A. Non-metallic Cleaning Pads: Scotch-Brite pads, extra fine, manufactured by 3M Co., or approved equal.

B. Wadding Cloth: "Never-Dull Magic Wadding Polish," manufactured by The George Basch Co., Inc., 19 Hanse Avenue, P.O. Box 188, Freeport, NY 11520, or approved equal.

C. Paste Wax for Cold Application: White or clear paste wax, mixtures of microcrystalline wax, carnuba wax, and mild solvent, in paste form, such as Trewax clear, or Butcher's Bowling Alley Paste Wax available from

White Diamond Co., Marlboro, MA. Do not use emulsion-type waxes or amber-tinted waxes.

D. Thinner: Mineral spirits or turpentine.

E. Lacquer: Clear, non-yellowing, acrylic emulsion, water-based coating, formulated with corrosion inhibitor benzotriazole, such as #11650 Eco-Borne clear lacquer as manufactured by G.J. Nikolas & Co., Inc., 2800 Washington Blvd., Bellwood, IL 60104 (708) 544-0320, or approved equal.

2.8 FABRICATION OF TRIM

A. Coordinate dimensions with actual measurements of trim sections being replaced to match in kind.

B. Fabricate components to match originals in kind.

PART 3 - EXECUTION

3.1 SAFETY

A. Protection: Protect people, adjoining building surfaces, collections and landscape elements, et al from injury resulting from trim restoration work. Use drop cloths or other coverings as necessary to protect interior finishes, floor and collections and exterior landscape material from dust and debris, etc.

3.2 INSPECTION AND DOCUMENTATION

A. Examine the areas and conditions where trim restoration is to be executed. Take all necessary field measurements. Notify the Owner of conditions detrimental to the proper and timely completion of Work. Do not proceed until unsatisfactory conditions are corrected.

B. General: Document all elements of trim to be restored for work of this Section, all elements adjacent to elements that are to be removed, and all other elements that will be in any way affected by work of this Section. Show overall trim elements and details of all damage or deterioration that might be considered as resulting from work of this Section. Key all notes to photographs to, clearly identifying portions of existing elements included in each photograph.

3.3 REMOVALS

A. General: Remove all trim components that require removal for restoration.

1. Identify and label each component that is to be removed and repaired. Record numbers and locations of components.

2. Remove adjacent elements as required to modify or replace elements of trim being replaced. Use all care necessary to prevent damage or deterioration of elements removed and elements remaining in place. Restore or replace all elements damaged during work of this Section to Owner’s satisfaction at no additional cost.

3. Store removed elements in a secure location safe from theft, damage, and deterioration.

C. Paint Removal: Paint will be removed from trim as needed in order to insure successful adhesion of new paint.

1. All paint removal shall be executed in compliance with all applicable federal, state, and local regulations.

2. Steam or heat will be used to carefully remove the paint while limiting the damage to the wood substrate.

3.4 DUTCHMAN REPAIR

A. General: Provide dutchman repairs where wood is structurally compromised. Wood repairs will not be made for aesthetic purposes. Dutchman repairs shall provide continuous smooth surfaces matching planes and profiles of wood members being repaired. Dutchman shall match wood being repaired in specie and cut. In wood for clear finish, grain pattern of dutchman shall match grain pattern of wood into which it is inserted.

B. Preparation: Neatly cut out existing opening as required to provide a prismatic void. Wherever possible create voids that will provide mechanical attachments as in dovetails. The amount of wood removed should be minimized but the amount should include all damaged wood and extend just past damaged wood to prevent spread of any fungus contained therein. Cut away area will provide ample glue surface.

C. Dutchman: Cut dutchman to exactly fit void, with exposed portion matching original profile of woodwork and just slightly proud of original surface. Orient grain of dutchman parallel to grain of element being patched. Where deterioration or loss at end of component requires dutchman repair, use a diagonal scarf joint for end-to-end joint between dutchman and remaining portion of component.

D. Installation: Clean glue surfaces with acetone or denatured alcohol. Insert dutchman using specified adhesive and clamp in place until glue is set. Where clamping is not feasible, use small brads; remove brads and fill holes after adhesive has set.

E. Surfacing: Plane or scrape dutchman to provide smooth continuous surface coplanar with adjacent wood. Do not damage or alter profile or finish of adjacent wood.

3.5 COMPONENT REPLACEMENT

A. General: Fabricate new components for any components which are deteriorated in entirety and cannot be repaired with Dutchmen and epoxy.

B. In kind replacement: Except as specifically indicated otherwise, provide replacement elements of same specie with configurations, profiles, dimensions and joinery et al exactly matching those of existing elements.

1. Profiles: Remove coatings from profiles of existing elements before recording profiles to produce molding cutters to match existing profiles.

2. Molding Cutters: Cut custom blades as required to match original profiles and label knifes with project code.

C. Machining and Surfacing: Machine and surface all new and replacement wood elements to provide smooth even surfaces without saw marks or plane marks. Wood with surface irregularities, including but not limited to scratches, saw marks, and plane knife marks, visible after finish has been applied will be rejected and shall be replaced with properly finished wood elements at no additional cost.

3.6 PAINTING

A. General: Paint and finish new and restored elements of trim to match original finishes using products by Benjamin Moore or approved equal. Prime and paint trim according to manufacturer's instructions.

B. Prepare substrates for repairs by hand sanding with 100grit paper.

C. After substrate is sanded, vacuum all surfaces and remove remaining dust with barely damp dust-free cloth. Allow surfaces to dry completely before priming.

D. Apply one coat of alkyd or 100% acrylic primer to all surfaces of the trim including the unexposed end grain.

F. Lightly sand surfaces after the primer has dried and clean of all dust.

G. Apply two topcoats of premium quality 100% acrylic paint to all surfaces. Color to match existing exactly unless otherwise specified.

H. Immediately after installation touch-up any disturbed areas of paint.

3.7 PROTECTION

A. Protect windows from damage or deterioration until time of substantial completion.

END OF SECTION

SECTION 07 3126

SLATE ROOF

PART 1 - GENERAL

1.1 DESCRIPTION

A. All work described herein and related work must conform to the Secretary of Interior's Standards for the Treatment of Historic Properties.

B. The Contractor shall provide all labor, materials, equipment, and operations required to complete the rehabilitation work indicated herein.

C. All work described herein and related work must have the approval of the RI Historical Preservation and Heritage Commission and the RI Department of Environmental Management. Such persons are referred to in this document as the Owner.

D. Slate shingles will be provided and present on site.

1.2 SECTION INCLUDES

A. Replacement of Individual Damaged, Missing or Black Slates

1.3 RELATED SECTIONS

A. Section 07 6200 – Flashing

1.4 REFERENCES

A. Historic Preservation Technical Procedures Standards for Slate Roofing. General Services Administration, 2009. 31 July 2009 <http://w3.gsa.gov/web/p/hptp.nsf>.

B. Work shall conform to: Weeks, Kay D. and Anne E. Grimmer. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings. Washington D.C.: NPS, 1995. 30 July 2009 <http://www.nps.gov/history/hps/tps/standards_guidelines.htm>.

C. As applicable, techniques employed for slate roofs shall be as outlined in: Levine, Jeffery S. Preservation Brief 29: The Repair, Replacement and Maintenance of Historic Slate Roofs. Washington D.C.: TPS 1992. 31 July 2009 < http://www.nps.gov/history/hps/tps/briefs/brief29.htm>.

D. ASTM C406-06e1 Standard Specification for Roofing Slate. West Conshohocken, PA: ASTM International, 2009.

E. ASTM D226-06 Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing West Conshohocken, PA: ASTM International, 2009.

1.5 SUBMITTALS

A. Schedule of Repair: The Contractor shall prepare annotated photographs of the roof areas to be repaired showing which shingles are to be replaced and/or repaired. Review this document on site with the Owner prior to beginning any slate roof repairs.

B. Product Literature: Submit manufacturer's product literature for new slate shingles if applicable.

C. Samples:
The Contractor shall submit the following samples:

1. Used replacement slate shingles: Provide sample of replacement shingle. If slate shingles provided are decided to be of good, sound quality for reuse, the Contractor shall provide samples of several of the slates to insure that they will match the existing Visitor Center roof slates in size, color, thickness

and texture. These shingles must be reviewed and approved by representatives of RIDEM and RIHPHC prior to reuse.

