



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER:
 GSD096440

PAGE:
 1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
 KRISTA FERRELL
 304-558-2596

RFQ COPY
 TYPE NAME/ADDRESS HERE

VENDOR

SHIP TO

DEPARTMENT OF ADMINISTRATION
 GENERAL SERVICES
 BUILDING TEN - HOLLY GROVE
 1900 KANAWHA BOULEVARD, EAST
 CHARLESTON, WV
 25305 304-558-2317

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
06/09/2009				

BID OPENING DATE: 06/18/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 8						
THIS ADDENDUM IS ISSUED TO:						
1.) REVISE THE BELOW LISTED SPECIFICATIONS:						
				SECTION 00400		
				SECTION 00700		
				SECTION 01010		
				SECTION 02070		
				SECTION 02222		
				SECTION 06100		
				SECTION 06401		
				SECTION 07620		
2.) ADD REVISED DRAWINGS:						
				DRAWING T-1		
				DRAWING A-100		
				DRAWING A-201A		
				DRAWING A-202		
				DRAWING A-203		
				DRAWING A-204		
				DRAWING A-506		
				DRAWING A-507		
				DRAWING A-508		
3.) EXTEND THE BID OPENING DATE						
BID OPENING DATE IS EXTENDED TO: 06/18/2009						
BID OPENING TIME REMAINS: 1:30 PM						
***** END ADDENDUM NO. 8 *****						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE		TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE	

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130

Addendum 8

**Holly Grove Mansion
Exterior Rehabilitation and Selective Interior Demolition
State of West Virginia, Department of Administration**

SHCA Project No. 6520.B
Addendum No. 8

To: All Bidders

Note: This Addendum, dated June 5, 2009, is part of the Contract Documents. It modifies Specifications and Drawings dated February 13, 2009.

Acknowledge receipt of this Addendum in the space provided on the Bid Form.
Failure to do so may result in the disqualification of your Bid.

Revisions to Contract Documents as listed below:

ARCHITECTURAL:

DWG/SPEC Title	Description	Date
Table of Contents	Strikeout Division 7 - Section 07135 (removed from scope of work)	June 5, 2009
Section 00400 – Bid Form	In Unit Price Form (pages 2 through 3), strikeout the following IDs (removed from scope of work): FL 02 FL 03 WD 11 In Total Bid Breakdown Form (pages 3 though 4), strikeout the following information (removed from scope of work): Section 06100, Rough Carpentry (WD 11) Section 07315 Slate Roofing (RO (SL) 04, RO (SL) 04a) Section 07620 Sheet Metal Flashing and Trim (FL 01, FL 02, FL 03) [Note that FL 04, FL 05, SM 01, SM 02, Concrete Splash Blocks remain in scope.]	June 5, 2009
Section 00700– List of Drawings	Strikeout Sheet A-506- Repair Details, Roofing and Flashing (removed from scope of work)	June 5, 2009
Section 01010– Summary of Work	The following is removed from scope of work: Strikeout Section 1.1.A.10- Replacement of Slate Roof and Related Flashing and Sheathing Strikeout Section 1.1.A.12- Replacement of Flat EPDM Roof.	June 5, 2009

Addendum No. 8
 To Holly Grove Mansion: Exterior Rehabilitation and Selective Interior Demolition
 Date June 5, 2009
 Page 2

DWG/SPEC Title	Description	Date
Section 02070– Removal Work, Selective Demolition and Protection	Strikeout 1.2.B.17- Section 07315- Slate Shingles (removed from scope of work).	June 5, 2009
Section 02222 – Protection, Salvage, and Removal of Historic Elements	Strikeout 1.2 B.17- Section 07315- Slate Shingles (removed from scope of work).	June 5, 2009
Section 06100 – Rough Carpentry	The following are removed from scope: Strikeout Article 1.1 B.3 – Sheathing (page 1) Strikeout Article 1.2. B - Section 07315 – Slate Roofing (page 1)	June 5, 2009
Section 06401- Exterior Architectural Woodwork	Strikeout Article 1.2 B.13, Section 07315 – Slate Roofing (removed from scope of work)	June 5, 2009
Section 07315 – Slate Roofing	Eliminate entire Slate Roofing section (removed from scope of work)	June 5, 2009
Section 07620 – Sheet Metal Flashing and Trim	The following items have been removed from page 1: Article 1.1 B.1 – Copper step flashing at dormers of 1815 building. Article 1.1.B.2 – Copper step flashing at chimneys of 1815 building. Article 1.1.B.3 – All flashing associated with new slate roof of 1815 building. Article 1.1.B.5 – Work identified on drawings by Repair Codes FL 01, FL 02, FL 03, RO (SL) 04, RO (SL) 04a. [Note that Repair Codes FL 04, FL 05 and SM 01 remain in scope].	June 5, 2009
T-1	Drawing List: Remove Sheet A-506. Quantities of Repair: Strikeout FL 01, FL 02, FL 03, RO (SL) 04, SL 04a, and WD 11. Quantities of Repair: Revise quantity of FL 04 from 350 LF to 90 LF.	June 5, 2009
A-100, A-201a , A-202, A-203, & A-204	Strike out WD 11, FL 01, FL 02, FL, 03, RO (SL) 04, & RO (SL) 04a in Repair Legend.	June 5, 2009
A-100	Remove call outs and repair tags for FL 01, FL 02, FL 03, RO (SL) 04, and RO SL 04a. Revise area of work for FL 04.	June 5, 2009
A-201a, A-202, A-203, A-204	Remove all call outs and repair tags for RO (SL) 04a.	June 5, 2009
A-506	Sheet is not used.	June 5, 2009
A-507	Revise details 1/A-507.	June 5, 2009
A-508	Remove details 1/A-508 and 2/A-508	June 5, 2009

End of Addendum #8

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HOLLY GROVE MANSION
 EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
 SHCA PROJECT #: 6520.B

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00100 Instructions to Bidders
 00400 Bid Form
 00500 Contract Forms
 00600 Bonds and Certificates
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01000 General Conditions – AIA A201-1997, including State of WV Supplementary Conditions
 01010 Summary of Work
 01030 Alternates
 01035 Modification Procedures
 01040 Project Coordination
 01045 Cutting and Patching
 01090 Definitions
 01170 Restoration Procedures
 01200 Project Meetings
 01300 Submittals
 01400 Quality Requirements
 01430 Mockup for Preservation Work
 01600 Materials and Equipment
 01631 Product Substitutions
 01700 Contract Closeout
 01740 Warranties