2. New replacement shingles: If provided slate shingles are not deemed appropriate for reuse at the Visitor Center, provide new slate from Vermont Slate Co. or approved equal in a full range of color samples for selection by the Owner to harmonize with the existing roof. Samples are to be of the same size, shape, thickness, and texture as will be used in the work.

3. Fasteners: Submit samples of each type of fastener to be used in slate roofing repairs and reinstallation.

1.7 QUALITY ASSURANCE

A. Work Experience:

1. The Contractor performing the work of this Section shall have demonstrated experience approved by the Owner, ideally a minimum of ten years' experience in the repair and installation of slate shingle roofs and shall have successfully completed at least three projects of similar size and scope of work within the previous three years. Submit examples of previous slate roof repair projects completed within the previous three years. He/she shall demonstrate a working knowledge of The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings.

B. Warranty:

1. Provide slate manufacturer's standard 100-year warranty against delamination and softening of the slate body.

2. Roofing Contractor shall return to the site annually for five years after substantial completion of the roof repairs and inspect the roof for cracking, slippage or other failures in new slate. The Contractor shall repair any such failures in his work at no cost to the Owner.

1.8 MOCK-UPS

A. In the presence of the Owner, all personnel to be assigned to the project shall demonstrate their ability to complete the required work in an acceptable manner. Each mechanic shall remove and replace one slate shingle at a location designated by the Owner. Personnel not completing the sample work in an acceptable manner shall not be permitted to work on the roofing repairs.

1.9 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the site in manufacturer's unopened bundles with the manufacturer's labels intact and product identification visible.

B. Slate materials delivered to the site shall be stored on pallets above grade and protected from the weather. Store slate shingles on edge.

C. The Contractor shall dispose of all packaging, waste materials and construction debris in accordance with local, state and federal environmental regulations. All wood scrap shall be kept separate for recycling. No burning of debris, waste material or trash will be allowed on site.

D. Where possible, slate shingles removed from the roof shall be salvaged for reinstallation. Stockpile salvaged slates in a location designated by the Owner's representative. Store salvaged slates on edge, off the ground, on pallets or dunnage. Do not stack pallets.

1.10 PROJECT / SITE CONDITIONS

A. The Contractor is responsible for protecting existing adjacent materials during the execution of the work. Provide all necessary protection and work procedures to avoid damage to existing material assemblies not a part of the work of this Section. At a minimum, the Contractor shall:

1. Provide sturdy, weather-proof protection at all areas exposed during slate shingle repairs and installation. Do not leave interior spaces exposed to the elements overnight. The Contractor shall

maintain adequate supplies of protective materials on site at all times in the event of sudden weather changes.

2. Protect roof framing during slate shingle installation by limiting imposed loads.
3. Protect new slate shingle roofing by limiting foot traffic over installed slate shingles and ensuring the use of proper soft-soled footwear by all roofing personnel. Use suspended ladders and/or platforms where possible to avoid damage to roof surfaces.
4. Protect roofing and gutters from damage by ladders or work platforms. Keep gutters clear of debris from slate repair work.

B. Provide sturdy barriers around the work area to protect other trades and passers-by. At least one entrance must remain accessible during the course of the work.

C. Contractor shall coordinate roofing work with the work of other trades to minimize delays in the construction process. Coordinate roofing with other work including, but not limited to, exterior finish carpentry, flashing and gutter work and chimney restoration. Schedule roof work to avoid traffic by other trades over newly installed areas.

PART 2 - PRODUCTS

2.1 SLATE SHINGLES

A. Technical Requirements:

1. ASTM C406-05, Grade S1
2. ASTM C120-90 Standard Method of Flexure Testing of Slate: Min. 9000 psi.
3. ASTM C121-90 Standard Test Method for Water Absorption of Slate: 0.25 percent.
4. ASTM C217-85 Standard Test Method for Weather Resistance of Slate: Mx. .002”.

B. Slate shingles shall match the color, shape and texture of the existing shingles to remain. New slate shingles shall be high quality from a reputable quarry. The product will be inspected and approved by the Owner.

C. Shingle dimensions (including face dimensions, exposure and thickness) to match those of the existing shingles to be replaced. Variation in surface face dimensions not to exceed 1/8”.

D. Each shingle shall be pre-punched with two nail holes. Nail holes shall be countersunk to allow nail heads to be set flush with slate surface.

E. The grain of the slate shall run parallel to the length of the shingle. Slates shall be free of knots, knurls, “ribbons,” quartz veins and other defects. Slates with cracks, chipped edges or broken corners exceeding 1 inch will not be accepted.

F. Curvature exceeding 1/8 inch in 12 inches shall be cause for rejection.

2.3 NAILS

A. Nails for fastening slate shingles shall be large-head, smooth shank, #10 solid copper slater’s nails. Verify that nails are long enough to penetrate the lath at least 1/2 inch to 3/4 inch. No ferrous nails are to be used.

1. 3d nails for slates 18 inches long or less.
2. 4d nails for slates 20 inches long or more.
3. 6d nails for slates on hips and ridges.

2.4 ROOFING FELT

A. Roofing felt shall be ASTM D 226-89, Type I or Type II, 30-pound or heavier, unperforated, asphalt saturated felt.

2.5 ACCESSORY MATERIALS

A. New sheet metal for patching nail holes shall be 28 gauge Type 304 dead soft stainless steel coated with 50 percent zinc / 50 percent tin alloy to a thickness of 20 microns.

B. Although some manufacturers recommend roof cements or sealants, use of these products is not acceptable on historic slate roofs and is a sign of an inappropriate repair.

PART 3 - EXECUTION

3.1 GENERAL

A. With proper installation, slate roofs require relatively little maintenance and will last 60 to 125 years or longer depending on the type of slate employed, roof configuration, and the geographical location of the property. The pattern, detailing, and craftmanship of slate roofs are important design aspects of historic buildings; it is important to repair historic slate roofs rather than replace them.

B. Examine all framing, sheathing and lath, where applicable, for any conditions that may affect the repair and reinstallation of the slate shingle roofing. Notify the Architect if any framing and/or decking is found to be unsuitable for roofing.

C. Roofing Contractor to coordinate roof repairs with chimney restoration, flashing and gutter work if required to ensure that eave configurations and shingle projections are suitable to receive new gutter work and that flashing and other items may be installed prior to shingle installation.

D. Roofing Contractor shall transport and store slate in such a way as to avoid overloading the roof framing during the slate shingle installation.

3.2 REMOVAL OF EXISTING SLATES

A. Pull the nails from damaged or mismatched slate shingles using a slate ripper. Gently remove the shingle without damaging the edges of adjacent shingles to remain.

B. Where two or more adjacent shingles must be replaced within the field of the roof, remove additional shingles in the courses above, pyramid-fashion, to minimize the number of bibs required for the replacement shingles.

3.3 REPLACEMENT SLATE INSTALLATION

A. Sound all shingles prior to installation by tapping. All shingles should ring clear. Shingles that rattle or produce a muffled sound when tapped are likely defective and shall not be used.

B. Nails shall not be driven so as to produce strain on slates. Nails shall be driven so that the head is flush with or below the surface of the slate. The slate shall be loose when fully nailed. If this is not executed properly, building movement could draw the nail head through the slate.

C. Spot replacement of damaged, missing or non-matching color slates shall be done using the bib method (also known as “slip flashing”) using copper nails and bibs.

1. Slates are put in place, the nail location marked between the two shingles in the course above and then the slate removed and the nail holes punched. After punching the nail holes, reinstall the slate, nail in place.

2. Cut a sheet metal bib approximately 3 inches wide by 8 inches long and insert under the course above to cover the nail hole in the new slate. Friction from the upper course of slate should hold the bib in place.

D. Replacement ridge slates shall be laid in to match the pattern of the remaining slates. Ridge slates may be rotated 90 degrees and cut to match the width of the field shingles. Nails of the combing slates shall pass through the joints of the slates beneath.

E. Exposed nails at the top courses shall be appropriately covered with ridge tiles. The use of roofing mastic or elastic cements will cause future cracking problems and is not approved.

F. Entire surfaces of all roofs, except as noted, shall be covered with slate in a proper and weatherproof manner. Upon completion, all slates must be sound, whole and clean. The roof must be left watertight and neat in every respect, and subject to the Owner's approval.

G. The Owner shall be furnished with a stock of 2 percent extra slates for future roof repairs.

3.4 FINAL REPORT

A. The Contractor shall submit a final report of the completed repairs including all approved submittals, photographs taken before, during and after construction and written warranty.

B. The Owner shall develop an effective maintenance and repair program for the slate roof that can be retained for future use.