DIVISION 2 – SITE CONSTRUCTION

02070 Removal Work, Selective Demolition and Protection
 02222 Protection, Salvage, and Removal of Historical Elements

DIVISION 3 – CONCRETE

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DIVISION 4 – MASONRY

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 04200 Brick Unit Masonry
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DIVISION 5 – METALS

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 FEBRUARY 13, 2009 (ADDENDUM #8 – JUNE 5, 2009)

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 100% FINAL

HOLLY GROVE MANSION
EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
SHCA PROJECT #: 6520.B

06100 Rough Carpentry
06300 Epoxy Repair for Deterioration and Decay in Wooden Members
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HOLLY GROVE MANSION
EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
SHCA PROJECT #: 6520.B

SECTION 00400 - BID FORM

PROJECT HOLLY GROVE MANSION
EXTERIOR REHABILITATION & SELECTIVE DEMOLITION/PROBES
CHARLESTON, WEST VIRGINIA

SUBMISSION PLACE
State of West Virginia
Department of Administration _____
Purchasing Division _____
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130
Attn: Krista Ferrell, Senior Buyer
Tel.: (304) 558-2596

Mark on lower left hand of envelope: "HOLLY GROVE MANSION: EXTERIOR REHABILITATION"

BID FOR: _____
(Bidder's Name)

(Bidder's Address)

(Date)

The undersigned, in compliance with the "Instructions to Bidders," having examined the Drawings and Specifications prepared by Swanke Hayden Connell Architects and related documents, visited the site of the proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including availability of materials and labor, proposes to furnish labor, services, equipment and material and to perform work required for the construction of the above referenced Project for the consideration of the following amount:

BID AMOUNT, (STIPULATED SUM), SUM OF:

_____ Dollars (\$ _____)

HOLLY GROVE MANSION
EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
SHCA PROJECT #: 6520.B

The undersigned stipulates hereby that this Bid will remain valid for ninety (90) days from the above submission date or any postponement therefrom.

UNIT PRICE

Unit Prices provided in this section are not part of the Base Bid, but shall be used to adjust for approved variations in the quantities shown in the project drawings, by change order.

ID	DESCRIPTION	UNIT	PRICE
BR 01	Brick Crack Repair <i>(In accordance with Section 04200 of the Project Manual)</i>	LF	
BR 02	Brick Spall Repair <i>(In accordance with Section 04200 of the Project Manual)</i>	SF	
BR 03a	Brick Stitching <i>(Work requires salvaging of existing brick and/or replacement with custom, handmade units. See Section 04200 & 04535 of the Project Manual for additional information.)</i>	SF	
BR 03b	Brick Stitching at Chimney <i>(Refer to notes for BR 03a.)</i>	SF	
CN 01	Concrete Crack Repair with Epoxy	LF	
CN 02	Concrete Spall Repair	SF	
FL 02	Replace Step Flashing at Dormers <i>(To be fabricated and installed according to SMACNA Standards.)</i>	LF	NOT USED
FL 03	Replace Perimeter Flashing <i>(To be fabricated and installed according to SMACNA Standards.)</i>	LF	NOT USED
FL 04	Copper Gutter Liner Replacement <i>(To be fabricated and installed according to SMACNA Standards.)</i>	LF	
LI 03b	New Steel Lintel Installation & Jack Arch Reconstruction <i>(Scope of work includes installation of steel lintel, reconstruction of jack arch to match adjacent and brick stitching. Refer to BR 03a for additional notes.)</i>	LF	
LI 04	New Steel Lintel Installation at West Porch <i>(Scope of work includes installation of steel lintel, removal and reinstallation of existing stone lintel and selective brick stitching. Refer to BR 03a for additional notes.)</i>	LF	
PN 01	Chemical Strip and Paint Wood <i>(Wood to be stripped to a paintable surface. Refer to Section 09890 in the Project Manual for additional information.)</i>	LF	
PN 02	Chemical Strip and Paint Window Sash (Exterior and Interior) <i>(Scope of work includes removal of sash, protection of glazing, chemical stripping of exterior/interior faces, painting of exterior face, and priming of interior face.)</i>	LS	
PN 04	Chemical Strip and Paint Steel with a Rust Inhibitive Coating	LF	
PO 01	Brick Repointing <i>(Refer to Section 04100 for mortar types, depth of pointing & additional information.)</i>	SF	
PO 02	Stone Repointing <i>(Refer to Section 04100 for mortar type, depth of pointing &</i>	LF	

HOLLY GROVE MANSION
 EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
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	<i>additional information.)</i>		
RO 05	New Precast Concrete 30" Splash Block	LS	
SE 01	Sealant Replacement at Brick/ Concrete Joints <i>(Scope of work includes removal and replacement of existing sealant with backer rod to depth indicated on detail 3/A-501 and protection of surrounding elements.)</i>	LF	
SE 02	Sealant Replacement at Masonry/Wood Joints <i>(Refer to notes for SE 01)</i>	LF	
SM 01	New Copper Leader <i>(Copper leader & all attachments to match detail 3/A-507)</i>	LF	
SM 02	New Copper Strainer Basket	LS	
ST 02	Stone Spall Repair with a Composite Patch	SF	
WD 01	Wood Repair with Composite Patch	SF	
WD 02	Replace Top & Bottom Rail of Railing at South Portico	LF	
WD 03	Replace Post at Railing at South Portico	EA	
WD 04	Replace Selective Soffit Assembly <i>(Scope of work includes stripping area of work, selective removal of assembly, inspection of structural substrate, fabrication of new units, reinstallation, and surface preparation.)</i>	LF	
WD 05	Replace Selective Soffit Fascia <i>(Refer to notes for WD 04.)</i>	LF	
WD 06	Replace Fascia at West Porch <i>(Refer to notes for WD 04.)</i>	LF	
WD 09	Dutchman at Dormer Sill	LF	
WD 11	Replace Wood Sheathing w/ 2 New layers of 5/8" CDX Plywood <i>—(Remove existing deteriorated sheathing & attachments down to joists. Install new wood sheathing according to Section 06100 in the Project Manual.)</i>	SF	NOT USED

TOTAL BID BREAKDOWN (Including Overhead and Profit)

Break down base bid into lump sum portions for each Section listed below. The Repair Tags listed refer to the Quantities of Architectural Repair on Drawing T-1.