END OF SECTION

SECTION 07 6200

FLASHING

PART I - GENERAL

1.1 DESCRIPTION

A. All work described herein and related work must conform to the Secretary of Interior's Standards for the Treatment of Historic Properties.

B. The Contractor shall provide all labor, materials, equipment, and operations required to complete the rehabilitation work indicated herein.

C. All work described herein and related work must have the approval of the RI Historical Preservation and Heritage Commission and the RI Department of Environmental Management. Such persons are referred to in this document as the Owner.

1.2 SECTION INCLUDES

A. Replacement of chimney flashing, if necessary.

B. Repair/replacement of copper roof cap.

C. Repair/replacement of copper drip edge.

1.3 RELATED SECTIONS

A. Section 04 0120 – Masonry

B. Section 07 3126 – Slate Roofing

C. Section 06 1000 - Carpentry

1.4 REFERENCES

A. Historic Preservation Technical Procedures Standards for Slate Roofing. General Services Administration, 2009. 31 July 2009 <http://w3.gsa.gov/web/p/hptp.nsf>.

B. Work shall conform to: Weeks, Kay D. and Anne E. Grimmer. The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings. Washington D.C.: NPS, 1995. 30 July 2009 <http://www.nps.gov/history/hps/tps/standards_guidelines.htm>.

C. As applicable, techniques employed for slate roofs shall be as outlined in: Levine, Jeffery S. Preservation Brief 29: The Repair, Replacement and Maintenance of Historic Slate Roofs. Washington D.C.: TPS 1992. 31 July 2009 < http://www.nps.gov/history/hps/tps/briefs/brief29.htm>.

D. ASTM C406-06e1 Standard Specification for Roofing Slate. West Conshohocken, PA: ASTM International, 2009.

E. ASTM D226-06 Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing West Conshohocken, PA: ASTM International, 2009.

1.5 SUBMITTALS

A. Schedule of Repair: The Contractor shall prepare annotated photographs of the roof areas to be repaired showing where flashing, drip edge, roof cap are to be replaced and/or repaired. Review this document on site with the Owner prior to beginning any slate roof repairs.

B. Samples:
The Contractor shall submit the following samples:

1. Flashing – All copper to be minimum 16 ounce copper. Ridge cap flashing to should be repaired if possible or if necessary replaced in-kind to match exactly the existing. Samples of both should be provided for review and approval.

2. Fasteners: Submit samples of each type of fastener to be used in flashing repairs and reinstallation. All fasteners to be copper or Stainless steel. No galvanized nails will be approved for use.

1.7 QUALITY ASSURANCE

A. Work Experience:

1. The Contractor performing the work of this Section shall have demonstrated experience approved by the Owner, ideally a minimum of ten years experience in the repair and installation of flashing for slate shingle roofs and shall have successfully completed at least three projects of similar size and scope of work within the previous three years. Submit examples of previous slate roof repair projects completed within the previous three years. He/she shall demonstrate a working knowledge of The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings.

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the site in manufacturer's unopened bundles with the manufacturer's labels intact and product identification visible.

B. The Contractor shall dispose of all packaging, waste materials and construction debris in accordance with local, state and federal environmental regulations. All wood scrap shall be kept separate for recycling. No burning of debris, waste material or trash will be allowed on site.

1.10 PROJECT / SITE CONDITIONS

A. The Contractor is responsible for protecting existing adjacent materials during the execution of the work. Provide all necessary protection and work procedures to avoid damage to existing material assemblies not a part of the work of this Section. At a minimum, the Contractor shall:

1. Provide sturdy, weather-proof protection at all areas exposed during slate shingle repairs and installation. Do not leave interior spaces exposed to the elements overnight. The Contractor shall maintain adequate supplies of protective materials on site at all times in the event of sudden weather changes.

2. Protect roof framing during slate shingle installation by limiting imposed loads.

3. Protect new slate shingle roofing by limiting foot traffic over installed slate shingles and ensuring the use of proper soft-soled footwear by all roofing personnel. Use suspended ladders and/or platforms where possible to avoid damage to roof surfaces.

4. Protect roofing from damage by ladders or work platforms while installing or repairing flashing.

B. Provide sturdy barriers around the work area to protect other trades and passers-by. At least one entrance must remain accessible during the course of the work.

C. Contractor shall coordinate flashing work with the work of other trades to minimize delays in the construction process. Coordinate with other work including, but not limited to, exterior finish carpentry, slate roofing and gutter work and chimney restoration. Schedule roof work to avoid traffic by other trades over newly installed areas.

PART 2 - PRODUCTS

2.1 FLASHING

A. All flashing should be a minimum 16 ounce copper.

B. Ridge flashing, if necessary, shall be a minimum 16 ounce copper to match the existing in size, shape and profile.

C. Chimney flashings shall be a minimum 16 ounce copper. Step flashings are to lie on the roof four inches and extend up any vertical surface a minimum of four inches.

D. All copper is to be uncoated red copper.

E. All fasteners are to be galvanically compatible.

PART 3 – EXECUTION

3.1 GENERAL

A. Contractor shall conduct thorough survey of the existing roof flashings including chimney flashing, cap flashing and drip edge, to identify any deteriorated, missing or damaged flashing. The Contractor shall report his findings to the architect by providing a roof plan with the location of slates/flashing to be replaced.

B. Examine all framing, sheathing and lath, where applicable, for any conditions that may affect the repair and reinstallation of the flashing. Notify the Owner if any framing and/or decking is found to be unsuitable.

C. Roofing Contractor to coordinate flashing repairs/replacement with chimney restoration, roofing and cornice work if required to ensure that flashing and other items are installed properly prior to shingle installation.

D. Flashing inspection, repair and/or replacement should be done carefully so as not to damage any existing slate shingles to remain. Any slates damaged unnecessary during the installation or repair of the flashing will be the responsibility of the Contractor.

3.3 REPLACEMENT FLASHING

A. Nails shall not be driven so as to produce strain on slates. Nails should be located between the slates and hit sound surface. Nails should be long enough to insure the flashing is securely in place and nails will not work themselves out.

B. Crimp all exposed ends at each gable before installation.

C. Flashings should finish in reglets in the masonry. The flashing should be turned into the reglet the full depth and should be turned back to form a hook. After the flashing is in place the reglet should be filled caulked, using molten lead on flat surfaces, and lead wool on vertical surfaces. After caulking the reglet should be made smooth by filling with elastic cement.

D. Step flashings should be used where vertical surfaces occur in connection with slopes. They should be formed of separate pieces built into the masonry. Steps should generally be 3", but should in no case be less than 2", and should not be soldered. Lap joints should be vertical.

E. The use of roofing mastic or elastic cements will cause future cracking problems and is not approved.

3.4 FINAL REPORT

A. The Contractor shall submit a final report of the completed repairs including all approved submittals, photographs taken before, during and after construction and written warranty.

B. The Owner shall develop an effective maintenance and repair program for the slate roof that can be retained for future use.

END OF SECTION

SECTION 08 5200

WOOD WINDOWS

PART 1 GENERAL

1.1 SCOPE OF WORK

A. General: Provide all labor, materials, equipment, and services required to complete wood window restoration/replacement in-kind as specified herein, and required by existing conditions and authorities having jurisdiction.

B. Wood window restoration may include, but is not limited to, the following:

1. Restore/replace in-kind damaged and inoperable wood window sash while maintaining current profiles.
2. Replace cracked, broken or missing glass.
3. Remove all deteriorated putty and replace with new.
4. Consolidate and repair deteriorated wood sills, framing members and sash rails and stiles.
5. Replace all broken or deteriorated parting strips.
6. Install bronze interlocking weather stripping on lower sash.
7. Reinstall repaired/new window sash. Fix top sash in place.
8. Clean all glass.
9. Repair or fabricate new to match wood screens.

C. Intent: It is the specific intent of this Section that repairs will maximize the retention of historic fabric while making the windows weather resistant for long-term use and serviceable for cyclical maintenance. If sash are deteriorated beyond repair, replace sash in-kind with wood single glazed sash.

1.2 QUALITY ASSURANCE

A. The Contractor performing the work of this Section shall have demonstrated experience approved by the Owner, ideally a minimum of ten years' experience in the repair and installation of wood windows and shall have successfully completed at least three projects of similar size and scope of work within the previous three years. Submit examples of previous wood window repair projects completed within the previous three years. He/she shall demonstrate a working knowledge of The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings.