SECTION	DESCRIPTION	COST
-----	Scaffolding / Rigging / Mobilization	\$
02070	Removal Work, Selective Demolition and Protection (Including Shutter Removal)	\$
02222	Protection, Salvage and Removal of Historic Elements (Including Replacement of One Broken Window)	\$

HOLLY GROVE MANSION
 EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
 SHCA PROJECT #: 6520.B

03930	Concrete Rehabilitation (CN 01, CN 02)	\$
04100	Mortar and Repointing (PO 01, PO 02)	\$
04200	Brick Unit Masonry (BR 01, BR 02, BR 03a, BR 03b)	\$
04520	Stone Restoration (ST 02)	\$
05120	Structural Steel (LI 03a, LI 03b, LI 04)	\$
06100	Rough Carpentry (WD 11)	\$
06300	Epoxy Repair for Deterioration and Decay in Wooden Members (WD 01)	\$
06401	Exterior Architectural Woodwork (WD 02, WD 03, WD 04, WD 05, WD 06, WD 07, WD 08, WD 09)	\$
07315	Slate Roofing (RO (SL) 04, RO (SL) 04a)	\$ NOT USED
07610	Flat Seamed Sheet Metal Roofing (RO (SM) 04)	\$
07620	Sheet Metal Flashing and Trim (FL 01, FL 02, FL 03, FL 04, FL 05, SM 01, SM 02, Concrete Splash Blocks)	\$
07920	Joint Sealants (SE 01, SE 02)	\$
09890	Coating Removal (Include for All Wood & Metal Elements)	\$
09900	Painting and Protective Coatings (Include All Surface Prep & Coating of Wood & Metal Elements)	\$
-----	General Conditions/Requirements	\$
-----	Building Department Permits, Etc.	\$
-----	Insurance	\$
TOTAL		\$

HOLLY GROVE MANSION
EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
SHCA PROJECT #: 6520.B

REJECTION OF BID

The undersigned acknowledges the Owner's right to reject bids and to waive informalities in the bidding.

NOTICE OF ACCEPTANCE

The undersigned designates the person and office, to which Notice of Acceptance may be mailed, telegraphed or delivered:

Respectfully submitted,

BY
(Signature)

FIRM

ADDRESS

DATED:

NOTE: Type under signature the name and title of signing officer. If Bidder is a corporation, write State of Incorporation under firm address, and if a partnership, give full name of parties.

DIRECTIONS FOR MAILING BIDS

Envelope containing Bid should be sealed, marked and addressed as follows:

ADDRESS:

State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130
Attn: Krista Ferrell, Senior Buyer

TIME OF RECEIPT

Date

Time

HOLLY GROVE MANSION
 EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
 SHCA PROJECT #: 6520.B

SECTION 00700 – LIST OF DRAWINGS

ARCHITECTURAL

T-0	COVER SHEET
T-1	LEGENDS, NOTES, QUANTITIES, & DRAWING LIST
D-101	CELLAR AND FIRST FLOOR DEMOLITION PLANS
D-102	SECOND AND THIRD FLOOR DEMOLITION PLANS
D-201	CELLAR AND FIRST FLOOR DEMOLITION REFLECTED CEILING PLANS
D-202	SECOND AND THIRD FLOOR DEMOLITION REFLECTED CEILING PLANS
A-100	ROOF PLAN
A-201	SOUTH ELEVATION PORTICO
A-201a	SOUTH ELEVATION
A-202	EAST ELEVATION
A-203	NORTH ELEVATION
A-204	WEST ELEVATION
A-501	REPAIR DETAILS: POINTING, SEALANT, AND BRICK
A-502	REPAIR DETAILS: BRICK AND MASONRY
A-503	REPAIR DETAILS: MASONRY AND LINTELS
A-504	REPAIR DETAILS: WOOD TRIM
A-505	REPAIR DETAILS: WOOD TRIM
A-506	REPAIR DETAILS: ROOFING AND FLASHING (NOT USED)
A-507	REPAIR DETAILS: ROOFING AND FLASHING
A-508	REPAIR DETAILS: SHEET METAL ROOFING

MECHANICAL

MD-101	CELLAR/ FIRST FLOOR MECHANICAL DEMOLITION PLANS
MD 102	SECOND/ THIRD FLOOR MECHANICAL DEMOLITION PLANS

ELECTRICAL

ED-101	CELLAR/ FIRST FLOOR ELECTRICAL DEMOLITION PLANS
ED-102	SECOND/THIRD FLOOR ELECTRICAL DEMOLITION PLANS

END OF SECTION 00700

SECTION 01010 – SUMMARY

PART 1 – GENERAL

1.1 SUMMARY

- A. General: The Work of this Contract comprises the exterior rehabilitation of Holly Grove Mansion and selective demolition and probes, as indicated on the Drawings and as specified herein. The project includes, but is not limited to the following:
1. Repair of cracked and spalled brick units.
 2. Coating removal from brick units.
 3. Repair of spalled bluestone and sandstone.
 4. Repair of deteriorated wood elements.
 5. Repair of concealed structural steel elements.
 6. Installation of new steel elements.
 7. Repair of deteriorated mortar joints.
 8. Sealant replacement at wood/masonry and brick/concrete joints.
 9. Rehabilitation of finishes on wood and exterior metal grates.
 - ~~10. Replacement of slate roof and related flashing and sheathing. (NOT USED)~~
 11. Relining of gutters.
 - ~~12. Replacement of flat EPDM roof. (NOT USED)~~
 13. Replacement and installation of new copper leaders.
 14. Demolition of interior electrical and mechanical systems.
 15. Demolition of non-historic interior elements.
 16. Demolition for interior probes.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section, except as modified herein.
- B. Related Sections include the following:
1. All Sections

1.3 PROJECT BACKGROUND

The Federal style, Holly Grove Mansion was constructed in 1815 by Daniel Ruffner, prior to West Virginia becoming a state and the establishment of Charleston. In 1902, the house was sold to John Nash, who raised the roof height, removed the rear dining room wing and constructed a two-story addition in its place, and added a monumental Colonial Revival portico to the front of the house. Significant alterations were also made to the interior at this time, including the addition of a second stairway and closet units. In 1978, the house underwent a large exterior and interior restoration campaign that altered a

significant amount of the structure's historic fabric. As it stands today, the house is a mixture of elements dating from 1902 to 1978.

1.4 USE OF PREMISES

- A. Confine operations at the building to areas, routes, and times permitted by laws, ordinances, permits, Contract Documents and the Owner. Protect finished surfaces and repair any damage caused, to the satisfaction of the Owner, at no additional expense.
- B. At the end of each day's work, clean areas and traffic routes normally used by the building's occupants to prevent the spread of dust and soiling of floors by foot traffic within the Building. Keep the premises and adjoining private and public property free from accumulation of waste material.
- C. Prior to commencing work, meet with the Owner and representatives of the Building Management to determine access routes.