B. Laws, Codes, and Regulations: All work of this Section shall comply with all applicable federal, state, and local laws, codes, and regulations.

1.3 CONTRACTOR RESPONSIBILITY

A. Bidders shall visit the site beforehand to make themselves familiar with specific conditions relating to this Section.

B. Comply with relevant ASTM standards for all materials.

C. All Subcontractors are bound by the same requirements as the Contractor. Subcontractors shall not begin work unless approved by the Preservation Manager.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle all products and materials to prevent damage, deterioration, or degradation and intrusion of foreign material.

B. Discard and remove from site deteriorated or contaminated materials and products that have exceeded their expiration dates. Replace with fresh materials.

1.5 PROJECT CONDITIONS

A. Protection of Persons: Take all necessary precautions to protect all persons, whether engaged in work of this Section or not, from all hazards of any kind associated with the work of this Section.

B. Protection of Window Opening: After removal of the sash, all window openings shall be closed with plywood or acrylic panels fitted to each individual window and secured by non-destructive anchoring system. The panel shall be adequately weathertight and not permit any moisture to enter the building.

C. Protection of Building: Protect building elements and finishes from damage or deterioration caused by work of this Section. Repair any damage to materials or finishes to Owner's satisfaction at no additional cost.

1. Take all necessary precautions to prevent fire and spread of fire.

2. Take all necessary precautions to protect building elements and finishes from damage by precipitation during work of this Section. Protect openings at all times. Repair or replace to Owner's satisfaction all building elements and materials damaged by weather resulting from window openings that did not sufficiently exclude weather at no additional cost.

D. Coordination: Coordinate work of this Section with work specified in other sections to ensure proper completion of the Work. Every effort shall be made to accommodate the needs of RIDEM staff in relation to scheduling.

1.6 ENVIRONMENTAL CONDITIONS

A. General: Perform work only when temperature of products being used, temperatures of existing and new materials, and air temperature and humidity comply with product manufacturer's requirements and requirements of this Section. In case of conflict, the most stringent requirements shall govern.

B. Use of Epoxy Resins: Mix and apply epoxy resins only when temperatures are between 50 deg F and 80 deg F.

1.7 LEAD-CONTAINING PAINT (LCP)

A. General: Perform all work that disturbs lead-containing paint (LCP), handle all material that involves lead-containing paint, and transport and dispose of all lead-containing paint and residue in compliance with all applicable federal, state, and local laws and regulations for identification, removal, labeling, handling, containerization, transportation, and disposal of lead-containing material including, but not limited to, those referenced herein.

B. U.S. Department of Labor OSHA Regulations: Including but not limited to: Title 29, Code of Federal Regulations (CFR) Section 1926.62: “Lead Exposure in Construction” and Title 29, CFR Section 1910.1200: “Hazard Communication Standard.”

C. U.S. Environmental Protection Agency (USEPA) Regulations: Including but not limited to: Title 40 CFR Part 262: “Standards Applicable to Generators of Hazardous Waste” and Part 263: “Standards Applicable to Transporters of Hazardous Waste.”

D. U.S. Department of Transportation (USDOT) Regulations: Including but not limited to: 49 CFR Parts 172, 173, 174, 175, 177, 178, 179, and 180.

PART 2 - MATERIALS

2.1 GENERAL

A. Grade and Quality: Materials shall conform to requirements of this Section and shall be new, free from defects, and of recent manufacture.

B. Manufacturer’s Instructions: Comply with material manufacturers’ instructions for use of products (including surface preparation, mixing, applying, drying, etc.). In case of conflict with requirements of this Section, the more stringent requirements shall govern.

2.2 WOOD

A. Lumber shall be of sound stock, solid wood without finger joints or other joints within members, thoroughly seasoned, and kiln-dried to a moisture content not exceeding 8 percent.

B. Wood shall be free from defects or blemishes on surfaces exposed to view that will show after paints and finishes have been applied. Materials that do not comply with specifications for quality and grade, are in any way defective, or are otherwise not in proper condition will be rejected.

C. Wood for New Sash as necessary, Other New Elements, and Repairs of Existing Elements shall match profile and grade of existing windows in species, quality, cut, and grain pattern in kind.

D. Preservative treatment shall be used for new wood after machining.

2.3 ADHESIVES

A. Adhesive for Dutchman Repairs, Member Replacement, and Fabrication of New Sash: Epoxy resin glue designed for use with wood. Provide West System as manufactured by Gougeon Brothers, Inc., 706 Martin Street, Bay City, Michigan 48706 or approved equivalent. Provide the following materials: 105 Resin and 206 Slow Hardener or approved equivalent.

B. Adhesive for glass repair: Provide HXTAL NYL-1 Epoxy adhesive.

2.4 FASTENERS FOR CONSTRUCTION OF WOOD SASH

A. General: All fasteners for construction of new sash shall be stainless steel or nonferrous metal of appropriate size and configuration for use intended and approved by Owner.

2.5. HARDWARE AND ACCESSORIES

A. General: Provide each restored/new window with full complement of hardware and fasteners matching that on original windows. Use salvaged, restored existing hardware insofar as possible and new hardware to match existing hardware where hardware is missing or existing hardware is damaged or deteriorated so as to be unrestorable.

1. Hardware: Reuse or provide new hardware and fasteners to match existing hardware and fasteners in all respects.

A. Sash Lifts: Restore any existing sash lifts insofar as possible and new sash lifts to match existing sash lifts in material, configuration, size, and finish where existing sash lifts are missing or damaged so as to be non-restorable.

B. Sash Locks: Restore any existing sash locks insofar as possible and new sash locks to match existing sash locks in material, configuration, size, and finish where existing sash locks are missing or damaged so as to be non-restorable.

C. Screws for Attaching Restored Existing Hardware: Clean, salvage existing screws insofar as possible. Where screws are missing or damaged so as to be unsalvageable, provide new screws to match existing screws in material, size, and configuration.

2.6 WEATHERSTRIPPING

A. Provide bronze interlocking weatherstripping by Chamberlain of RI or approved equal on lower sash of windows being repaired.

Chamberlain of RI, 160 Greenwich Ave, Warwick RI 02886 (401) 739-2226

2.7 PAINTING AND FINISHING MATERIALS

A. General: Paint shall be of premium quality by Benjamin Moore or approved equal and match existing color exactly unless otherwise specified and shall comply with requirements of contract document. Primer shall be either oil-based or 100% acrylic and finish paint shall be 100% acrylic.

B. Glazing Putty: Putty is to be best quality pure linseed or soybean oil from manufacturer approved by Owner.

2.7 HARDWARE RESTORATION MATERIALS

A. Non-metallic Cleaning Pads: Scotch-Brite pads, extra fine, manufactured by 3M Co., or approved equal.

B. Wadding Cloth: “Never-Dull Magic Wadding Polish,” manufactured by The George Basch Co., Inc., 19 Hanse Avenue, P.O. Box 188, Freeport, NY 11520, or approved equal.

C. Paste Wax for Cold Application: White or clear paste wax, mixtures of microcrystalline wax, carnuba wax, and mild solvent, in paste form, such as Trewax clear, or Butcher’s Bowling Alley Paste Wax available from White Diamond Co., Marlboro, MA. Do not use emulsion-type waxes or amber-tinted waxes.

D. Thinner: Mineral spirits or turpentine.

E. Lacquer: Clear, non-yellowing, acrylic emulsion, water-based coating, formulated with corrosion inhibitor benzotriazole, such as #11650 Eco-Borne clear lacquer as manufactured by G.J. Nikolas & Co., Inc., 2800 Washington Blvd., Bellwood, IL 60104 (708) 544-0320, or approved equal.

2.8 FABRICATION OF NEW SASH

A. Coordinate dimensions with actual measurements of window openings and adjacent construction to match in kind.

B. Fabricate components to match originals in kind.

C. Join moldings to match construction of original sash exactly.

D. Machine sash elements to receive glazing panels. Machine sash elements of movable sash to receive weatherstripping, if appropriate, and hardware.

PART 3 - EXECUTION

3.1 SAFETY

A. Protection: Protect people, adjoining building surfaces, collections and landscape elements, et al from injury resulting from window restoration work. Use drop cloths or other coverings as necessary to protect interior finishes, floor and collections and exterior landscape material from dust and debris, etc.

3.2 INSPECTION AND DOCUMENTATION

A. Examine the areas and conditions where window restoration is to be executed. Take all necessary field measurements. Notify the Owner of conditions detrimental to the proper and timely completion of Work. Do not proceed until unsatisfactory conditions are corrected.