1.5 SURVEY AND VERIFICATION OF EXISTING CONDITIONS

- A. The Architect has performed a survey of the existing conditions of the exterior façade of Holly Grove Mansion. Contractor shall examine and verify the scope and extent of the construction documents for acceptance prior to commencing Work.
- B. After the contract is awarded and before commencing with construction Work, Contractor shall certify in writing that he or she has carefully examined the construction documents of the existing conditions and has verified their accuracy and completeness.
 - 1. Within 30 days of receiving the construction documents of Holly Grove Mansion's existing conditions, the Contractor shall request in writing all amendments or corrections to the documents that are required in the opinion of the Contractor. If the Owner does not receive the request within the specified time, the Architect's survey shall be considered as acceptable to Contractor and shall thereby become the final survey document of existing conditions prior to commencement of Work.
 - 2. If Contractor requests that amendments or corrections to the survey be made, the Owner and Architect, after review of the Contractor's written request, shall modify the existing conditions survey and make necessary changes to the documentation as determined by the Owner and Architect.

1.6 REVIEW SPECIFICATIONS

- A. Inform Architect and Owner of any errors, inconsistencies, or omissions discovered therein, and obtain clarification before proceeding with the work of item in question.

1.7 CONSTRUCTION SCHEDULE

HOLLY GROVE MANSION
 EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
 SHCA PROJECT #: 6520.B

- A. Immediately after Contract award, meet with Owner and Architect to determine a schedule for the conduct of the Work. Within seven (7) days after meeting, submit a schedule for the Project. The schedule shall include:
 - 1. Start and completion dates.
 - 2. Shop drawings and samples: Submittal and approval dates.
 - 3. Materials and Equipment: Chart listing sources and purchase and delivery dates for materials and equipment to be incorporated into the Work.
 - 4. Mechanical and Electrical Services: Dates and duration of shutdowns of existing services, if any.

1.8 SCHEDULE OF VALUES

- A. Prior to first Application for Payment, submit for approval a schedule of values for the entire Work of this Contract. This schedule shall be itemized in accordance with the Bid Breakdown, and its total shall equal the Contract Sum. Schedule, in the form agreed upon in advance with the Architect, shall include such quantities that the Architect requires, accompanied by supporting data to substantiate correctness.
- B. The schedule shall be a basis for evaluating the Contractor's Applications for Payments.

1.9 LABOR AND MATERIALS

- A. Provide and pay for labor, materials, equipment, tools, utilities, transportation, and other facilities and services necessary for the execution and completion of the Work.
- B. Where Contract Documents name a specific product or product sources, these (or their equal) shall be included in the Base Bid. No substitutions shall be considered unless written approval is provided via the issuance of an Addendum to the RFQ.
- C. Conform to quality standards listed in the Specifications Sections.
- D. Deliver materials in quantities sufficient to prevent delay in scheduled progress of work.
- E. Follow manufacturers' instructions for use of products.
- F. Store and protect materials, equipment, and tools at the job site.

1.10 SHOP DRAWINGS AND SAMPLES

- A. Submit promptly, in orderly sequence, shop drawings of scaffolding and work-phasing, with clearly identified finish samples. Note any deviations from requirements of Contract Documents. Acknowledge receipt of reviewed submission, and correct and resubmit shop drawings or samples as the Architect directs. Perform no work and use no materials based on rejected shop drawings or samples.
- B. By submitting shop drawings and samples, the Contractor represents that he or she has determined and verified field measurements, field construction criteria, materials, catalog

SUMMARY OF WORK
 SWANKE HAYDEN CONNELL ARCHITECTS
 FEBRUARY 13, 2009 (ADDENDUM #8 – JUNE 5, 2009)

01010 - 3
 100% FINAL

HOLLY GROVE MANSION
EXTERIOR REHABILITATION & SELECTIVE DEMOLITION
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numbers, and similar data, and that he or she has checked and coordinated each shop drawing and sample with requirements of the work and of the Contract Documents.

- C. Shop drawings and samples are reviewed by the Architect for conformance with Design Concept and for compliance with information contained in Contract Documents. This review does not relieve the Contractor's responsibility for deviations from requirements of Contract Documents.

1.11 UTILITIES AND TEMPORARY FACILITIES

- A. Owner shall supply a source of water supply and electricity for the completion of the Work. Contractor is responsible for extending water supply and electricity to point of use.
- B. All public toilets shall be available for use by Contractor. Contractor may, at his own expense, locate a "porta-toilet" at one of the lower roof areas in a location designated and approved by Owner.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION 01010

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SECTION 02070 – REMOVAL WORK AND SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. This project consists of all labor, equipment, materials and services required to perform the exterior repairs at Holly Grove Mansion, Charleston, WV, as indicated on the Drawings and specified herein.
- B. Work of this Section includes, but is not limited to, the following removal and selective demolition work:
 - 1. Removal of all elements called out for removal on the demolition drawings, D-101 through D-202 and/or as required to successfully complete the probe investigation and to prepare for new work.
 - 2. Patching and repairs.
 - 3. Coordination of demolition with MEP.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 1 Specifications Sections, apply to this Section, except as modified herein:
- B. Related Sections include the following:
 - 1. Section 01300 – Submittals.
 - 2. Section 01400 – Quality Requirements.
 - 3. Section 01430 – Mock-up for Preservation Work.
 - 4. Section 02222 – Protection, Salvage and Removal of Historic Elements.
 - 5. Section 03930 – Concrete Rehabilitation.
 - 6. Section 04100 – Mortar and Repointing.
 - 7. Section 04200 – Brick Unit Masonry.
 - 8. Section 04520 – Stone Restoration.
 - 9. Section 04535 – Brick Salvaging.
 - 10. Section 05120 – Structural Steel.
 - 11. Section 06100 – Rough Carpentry.
 - 12. Section 06200 – Finish Carpentry.
 - 13. Section 06250 – Architectural Wood Restoration.
 - 14. Section 06300 – Epoxy Repair for Deterioration and Decay in Wooden Members.
 - 15. Section 06400 – Architectural Woodwork.
 - 16. Section 06401 – Exterior Architectural Woodwork.
 - 17. ~~Section 07315 – Slate Shingles. (NOT USED)~~
 - 18. Section 06710 – Flat Seamed Sheet Metal Roofing
 - 19. Section 07620 – Sheet Metal Flashing and Trim.
 - 20. Section 07920 – Joint Sealants.
 - 21. Section 09890 – Coating Removal.
 - 22. Section 09900 – Painting and Protective Coatings.

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1.3 REFERENCES AND STANDARDS

- A. ANSI – A10.6 – American National Standard – Safety Requirements for Demolition.
- B. NFPA 241: Safeguarding Building Construction and Demolition Operations National Fire Protection Agency (NFPA), Quincy, Mass., (800) 344-3555.

1.4 DEFINITIONS

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.
- C. Remove and Reinstall: Remove items indicated; clean, service, and otherwise prepare them for reuse; store and protect against damage. Reinstall items in the same locations or in locations indicated.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Architect, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

1.5 MATERIALS OWNERSHIP

- A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site with further disposition at the Contractor's option.
- B. Historical Elements: Refer to Section 02222 – Protection, Salvage and Removal of Historic Elements.

1.6 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections, for information only, unless otherwise indicated.
- B. Proposed dust-control measures.
- C. Proposed noise-control measures.
- D. Proposed vibration-control measures.
- E. Schedule of selective demolition activities indicating the following:

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1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
 2. Interruption of utility services.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Locations of temporary partitions and means of egress.
- F. Inventory of items to be removed and salvaged.
- G. Inventory of items to be removed by Owner.
- H. Photographs or videotape, sufficiently detailed, of existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by selective demolition operations.
- I. Record drawings at Project closeout according to Division 1 Section "Contract Closeout."
1. Identify and accurately locate capped utilities and other subsurface structural, electrical, or mechanical conditions.

1.7 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed selective demolition Work similar to that indicated for this Project.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. The building is listed on the National Register of Historic Places. The Work is subject to review by the Capital Building Commission, the West Virginia State Historic Preservation Officer (SHPO), and the Architect.
- D. Predemolition Conference: Conduct conference at Project site to comply with preinstallation conference requirements of Division 1 Section "Project Meetings."

1.8 PROJECT CONDITIONS

- A. Owner assumes no responsibility for actual condition of buildings to be selectively demolished.
- B. Storage or sale of removed items or materials on-site will not be permitted.

1.9 SCHEDULING

- A. Arrange selective demolition schedule so as not to interfere with other construction activities.

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1.10 WARRANTY

- A. Existing Special Warranty: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
 - 1. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible. Architect and Owner to review and accept materials that Contractor proposes for use prior to proceeding with repairs.
 - 2. Use materials whose installed performance equals or surpasses that of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- D. Coordinate all work with the architectural, structural and MEP scope. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the Architect.
- E. Survey the condition of the building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective demolition.
- F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.2 UTILITY SERVICES

- A. Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

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- B. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services serving building to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with utility companies.
 - 2. Where utility services are required to be removed, relocated, or abandoned, provide bypass connections to maintain continuity of service to other parts of the building before proceeding with selective demolition.
 - 3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal the remaining portion of pipe or conduit after bypassing.

3.3 PREPARATION

- A. Employ a certified, licensed exterminator to treat building and to control rodents and vermin before and during selective demolition operations.
- B. Conduct demolition operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around selective demolition area.
 - 1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
 - 2. Protect walls, ceilings, floors, and other existing finish work that are to remain and are exposed during selective demolition operations.
- C. Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.
- D. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of building elements to be selectively demolished.
 - 1. Strengthen or add new supports when required during progress of selective demolition.

3.4 POLLUTION CONTROLS

- A. Use temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
 - 1. Do not use water when it may damage historic elements, existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before start of selective demolition.

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3.5 SELECTIVE DEMOLITION

- A. Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition work above each floor or tier before disturbing supporting members on lower levels.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches.
 - 5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 6. Locate selective demolition equipment throughout the structure and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 7. Dispose of demolished items and materials promptly. On-site storage or sale of removed items is prohibited.
 - 8. Return elements of construction and surfaces to remain to condition existing before start of selective demolition operations.

3.6 PATCHING AND REPAIRS

- A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.
- B. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
- C. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

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3.8 CLEANING

- A. Sweep the building broom clean on completion of selective demolition operation.
- B. Change filters on air-handling equipment on completion of selective demolition operations.

END OF SECTION 02070

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SECTION 02222 – PROTECTION, SALVAGE, AND REMOVAL OF HISTORIC ELEMENTS

PART 1 – GENERAL

1.1 SUMMARY

- A. This project consists of all labor, equipment, materials and services required to perform the exterior repairs at Holly Grove Mansion, Charleston, WV, as indicated on the Drawings and specified herein.
- B. Section Includes:
1. Temporary protection of all finish surfaces and Historic Elements to remain from damage due to construction activities or as noted on the Drawings.
 2. Removal and reinstallation of existing protection if required to access historic elements for restoration activities.
 3. Remove, catalog and temporarily relocate to storage all historic elements indicated on the Drawings or as required to restore and rehabilitate off-site prior to reinstallation.
 4. Remove, catalog and relocate to storage all historic elements indicated on the Drawings or as required to accommodate new construction.
- C. Intent: The intent of this Section is to provide for interior protection of historic elements to be temporarily removed for subsequent reinstallation, and for protection of remaining existing historic elements from all construction activities including but not limited to damage due to 'path of travel' access required for the transport of tools, materials, and workers.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specifications sections, apply to work of this section, except as modified herein
- B. Related Sections:
1. Section 01300 – Submittals.
 2. Section 01400 – Quality Requirements.
 3. Section 01430 – Mock-up for Preservation Work.
 4. Section 02222 – Protection, Salvage and Removal of Historic Elements.
 5. Section 03930 – Concrete Rehabilitation.
 6. Section 04100 – Mortar and Repointing.
 7. Section 04200 – Brick Unit Masonry.
 8. Section 04520 – Stone Restoration.
 9. Section 04535 – Brick Salvaging.
 10. Section 05120 – Structural Steel.

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11. Section 06100 – Rough Carpentry.
12. Section 06200 – Finish Carpentry.
13. Section 06250 – Architectural Wood Restoration.
14. Section 06300 – Epoxy Repair for Deterioration and Decay in Wooden Members.
15. Section 06400 – Architectural Woodwork.
16. Section 06401 – Exterior Architectural Woodwork.
- ~~17. Section 07315 – Slate Shingles. (NOT USED)~~
18. Section 07620 – Sheet Metal Flashing and Trim.
19. Section 07920 – Joint Sealants.
20. Section 09890 – Coating Removal.
21. Section 09900 – Painting and Protective Coatings.