B. General: Document all elements of windows to be restored for work of this Section, all elements adjacent to elements that are to be removed, and all other window elements that will be in any way affected by work of this Section. Show overall window elements and details of all damage or deterioration that might be considered as resulting from work of this Section. Key all notes to photographs to, clearly identifying portions of existing elements included in each photograph.

3.3 REMOVALS

A. General: Remove all window components that require removal for restoration or for proper installation.

1. To minimize breakage, paint lines at the edges of window stops and parting strips must be cut/scribed first with a sharp knife before moldings are removed.

2. All nails will be removed by pulling them through the back of the moldings only.

3. Identify and label each component that is to be removed and repaired for reinstallation with window opening designator and location in jamb. Record numbers and locations of components.

4. Remove adjacent elements as required to modify or replace elements of window jambs, heads, and sills that must be altered to accommodate new window sash. Use all care necessary to prevent damage or deterioration of elements removed and elements remaining in place. Restore or replace all elements damaged during work of this Section to Owner's satisfaction at no additional cost.

5. Store removed elements in a secure location safe from theft, damage, and deterioration.

6. Protect window openings to prevent water entry or human intrusion.

B. Glass Removal: All glass will be removed to accommodate sash restoration.

1. Label each pane of glass with location and orientation within the sash so that the historic glass can be returned to its original location and orientation. Use painters tape to label glass and consistently label on either interior or exterior to avoid confusion at reinstallation.

2. Remove all face glazing compound from each window sash using steam, infrared heat or other approved method.

3. Cracked glass is only to be replaced with prior approval of Owner. Fractured panes should be glued if at all possible, rather than replaced. Any replacement of glass in to be done in kind and all replaced glass is to be dated in corner under glazing for future identification.

C. Paint Removal: All paint will be removed from sash as needed in order to insure successful adhesion of new paint.

1. All paint removal shall be executed in compliance with all applicable federal, state, and local regulations.

2. Steam or heat will be used to carefully remove the paint while limiting the damage to the wood substrate.

D. Hardware Removal: All hardware will be removed as needed in order to restore sash and hardware.

1. Scribe paint around hardware so that removal of hardware does not splinter adjacent wood.

2. Remove paint from hardware so that any screws may be loosened.

3. Tag and retain all hardware and screws.

3.4 DUTCHMAN REPAIR

A. General: Provide dutchman repairs where wood is structurally compromised. Wood repairs will not be made for aesthetic purposes. Dutchman repairs shall provide continuous smooth surfaces matching planes and profiles of wood members being repaired. Dutchman shall match wood being repaired in specie and cut. In wood for clear finish, grain pattern of dutchman shall match grain pattern of wood into which it is inserted.

B. Preparation: Neatly cut out existing opening as required to provide a prismatic void. Wherever possible create voids that will provide mechanical attachments as in dovetails. The amount of wood removed should be minimized but the amount should include all damaged wood and extend just past damaged wood to prevent spread of any fungus contained therein. Cut away area will provide ample glue surface.

C. Dutchman: Cut dutchman to exactly fit void, with exposed portion matching original profile of woodwork and just slightly proud of original surface. Orient grain of dutchman parallel to grain of element being patched. Where deterioration or loss at end of component requires dutchman repair, use a diagonal scarf joint for end-to-end joint between dutchman and remaining portion of component.

D. Installation: Clean glue surfaces with acetone or denatured alcohol. Insert dutchman using specified adhesive and clamp in place until glue is set. Where clamping is not feasible, use small brads; remove brads and fill holes after adhesive has set.

E. Surfacing: Plane or scrape dutchman to provide smooth continuous surface coplanar with adjacent wood. Do not damage or alter profile or finish of adjacent wood.

3.5 COMPONENT REPLACEMENT

A. General: Fabricate new components for any components which are deteriorated in entirety and cannot be repaired with Dutchmen and epoxy.

B. In kind replacement: Except as specifically indicated otherwise, provide replacement elements of same specie with configurations, profiles, dimensions and joinery et al exactly matching those of existing elements.

1. Profiles: Remove coatings from profiles of existing elements before recording profiles to produce molding cutters to match existing profiles.

2. Molding Cutters: Cut custom blades as required to match original profiles and label knifes with project code.

C. Machining and Surfacing: Machine and surface all new and replacement wood elements to provide smooth even surfaces without saw marks or plane marks. Wood with surface irregularities, including but not limited to scratches, saw marks, and plane knife marks, visible after finish has been applied will be rejected and shall be replaced with properly finished wood elements at no additional cost.

3.6 WEATHERSTRIPPING

A. Install on the lower sash at jambs, sill and meeting rail as per manufacturer’s instruction to ensure smooth operation and weathertight closure.

3.7 SASH INSTALLATION

A. General: Install new and restored sash as per contract. At completion of installation, windows shall be

complete with all components and with unblemished paint and finish coats. All operating sash shall operate smoothly over entire height, and weatherstripping, if specified, shall provide weatherproof seal.

B. Sash Hardware: Install any hardware, including sash lifts and sash locks, on restored sash in the same locations as originally. Adjust sash locks for smooth easy operation and firm, secure locking.

C. Wax: Treat unpainted sides of stiles and frame with wax for ease of window operation and wood protection.

3.8 ADJUSTING

A. General: Adjust operating sash and hardware to provide a tight fit at contact points and weatherstripping, if specified, and to provide smooth operation and a weathertight closure. Lubricate hardware and moving parts.

3.9 GLAZING

A. General: Re-glaze all window lites using approved pure linseed oil or soybean oil glazing putty. Glazing points shall be used to set glass.

B. Clean glass prior to glazing with non-ammoniated formula before reinstallation.

3.9 CLEANING

A. Clean interior and exterior surfaces promptly after installation. Take care to avoid damage to historic and protective coatings and finishes.

B. Use only cleaners which do not contain ammonia. Windex, 409 and like products are not acceptable as they accelerate paint film deterioration.

3.10 PAINTING

A. General: Paint and finish new and restored elements of frames and trim to match original finishes and/or as specified by RIDEM contract documents. Prime and paint sash in controlled environment according to manufacturer's instructions.

B. Prepare substrates for repairs by hand sanding with 100grit paper. The sides of the stiles (unpainted edges) of double hung windows do not need to be sanded unless special conditions require it.

C. After substrate is sanded, vacuum all surfaces and remove remaining dust with barely damp dust-free cloth. Allow surfaces to dry completely before priming.

D. Apply water repellant wood preservative to all surfaces of the sash.

E. Apply one coat of alkyd or 100% acrylic primer to all surfaces of the sash including putty beds (shellac based paint cannot be applied over glazing). On all window sash, extend primer and paint 1/16" onto glass to seal glazing. If sash is operable, it is important to paint bottom edge to prevent water intrusion.

F. Lightly sand surfaces after the primer has dried and clean of all dust.

G. Apply two topcoats of premium quality 100% acrylic paint to all surfaces. Color to match existing exactly unless otherwise specified.

H. Immediately after installation touch-up any disturbed areas of paint.

3.11 RESTORATION OF EXISTING HARDWARE

A. General: Remove sash hardware from existing sash to be restored/replaced.

B. Remove lacquer coatings with acetone or lacquer thinner.

C. Strip paint coatings by dipping in chemical paint stripper.

D. After removal of paint and other coatings, thoroughly rinse in appropriate solvent and wipe dry with soft cloths.

E. Replacement Parts: Provide replacement parts, including operating parts and fasteners, matching original parts in metal and alloy, configuration, size, and finish for all missing and damaged parts.

F. Remove scratches and buff surfaces using like metal cleaning and polishing pads and polishing compound as necessary. Do not scratch finish with abrasive pads or wire brushes.

G. Lubricate operating parts.

H. Provide all missing fasteners for hardware. Fasteners must match all visual aspects of existing fasteners.

3.12 PROTECTION

A. Protect windows from damage or deterioration until time of substantial completion.

END OF SECTION

SECTION 08 1700

DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes

1. Furnishing and installation of all mechanical finish hardware necessary for all doors, and hardware as specified herein and as enumerated in hardware sets and as indicated and required by actual conditions at the building. The hardware shall include the furnishing of all necessary screws, bolts, expansion shields, drop plates, and all other devices necessary for the proper application of the hardware.