1.3 REFERENCES

- A. Preservation Tech Note. Temporary Protection Number 2. "Specifying Temporary Protection of Historic Interiors During Construction and Repair" National Park Service, Preservation Assistance Division, P.O. Box 37127; Washington D.C. 20013-7127.
- B. NFPA 241: Safeguarding Building Construction and Demolition Operations National Fire Protection Agency (NFPA), Quincy, Mass. (800) 344-3555.

1.4 DEFINITIONS

- A. "Historic Elements" shall be defined as those finishes, components to remain.
 1. They include, but are not limited to, all original interior finishes and components such as: Wood floors, bases, wainscot, walls, partitions, and surrounds; fireplaces; Wood casework; Plaster walls and ceilings; Doors, windows, and glazed partitions including glass; Hardware including door hinges, window hardware, door knobs, and door stops.
 2. It shall also include any item identified in the field by the Architect and brought to the attention of the Contractor. Contractor shall verify any questionable items with the Architect prior to commencement of protection, demolition, or construction procedures.
- B. "Salvage Elements" shall be defined as any Historic Element to be removed from the existing construction.
- C. "Off-site Facility" shall be defined as the storage facility to be provided by the Contractor for storage of Salvage Elements.
 1. Contractor is responsible for providing suitable racks and packing material for storage of all Salvage Elements.
- D. "Path of Travel" shall be defined as those areas that will experience traffic at locations of demolition and construction activities.

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- E. "Artifact Log" shall be defined as the inventory log cataloguing the Salvage Elements.

1.5 SUBMITTALS

- A. Procedures: In accordance with Section 01300 – Submittals.
- B. Work Description: Proposed methods and operations of element removal, protection, and storage procedures to the Architect for review prior to the commencement of work.
- C. Artifact Log:
1. Sample Artifact Log prior to the commencement of work.
 2. Current progress Artifact Log of items removed to Architect weekly.
- D. Off-site Facility: Submit detailed description of proposed storage warehouse. Include locations, size, physical attributes, security techniques and procedures, bonding capacity, and other pertinent information relating to the storage of salvage elements. Architect to field review the facility prior to acceptance.
- E. Product Data: Submit manufacturer's specifications for materials specified in paragraph 2.1.
- F. Shop Drawings: Submit complete set of shop drawings recording on elevations or plans the location, configuration, and description of all elements removed for salvage. Include location of elements, joint locations, spacing, surface mounted items, materials, and all dimensions so that wall, floor, or ceiling can be reconstructed in its entirety. Minimum scale 1:50. Existing construction drawings can be used as base sheets for shop drawings.

1.6 QUALITY ASSURANCE

- A. Engage an experienced firm that has recently completed Protection, Salvage and Removal of Historic Elements projects similar in scope, cost, material, design, and extent to that indicated by this section and whose work has resulted in construction with a record of successful in-service performance (i.e., performed work in buildings that have been designated as landmarks by local governmental authorities, buildings listed on the National or State Register of Historical Places, or buildings of equivalent historical and architectural significance).
- B. Submit qualifications and experience of all lead personnel scheduled for work on this project. List project manager or foreman's name and experience relative to this project. All work shall be performed by persons whose qualifications have been submitted.
- C. The Contractor is hereby directed to recognize the value and significance of the building, and exercise special care during all phases of the Work to ensure that the existing building, its details, materials and finishes that are to remain or to be salvaged for the intention of reinstallation are not damaged by the work being performed.
- D. The Contractor shall be responsible for protection of all existing materials and elements

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to remain or to be salvaged. It is the Contractor's responsibility to provide all additional protection required to prevent soiling and damage to existing finishes and elements to remain or to be salvaged, in the event of damage, such items shall be immediately repaired or replaced by the Contractor, at his expense, to the satisfaction of the Architect.

- E. The particular subcontractor responsible for rehabilitation and reinstallation of salvaged elements shall also be responsible for the disassembly, cataloging, and storage of all elements to be removed.
 - 1. Qualifications shall be as required under each individual competency specification section as listed in Related Sections above.
- F. The building is listed on the National Register of Historic Places. The Work is subject to review by the Capital Building Commission, the West Virginia State Historic Preservation Officer (SHPO), and the Architect.

1.7 SITE CONDITIONS

- A. Coordinate the performance of work in this Section with related or adjacent work. Removal and protection of items shall be complete prior to commencement of new construction and demolition procedures in each area. At a minimum protection shall be installed in its entirety for a given floor or discreet area prior to commencement of any demolition activities on that given floor or area.
- B. Protection for Historic Elements shall remain in place for the duration of the Project unless determined otherwise by the Architect and Owner's Representative.
- C. Damages: Promptly repair damage caused to adjacent historic elements to remain or to be re-used if through Contractor's negligence. Repair or replace any such damaged item to the satisfaction of and at no expense to the Owner. All repairs shall be approved prior to implementation.

PART 2 - PRODUCTS

2.1 SALVAGE

- A. Carefully remove, transport, and store Salvage Elements at Off-site Facility for future reinstallation or reuse as specified.

2.2 PROTECTION MATERIALS

- A. Polyethylene sheets: four (4) mil., complying with FS L-P-370C.
- B. Fiber-reinforced polyethylene sheets.
- C. Lumber: Species to be selected by Contractor, sizes to fit field conditions. All lumber to be fire retardant.

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- D. Plywood: 1/2 inch and 3/4 inch fire retardant.
- E. Soft Fiberboard: Homasote Co., West Trenton, NJ, or equal.
 - 1. 1/2- inch NCFR Homasote.
- F. Neoprene: 1/4-inch or 1/2-inch, stock sizes.
- G. Polyurethane foam sheets: two (2) inch thick and four (4) inch thick.
- H. "Preservation" Tape: 3M Scotch brand no. 4811 or approved equal.
- I. Plastic Film Tape: 3M Scotch brand no. 472 or approved equal.
- J. Kraft Paper.
- K. Accessories: Provide necessary and related parts, fasteners, devices and anchors required for complete installation.

2.3 WOOD TREATMENTS

- A. General:
 - 1. Fire-retardant wood shall have an Underwriters' Laboratories stamp signifying an FR-S rating certifying a 25 or less flame-spread and smoke-developed value when tested in accordance with ASTM E84.
 - 2. Acceptable Fire-Retardant Treatments: Hoover "Pyro-Guard", Hickson "Dricon", or equal.

2.4 OFF-SITE FACILITY REQUIREMENTS

- A. Size: Furnish facility of sufficient size and capacity to store and retrieve all Salvage Elements required for the Project including, but not limited to, items identified for salvage as indicated on Drawings. A contiguous, isolated, centralized area shall be furnished to the greatest extent possible.
- B. Physical Requirements:
 - 1. Adequate floor loading capacity to support all Salvage Elements.
 - 2. Covered loading and unloading area to allow for transport of elements without exposure to inclement weather conditions.
 - 3. Temperature and Humidity: Maintain ambient temperature of a minimum of 40°F to a maximum of 90°F. Maintain a relative humidity between 20% - 80%. Climate control is not required if these conditions can be met. Configuration of space shall allow for adequate ventilation of stored elements: provision of mechanical devices to circulate air will be required if ventilation is inadequate.

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4. Artificial Light: Adequate artificial light to allow for proper handling of elements and for potential examination of Salvage Elements at the facility.
5. Sunlight: Adequate protection from degradation due to ultraviolet (direct) sunlight.
6. Water Protection: Protection from all exposure to water is required. No exposure of Salvage Elements and/or packing materials to moisture shall be permitted.
7. Vermin Control: Protection from all vermin and pests is required. Vermin and pests include, but are not limited to, rats, mice, insects, birds, bats, and squirrels.
8. Fire Protection: Functioning smoke alarm, fire detection/notification, and sprinkler system.

C. Security:

1. Facility must be a bonded facility of sufficient bonding capacity to suitably replicated and replace all stored Salvage Elements.
2. Facility must provide an inventory and receiver control to adequately monitor and document storage activities.

PART 3 - EXECUTION

3.1 GENERAL

A. Historic Elements to remain in-situ:

1. Protection shall be installed in its entirety before commencement of salvage or other work that may harm historic fabric may proceed.
2. Protect all finishes and Historic Elements to remain in place which may be damaged by other construction activities. In the event of damage caused by Contractor, inform the Architect immediately as to the nature and extent of damage and the proposed method of repair. Contractor shall be responsible for repairs and replacement of newly damaged items to the satisfaction of the Architect at no additional expense to the Owner.
3. Do not attach protection materials directly to Historic Elements.
4. Protection shall be secured adequately so as to maintain a safe environment for workers and other individuals using the building throughout the duration of other construction activities.

B. Salvage Elements to be removed:

1. Protect, carefully handle, transport, and store Historic Elements which have been identified for removal and salvage. Contractor is responsible for handling, transporting, and storing these items in the Off-site Facility. Contractor is responsible for repairs and replacement of newly damaged items to the satisfaction of the Architect at no additional cost to the Owner.
2. Catalog all Salvage Elements that have been removed on Artifact Log. Document element type, size, quantity, condition, location in storage and original location.

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3. Store all Salvage Elements in a neat, orderly fashion to allow for access and retrieval at Off-site Facility. Store like type elements together in groups. Store particularly fragile elements to prevent damage while in storage.
4. All salvage items determined by Architect not to be reinstalled will remain the property of the Owner. At close of job at the Architect's direction, Contractor to load, handle, transport, unload and stack such items at a location to be determined by the Owner.

3.2 PREPARATION

- A. Remove all existing furnishings and debris to allow for full access as required to perform protection of Historic Elements, and for salvage and construction. Protect all Historic Elements from damage during these removal procedures as specified.
- B. Verify condition of Off-site Facility to ensure that there is adequate capacity and access to store and retrieve Salvage Elements.
- C. Provide all racking for storage of salvage items prior to transport to the Off-site Facility.
- D. Transport items to the Off-site facility at a minimum of one time per day. Do not stockpile items at the job site other than for preparation of transport to the Off-site Facility.

3.3 INSTALLATION OF PROTECTION

- A. General:
 1. Alternative methods to specified protection may be acceptable if equal or greater protection is provided. Submit alternative methods to the Architect for review as specified. Do not proceed with alternative methods until specified approvals are secured.
 2. Protection may be required to remain in place for the duration of the Project. As such, materials shall be installed to provide adequate protection throughout the full extent of construction activities. Repair and reinstall protection as required throughout the duration of construction.
 3. Extent of protection shall cover all Historic Elements to remain that are in the vicinity of construction activities whether specifically called out on the Drawings or not. All questionable protection requirements shall be identified for the Architect's review.
 4. All protection assemblies shall be self supporting and self bracing, secured at the base to the floor protection, unless otherwise noted.
 5. Intent of interior protection is to protect floors, walls, finishes, wood casework and trim, window assemblies, doors, and door openings and other historic elements from damage due to 'path of travel' access required for the transport of tools, materials, and workers as well as the probe investigation construction activities. Contractor shall exercise extreme care when moving through areas with unprotected Historic Elements.

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3.4 PROTECTION

- A. General: Intent of interior protection is to protect floors, walls, finishes, wood casework and trim, window assemblies, doors, and door openings from damage due to path of travel access required for the transport of tools, materials, and workers. Contractor shall exercise extreme care when moving through areas with unprotected Historic Elements.
1. At a minimum finished floors shall be protected by a four (4) foot wide path of soft fiberboard covered by plywood.
 2. In the first event any damage occurs to Historic Elements, for subsequent events Contractor shall provide protection in accordance with the Project specifications, at his expense, to the satisfaction of the Architect.
 3. Any debris resulting from construction activities shall be immediately cleaned up to the satisfaction of the Architect.
- B. Installation and Inspection:
1. Floors: Wood.
 - a. Primary Path of Travel: Vacuum floor surface of all loose dust and debris. Cover entire pathway surface with Kraft paper, then with ½-inch soft fiberboard covered by one (1) sheet of polyethylene and ¾-inch plywood. Fasten edges to prevent slippage. Tape all polyethylene edges to create a watertight seal. Stagger edges of materials with joints below, and provide a uniform flush surface.
 - b. Secondary Path of Travel: Vacuum surface of all loose dust and debris. Cover entire pathway surface with Kraft paper, then with ½-inch soft fiberboard covered by one (1) sheet of polyethylene and ½-inch plywood. Fasten edges to prevent slippage. Tape all polyethylene edges to create a watertight seal. Stagger edges of materials with joints below, and provide a uniform flush surface.
 3. Areas Beyond Barricades: Areas beyond protection barricades out of the path of travel shall be protected as described for Path of Travel but may eliminate the top layer of plywood if the Contractor has the ability to monitor and limit construction activities at these locations.
 4. Fireplaces and Interior Wood Trim: Verify extent of potential impact to these elements with the Architect. As required, cover entire surface with 1/2 inch Homasote and plywood screwed to 2 X 4 shoring braces set 16 inches to four (4) feet apart. Provide neoprene pads glued to braces where they are in contact with Historic Elements. Locate braces out of the path of travel and out of construction areas if possible.
 5. Windows and Doors: Verify extent of potential impact to these elements with the Architect. Carefully protect doors or window sash in place. Cover face, sides and top completely with ½-inch Homasote and ½-inch plywood. Screw all connections and secure to adjacent protection. Do not screw directly to Historic Elements.