1.3 REFERENCES

A. Applicable state and local building codes and standards.

B. FIRE/LIFE SAFETY

1. NFPA - National Fire Protection Association

   a. NFPA 70 – National Electric Code
   b. NFPA 80 - Standard for Fire Doors and Fire Windows
   c. NFPA 101 - Life Safety Code
   d. NFPA 105 - Smoke and Draft Control Door Assemblies

C. UL - Underwriters Laboratories

1. UL 10B - Fire Test of Door Assemblies

2. UL 10C - Positive Pressure Test of Fire Door Assemblies

3. UL 1784 - Air Leakage Tests of Door Assemblies

4. UL 305 - Panic Hardware

D. Accessibility

1. ADA - Americans with Disabilities Act

2. Rhode Island Accessibility Code – SBC-14, 15, 16

E. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule

2. Recommended Locations for Builders Hardware

F. ANSI - American National Standards Institute

1. ANSI/BHMA A156.1 - A156.29, and ANSI A156.31 - Standards for Hardware and Specialties

1.4 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1 requirements. Advise engineer within the submittal package of incompatibility or issues.

B. Catalog Cuts: Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.

C. Final Hardware Schedule Content: Submit schedule with hardware sets in vertical format as illustrated by the Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, Include the following information:

1. Door Index; include door number, heading number, and Architects hardware set number.

2. Opening Lock Function Spreadsheet; list locking device and function for each opening.

3. Type, style, function, size, and finish of each hardware item.

4. Name and manufacturer of each item.

5. Fastenings and other pertinent information.

6. Explanation of all abbreviations, symbols, and codes contained in schedule.

7. Mounting locations for hardware.

8. Door and frame sizes and materials.

9. Name and phone number for the local manufacturer's representative for each product.

10. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and/or access control components). Operational description should include how the door will operate on egress, ingress, and/or fire/smoke alarm connection.

D. Key Schedule: After a keying meeting between representatives of the Owner, hardware supplier, and, if requested, the representative for the lock manufacturer, provide a keying schedule, listing the levels of keying, as well as an explanation of the key system's function, the key symbols used, and the door numbers controlled. Utilize ANSI A156.28 “Recommended Practices for Keying Systems” as a guideline for nomenclature, definitions, and approach for selecting the optimal keying system.

E. Templates: After final approval of the hardware schedule, provide templates for doors, frames, and other work specified to be factory prepared for the installation of door hardware.

F. Riser and Wiring Diagrams: After final approval of the hardware schedule, submit riser and wiring diagrams as required for the proper installation of complete electrical, electromechanical, and electromagnetic products.

G. Operations and Maintenance Data: Provide in accordance with Division 1 and include the following:

1. Complete information on care, maintenance, and adjustment; data on repair and replacement

parts, and information on preservation of finishes.

2. Catalog pages for each product.

3. Name, address, and phone number of local representative for each manufacturer.

4. Parts list for each product.

5. Copy of final approved hardware schedule, edited to reflect “As installed.”

6. Copy of final keying schedule.

7. As installed “Wiring Diagrams” for each opening connected to power, both low voltage and 110 volts.

8. One (1) complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

9. Copy of warranties including appropriate reference numbers for manufacturers to identify the project.

H. Certificates of Compliance: Upon request of Owner or Authority Having Jurisdiction certificates of compliance for fire-rated hardware and installation instructions shall be made available.

1.5 QUALITY ASSURANCE

A. Substitutions: Products are to be those specified to ensure a uniform basis of acceptable materials. Requests for substitutions must be made in accordance with Division 1 requirements. If proposing a substitute product, submit product data for the proposed item with product data for the specified item and indicate basis for substitution and savings to be made. Provide sample if requested. Certain products have been selected for their unique characteristics and particular project suitability.

1. Items specified as "no substitute” shall be provided exactly as listed.

2. Items listed with no substitute manufacturers listed have been requested by the Owner or Architect to match existing for continuity and/or future performance and maintenance standards or because there is no known equal product.

3. If no other products are listed in a category, then "no substitute" is implied.

B. Supplier Qualifications: A recognized architectural hardware supplier, with warehousing facilities in the Project's vicinity, that has a record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides a certified Architectural Hardware Consultant (AHC) available to the Ownerand Contractor, at reasonable times during the course of the Work for consultation.

C. Single Source Responsibility: Obtain each type of hardware (latch and locksets, hinges, exit devices, closers, etc.) from a single manufacturer.

D. Fire-Rated Openings: Provide door hardware for fire-rated openings that complies with NFPA Standard No. 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to the authorities having jurisdiction for use on types and sizes of doors indicated in compliance with requirements of fire-rated door and door frame labels.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Tag each item or package separately with identification related to the final hardware schedule, and include installation instructions with each item or package.

B. Each article of hardware shall be individually packaged in manufacturer's original packaging.

C. Contractor will provide secure lock-up for door hardware delivered to the Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

D. Items damaged in shipment shall be replaced promptly and with proper material and paid for by whomever did the damage or caused the damage to occur.

E. Hardware shall be handled in a manner to avoid damage, marring, or scratching. Irregularities that occur to the hardware after it has been delivered to the Project shall be corrected, replaced, or repaired by the Contractor. Hardware shall be protected against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. No direct shipments will be allowed unless approved by the Contractor.

1.7 WARRANTY

A. Provide manufacturer's warrantees as specified in Division 1 and as follows:

1. Closers: 10 years, except electronic closers, 2 years.

2. Exit Devices: 3 years, except electrified devices, 1 year.

3. Locksets: 3 years, except electrified locksets, 1 year.

4. Other hardware: 1 year.

B. No liability is to be assumed where damage or faulty operation is due to improper installation, improper use, or abuse.

C. Products judged to be defective during the warranty period shall be replaced or repaired in accordance with the manufacturer's warranty, at no additional cost to the Owner.

1.8 MAINTENANCE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. The Awarding Authority has determined that certain products should be selected for their unique characteristics and particular project suitability to insure continuity of existing and future performance and maintenance standards. After investigating available product offerings the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: “No Substitute” (NO OTHER PRODUCTS WILL BE CONSIDERED FOR THOSE LISTED IN PROJECTS DOCUMENTS.)

B. Approval of manufacturers other than those listed shall be in accordance with paragraph 1.5.A.

C. Note that even though an acceptable substitute manufacturer may be listed, the product must provide all the functions and features of the specified product or it will not be approved.

Item	Scheduled Manufacturer	Acceptable Substitute
Hinges	Ives (IVE)	Hager, Stanley
Flush Bolts	Ives (IVE)	Burns, Rockwood
Locksets	Falcon (FAL)	Best, Sargent
Exit Devices	Falcon (FAL)	Precision, Sargent
Roller Latches	Ives (IVE)	Burns, Rockwood
Door Closers	FAL (FAL)	Norton, Sargent
Door Trim	Ives (IVE)	Burns, Rockwood
Protection Plates	Ives (IVE)	Burns, Rockwood
Overhead Stops	Glynn-Johnson (GLY)	Rixson, Sargent
Stops & Holders	Ives (IVE)	Burns, Rockwood
Silencers	Ives (IVE)	Burns, Rockwood
Cylinders & Keying	Falcon (FAL)	Best, Sargent
Sliding Door	Pemko/Henderson (HEN)	Or Equal

D. Where the hardware specified is not adaptable to the finished shape or size of the members requiring hardware, furnish suitable types having the same operation and quality as the type specified, subject to the Owner's approval.

2.2 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.

2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work as closely as possible.

3. Provide concealed fasteners for hardware units that are exposed when door is closed except to the extent that no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless their use is the only means of reinforcing the work adequately to fasten the hardware securely. Review door specification and advise Owner if thru-bolts are required.

4. Hardware shall be installed with the fasteners provided by the hardware manufacturer.

B. Hinges

1. Provide five-knuckle, ball bearing hinges of type, material, and height as outlined in the following guide for this specification:

a. 1-3/4 inch thick doors, up to and including 36 inches wide: Exterior: standard weight, bronze/stainless steel, 4-1/2 inches high Interior: standard weight, steel, 4-1/2 inches high
b. 1-3/4 inch thick doors over 36 inches wide:
Exterior: heavy weight, bronze/stainless steel, 5 inches high Interior: heavy weight, steel, 5 inches high
c. 2 inches or thicker doors:
Exterior: heavy weight, bronze/stainless steel, 5 inches high Interior: heavy weight, steel, 5 inches high

2. Provide three hinges per door leaf for doors 90 inches or less in height, and one additional hinge for each 30 inches of additional door height.

3. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

4. The width of hinges shall be 4-1/2 inches at 1-3/4 inch thick doors, and 5 inches at 2 inches or thicker doors. Adjust hinge width as required for door, frame, and/or wall conditions to allow proper degree of opening.

5. Provide mortar guard for each electrified hinge specified.

6. Acceptable manufacturers and/or products: Ives 5BB series, Hager BB series, Stanley FBB Series.

C. Flush Bolts

1. Provide automatic and manual flush bolts with forged bronze face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch steel or brass rods at doors up to 90 inches in height. Top rods at manual flush bolts for doors over 90 inches in height shall be increased by 6 inches for each additional 6 inches of door height. Provide dust-proof strikes at each bottom flush bolt.

2. Acceptable manufacturers and/or products: Ives, Burns, Rockwood.

D. Cylindrical Locks - Grade 1

1. Provide cylindrical locks conforming to ANSI A156.2 Series 4000, Grade 1. Cylinders: Refer to 2.04 KEYING.
2. Provide locks with a standard 2-3/4 inches backset, unless noted otherwise, with a 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.

3. Provide locksets with a separate anti-rotation throughbolts, and shall have no exposed screws. Levers shall operate independently, and shall have two external return spring cassettes mounted under roses to prevent lever sag.

4. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.

5. Lever trim shall be solid cast levers without plastic inserts, and wrought roses on both sides. Locksets shall be thru-bolted to assure proper alignment.

   a. Lever design shall be Falcon QUA-Quantum.
   b. Lever trim on the secure side of doors serving rooms considered by the authority having jurisdiction to be hazardous shall have a tactile warning.

6. Acceptable manufacturers and/or products: Falcon T series, Best 93K series, Sargent 10-Line.

E. Specialty Deadbolts

1. At double exterior surface mounted doors, provide Assa Abloy's "Adams Rite" Heavy Duty Deadbolt #2331, with 1 5/32" diameter mortise cylinder supplied to match other cylinders and keying on the project.

F. Exit Devices - Bar Type

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit and/or Fire Exit Hardware. Cylinders: Refer to 2.04 KEYING.

2. Provide bar type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to the standard architectural finishes to match the balance of the door hardware.

3. Rim and Mortise type devices shall have 3/4 inch throw latch bolt. Surface and Concealed Vertical Rod devices shall have 5/8 inch thrown latch bolts.

4. Mechanism case shall sit flush on the face of all flush doors, or spacers shall be furnished to fill gaps behind devices. Where glass trim or molding projects off the face of the door, provide glass bead kits.

5. Exit devices for fire rated openings shall be UL labeled fire exit hardware.

6. Provide manufacturer's standard strikes.

7. Provide exit devices cut to door width and height. Locate exit devices at a height recommended by the exit device manufacturer, allowable by governing building codes, and approved by the Owner.

8. Removable mullions shall be a 2 inches x 3 inches steel tube. Where scheduled, mullion shall be of a type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.

9. Furnish all necessary wood door kit, and cover plates, for proper installation for the exit device.

10. Exit devices meeting this specification: Falcon XX series, Precision Reliant series, and Sargent 90 Series with guarded latch.

G. Roller Latches

1. Provide roller latches with a 4-7/8 inches strike at single doors to fit ANSI frame prep. If dummy levers are used in conjunction with roller latch mount the roller latch at a height as to not interfere with the proper mounting and height of the dummy lever.

2. Provide roller latches 2-1/4 inches full lip strike at pair doors. Mount roller in the top rail of each leaf per manufacturer's template.

3. Acceptable manufacturers and/or products: Ives, Burns, Rockwood.

H. Door Closers

1. Provide door closers certified to ANSI/BHMA A156.4 Grade 1 requirements by a BHMA certified independent testing laboratory. Closers shall be ISO 9000 certified. Units shall be stamped with date of manufacture code.

2. Door closers shall have fully hydraulic, full rack and pinion action with an aluminum cylinder. Closer body shall be 1-1/2 inch diameter, and heat-treated pinion journal shall be 11/16 inch diameter.

3. Provide hydraulic fluid requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to 10 degrees F. Fluid shall be fireproof and shall pass the requirements of the UL10C "positive pressure" fire test.

4. Spring power shall be continuously adjustable over the full range of closer sizes, and allow for reduced opening force as required by accessibility codes and standards. Hydraulic regulation shall be by tamper-proof, non-critical valves. Closers shall have separate adjustment for latch speed, general speed, and backcheck.

5. Closers shall not incorporate Pressure Relief Valve (PRV) technology.

6. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other finish hardware items interfering with closer mounting.

7. Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Closers shall not be visible in corridors, lobbies and other public spaces unless approved by Owner.

8. Door closers meeting this specification: Falcon SC70 series, Norton 7500 series, Sargent 351 series.

I. Door Trim

1. Provide push plates 4 inches wide x 16 inches high x 0.050 inch thick and beveled 4 edges. Where width of door stile prevents use of 4 inches wide plate, adjust width to fit.

2. Provide push bars of solid bar stock, diameter and length as scheduled. Push bars shall be of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.

3. Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.

4. Provide flush pulls as specified. Where required, provide back-to-back mounted model.

5. Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.

6. Provide pull plates 4 inches wide x 16 inches high x 0.050 inch thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches wide plate, adjust width to fit.

7. Provide wire pulls of solid bar stock, diameter and length as scheduled.

8. Acceptable manufacturers and/or products: Ives, Burns, Rockwood.

J. Protection Plates

1. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch thick as scheduled. Furnish with machine or wood screws, finished to match plates. Sizes of plates shall be as follows:

   a. Kick Plates – 8 inches high x 2 inches less width of door on single doors, 1 inch less width of door on pairs

2. Acceptable manufacturers and/or products: Ives, Burns, Rockwood.

K. Overhead Stops and Overhead Stop/Holders

1. Provide heavy duty concealed mounted overhead stop or overhead stop/holder as specified for exterior and interior vestibule single acting doors.

2. Provide heavy or medium duty and concealed or surface mounted overhead stop or overhead stop/holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140 degrees before striking a wall, open against equipment, casework, sidelights, and/or where conditions do not allow a wall stop or a floor stop presents a tripping hazard.

3. Where overhead holders are specified provide friction type at doors without a closer and

positive type at doors with a closer.

4. Acceptable manufacturers and/or products: Glynn-Johnson, Rixson, Sargent.

L. Door Stops and Holders

1. Provide door stops for all doors in accordance with the following requirements:

   a. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
   b. Where wall stops cannot be used, provide dome type floor stops of the proper height.
   c. At any opening where a wall or floor stop cannot be used, a medium duty surface mounted overhead stop shall be used.

2. Acceptable manufacturers and/or products: Ives, Burns, Rockwood.

M. Sliding Door hardware

1. Provide exterior grade heavy duty hardware stainless steel wherever possible. Galvanized steel is acceptable if stainless steel is not available.

2. Provide locking hardware appropriate for each application. Provide a minimum of a hasp for a deadbolt.

N. Silencers

1. Provide "Push-in" type silencers for each hollow metal or wood frame. Provide three for each single frame and two for each pair frame. Omit where gasketing is specified or required by code.

2. Acceptable manufacturers and/or products: Ives, Burns, Rockwood.

2.3 FINISHES

A. Finish of all hardware shall be US26D (BHMA 626/652) with the exceptions as follows:

1. Hinges at Exterior Doors: US32D (BHMA 630).

2. Push Plates, Pulls, and Push Bars: US32D (BHMA 630).

3. Protection Plates: US32D (BHMA 630).

4. Exterior Overhead Stops and Holders: US32D (BHMA 630).

5. Interior Overhead Stops and Holders: Powder Coat to Match.

6. Door Closers: Powder Coat to Match.

2.4 KEYING

A. Provide a new key system from the same manufacturer as the locks conforming to the following requirements:

1. Provide removable core cylinders at all keyed devices, locksets, exit device trim. Provide construction cores with construction master keying for use during construction. The hardware supplier, accompanied by the Owner or Owner's security agent, shall install permanent keyed cores upon completion of the project. The temporary construction cores are to be returned to the hardware supplier.

2. Provide permanent cores and cylinders keyed by the manufacturer or authorized distributor as directed by the Owner. Provide owner with a copy of the bitting list, return receipt requested.

3. The hardware supplier, accompanied by a qualified factory representative for the manufacturer of the cores and cylinders, shall meet with Owner to review keying requirements and lock functions prior to ordering finish hardware. Submit a keying schedule to Owner for approval.

4. Provide cores and cylinders, unless noted otherwise, operated by a Master Key System to be established for this project. Allow for two-hundred changes under the master key. All cylinders shall be keyed in alike or different sets as noted by their respective key set number. Do not use the letter "I" or “O” in the master key set.

5. Provide keys as follows

   a. Ten master keys for each set.
   b. Three keys per core and/or cylinder.
   c. Two construction core control keys
   d. Two permanent core control keys
   e. Six construction master keys for each type (Contractor is to provide one set of construction keys to Owner)

6. Visual key control:

   a. Keys shall be stamped with their respective key set number and stamped “DO NOT DUPLICATE".
   b. Master keys shall be stamped with their respective key set letters.
   c. Do not stamp any keys with the factory key change number.
   d. Do not stamp any cores with key set on face (front) of Core. Stamp on back or side of cores so not to be visible when core is in cylinder.

7. Deliver master keys, change keys, and/or key blanks from the factory or authorized distributor directly to the Owner in sealed containers, return receipt requested. Failure to comply with these requirements may be cause to require replacement of all or any part of the keying system that was compromised at no additional cost to the Owner.

8. Approved products: Falcon, Best, Sargent.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to installation of any hardware, examine all doors, frames, walls and related items for conditions that would prevent proper installation of finish hardware. Correct all defects prior to proceeding with installation.

3.2 INSTALLATION

A. Coordination:

   1. Prior to installation of hardware, schedule and hold a meeting for the purpose of instructing installers on proper installation and adjustment of finish hardware. Representatives of locks, exit devices, closers, automatic operators, and electrified hardware shall conduct training; provide at least 10 days notice to representatives. After training, a letter of compliance indicating when the training was held and who was in attendance, shall be sent to the Owner.

B. Hardware will be installed by qualified tradesmen, skilled in the application of commercial grade hardware. For technical assistance if necessary, installers may contact the manufacturer’s rep for the item in question, as listed in the hardware schedule.

C. Mount hardware units at heights indicated in “Recommended Locations for Builders Hardware for Standard Steel Doors and Frames” by the Door and Hardware Institute.

D. Install each hardware item in compliance with the manufacturer’s instructions and recommendations, using only the fasteners provided by the manufacturer.

E. Do not install surface mounted items until finishes have been completed on the substrate. Protect all installed hardware during painting.

F. Set units level, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.

G. Operating parts shall move freely and smoothly without binding, sticking, or excessive clearance.

3.3 ADJUSTING, CLEANING, AND DEMONSTRATING

A. Adjust and check each operating item of hardware and each door, to insure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly.

B. Where door hardware is installed more than one month prior to acceptance or occupancy of a space or area, return to the installation during the week prior to acceptance or occupancy and make a final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.

C. Clean adjacent surfaces soiled by hardware installation.

D. Instruct Owner’s personnel in the proper adjustment, lubrication, and maintenance of door hardware and hardware finishes.

3.4 FIELD QUALITY CONTROL

A. Prior to Substantial Completion, the installer, accompanied by representatives of the manufacturers of locks, exit devices, closer, and any electrified hardware, shall perform the following work:

1. Examine and re-adjust each item of door hardware as necessary to restore function of doors and hardware to comply with specified requirements.
2. Consult with and instruct Owner’s personnel in recommended additions to the maintenance procedures.
3. Replace hardware items that have deteriorated or failed due to faulty design, materials, or installation of hardware units.
4. Prepare a written report of current and predictable problems of substantial nature in the performance of the hardware.
5. At completion of project, a qualified factory representative for the manufacturers of locksets, closer, exit devices, and access control products shall arrange and hold a training session to instruct the Owner’s personnel on the proper maintenance, adjustment, and/or operation of their respective products. After training a letter of compliance, indicating when the training was held and who was in attendance, shall be sent to the Owner.

3.5 PROTECTION

A. Provide for the proper protection of complete items of hardware until the Owner accepts the project as complete. Damaged or disfigured hardware shall be replaced or repaired by the responsible party.

END OF SECTION

SECTION 09 0190

MAINTENANCE REPAINTING

PART I - GENERAL

1.1 SUMMARY

A. Section includes maintenance repainting as follows:

1. Removing existing exterior paint as needed.
3. Repainting/Painting exterior carpentry as needed.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of paint system and each pattern, color, and gloss.

1. For each painted color being matched to a standardized color-coding system, include the color chips from the color-coding-system company with Samples.
2. Label each Sample for location and application.

1.3 INFORMATIONAL SUBMITTALS

A. Color Matching Certificate: For computer-matched colors.

PART 2 - PRODUCTS

2.1 PREPARATORY CLEANING MATERIALS

A. Water: Potable.

B. Hot Water: Water heated to a temperature of 140 to 160 deg F.

C. Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium pyrophosphate (TSPP), 1/2 cup of laundry detergent that contains no ammonia, 5 quarts of 5 percent sodium hypochlorite bleach, and 15 quarts of warm water for every 5 gal. of solution required.

D. Mildewcide: Commercial proprietary mildewcide or a job-mixed solution prepared by mixing 1/3 cup of household detergent that contains no ammonia, 1 quart of 5 percent sodium hypochlorite bleach, and 3 quarts of warm water.

2.2 PAINT REMOVERS

A. Alkaline Paste Paint Remover: Manufacturer's standard alkaline paste or gel formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project; and containing no methylene chloride.

B. Low-Odor, Solvent-Type Paste Paint Remover: Manufacturer's standard low-odor, water rinseable, solvent-type paste, gel, or foamed emulsion formulation for removing paint from masonry, stone, wood, plaster, or metal as required to suit Project; and containing no methanol or methylene chloride.

2.3 PAINT, GENERAL

A. Material Compatibility:

1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for

use in paint system and on substrate indicated.

B. Colors: Match existing.

2.4 PAINT MATERIALS, GENERAL

A. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.

B. Transition Coat: Paint manufacturer's recommended coating for use where a residual existing coating is incompatible with the paint system.

PART 3 – EXECUTION

3.1 MAINTENANCE REPAINTING, GENERAL

A. Execution of the Work: In repainting surfaces, disturb them as minimally as possible and as follows:
1. Remove failed coatings and corrosion and repaint.
2. Verify that substrate surface conditions are suitable for repainting.
3. Allow other trades to repair items in place before repainting.

B. Heat Processes: Do not use torches, heat guns, or heat plates.

3.2 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of painting work. Comply with paint manufacturer's written instructions for inspection.

B. Maximum Moisture Content of Substrates: Do not begin application of coatings unless moisture content of exposed surface is below the maximum value recommended in writing by paint manufacturer and not greater than the following maximum values when measured with an electronic moisture meter appropriate to the substrate material:
1. Concrete: 12 percent.
2. Gypsum Board: 12 percent.
3. Masonry (Clay and CMU): 12 percent.

C. Alkalinity: Do not begin application of coatings unless surface alkalinity is within range recommended in writing by paint manufacturer. Conduct alkali testing with litmus paper on exposed plaster, cementitious, and masonry surfaces.

3.3 PREPARATORY CLEANING

A. General: Use the gentlest, appropriate method necessary to clean surfaces in preparation for painting. Clean all surfaces, corners, contours, and interstices.

B. Detergent Cleaning: Wash surfaces by hand using clean rags, sponges, and bristle brushes. Scrub surface with detergent solution and bristle brush until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet. Rinse with water applied by clean rags or sponges.

C. Solvent Cleaning: Use solvent cleaning to remove oil, grease, smoke, tar, and asphalt from painted or unpainted surfaces before other preparation work. Wipe surfaces with solvent using clean rags and sponges. If necessary, spot-solvent cleaning may be employed just prior to commencement of paint application, provided enough time is allowed for complete evaporation. Use clean solvent and clean rags for the final wash to ensure that all foreign materials have been removed. Do not use solvents, including primer thinner and turpentine that leave residue.

D. Mildew: Clean off existing mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. Rinse with water applied by clean rags or sponges.

3.4 PAINT REMOVAL

A. General: Remove paint as needed. Where cleaning methods have been attempted and further removal of the paint is required because of incompatible or unsatisfactory surfaces for repainting, remove paint to extent required by conditions. Remove paint manually using hand-held scrapers, wire brushes, sandpaper, and metallic wool as appropriate for the substrate material.

3.6 PAINT APPLICATION, GENERAL

A. Prepare surfaces to be painted according to manufacturer's written instructions for each substrate condition.

B. Apply a transition coat over incompatible existing coatings.

END OF SECTION