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6. Miscellaneous Hardware: Verify extent of potential impact to these elements with the Architect. If protection is required, carefully remove these elements for reinstallation and protect frame as specified.
7. Plaster: Verify extent of potential impact from construction activities with the Architect. Cover all potentially impacted elements with ½-inch Homasote and ½-inch plywood screwed to 2 x 4 shoring braces set 16-inches to 4-feet apart. Provide neoprene pads glued to braced where they are in contact with Historic Elements. Do not screw directly to Historic Elements. Cover entire surface with ½-inch Homasote and plywood screwed to 2 x 4 shoring braces set 16-inches to 4-feet apart. Provide neoprene pads glued to braces where they are in contact with Historic Elements.

3.5 DISCOVERY OF HIDDEN ARCHITECTURAL FEATURES

- A. In the event that features, materials, or artifacts are discovered during execution of toe work which have not been documented, the Contractor shall immediately notify the Architect. Do not disturb the area until the Architect has had the opportunity to evaluate the found materials. The Architect reserves the right to document, or have documented by a qualified professional, the location, surrounding conditions, and any other circumstances that may be pertinent.
- B. The Owner reserves the right to retain possession and ownership of the objects, artifacts, and historically or archaeologically significant materials, other than normal braiding construction materials, discovered during execution of the work.

3.6 REMOVAL OF SALVAGE ELEMENTS

- A. General:
 1. Exercise extreme care in removing Salvage Elements, and materials attached to Historic Elements which are to remain.
 - a. Unbolt bolted connections; leave embedded connector undisturbed and in place for later element reinstallation.
 - b. Unscrew screwed connections; leave embedded connector undisturbed and in place for later element reinstallation.
 - c. Do not pry apart members whose finish will thereby be damaged by chipping, crazing or cracking; or whose structural integrity will be impaired.
 - d. Remove all nails from woodwork from the backside. Drive nails through or pull from the back so that head does not splinter the finished face. If nails are historic carefully remove, document where removed from, place in zip lock bag and catalogue with woodwork. Notify architect if there are questions about age of nail.
 - e. Items are to be removed whole wherever possible. Where cuts are required, make cuts cleanly with proper tools and at logical break points. Verify unusual or ambiguous configurations with the City prior to

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removal of component.

- B. Chair Rails, Baseboards, Fireplace Surrounds, and other miscellaneous millwork designated by the Architect to be removed and salvaged.
 - 1. Carefully document and remove designated elements to Off-Site storage facility.
 - 2. Remove long running pieces of original trim over five-feet in length for reinstallation in a new configuration conforming to the new wall design.
 - 3. Salvage a representative balance of required baseboard, chair rail and wainscot to be replicated to match original profiles.
- C. Door Assemblies: Remove components in whole sections. Store door in frame, and hardware of individual door assemblies as single complete unit. Do not remove door frame unless required for construction activities. Catalog components and document conditions on Artifact Log as specified to allow for replication and reinstallation at the original or new locations as required.
- D. Hardware: Remove original lockset assemblies from doors. Bag all parts for each door separately. Catalog components and document conditions and missing components on Artifact Log as specified.
- E. Wood Elements: Test removal procedures in presence of Architect. Successful salvage for reuse of materials is desired.
- F. Light Fixtures: Remove light fixtures in presence of Architect. Label all elements as single component. Carefully protect and transport to storage.

3.7 CATALOGING OF SALVAGE ELEMENTS

- A. General: Salvage Elements to be removed and reinstalled at the same location shall be labeled to permit reinstallation in the original configuration. Contractor may propose alternative methods for cataloguing Salvage Elements. Submit alternative method to the Architect for review as specified before cataloguing process begins.
- B. Numbering and Cataloguing: Each item to be removed and reinstalled at the same location shall be given a unique catalog number which is to be permanently marked on the element and listed on the Artifact Log. Numbers are to be created in a manner similar to below, as approved by the Architect:

C100N/3.1

C100 = Room, door or window number.

N = Room wall elevation (north, south, east, west).

3 = A number abbreviation for each element type. Element type numbers should be established prior to the start of cataloguing.

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.1 = Component number. Number of component within a series of components.

- C. Stamp the item number on all wood elements with a metal punch. Label all other items with a black, permanent marker, unless otherwise noted, in area hidden from view when element is installed.
- D. Artifact Log:
 - 1. Record all items on the Artifact Log as they are removed. The Contractor shall list on the log the item number, condition, location in storage, and if applicable the quantity. If required to pinpoint the exact location of an object, the number shall also be placed on the elevation, or plan shop drawings, Reference to the condition of the item being removed, if not sound, should also be documented on the log.
 - 2. Only one master artifact log is to be prepared to avoid duplicate cataloguing.

3.8 STORAGE

- A. General: The Off-site Facility for storage of items shall be inspected by the Contractor. If any conditions exist that may be detrimental to Historic Elements, or other inadequacies exist notify the Architect immediately. Items shall be kept clean, dry, and well ventilated. Protect items from sunlight, moisture, vermin, abrasion and damage as required. Keep area clean.
- B. Organization:
 - 1. Elements shall be organized in such a manner as to be readily accessible and retrievable for reuse or reference.
 - 2. Complex components which will require re-assembly shall be stored together.
- C. Protection: Protect items in storage from abrasion or damage as required.
 - 1. Lighting Fixtures: Wrap each item individually with bubble wrap to prevent damage. Label wrapping with catalog number as it appears on the item.
 - 2. Hardware: Wrap items individually with bubble wrap to prevent abrasion. Label wrapping with catalog number as it appears on the item.
 - 3. Wood Elements: Wrap each item individually with bubble wrap to prevent damage. Label wrapping with catalog number as it appears on the item.

3.9 REINSTALLATION

- A. Salvage Elements shall be returned to their original locations whenever possible. Where items cannot be returned to original because of architectural modifications, they may be reused in other locations of the project as determined by the Architect. All Salvage Elements, determined by the Architect not to be reinstalled, will remain the property of the Owner. Contractor is responsible to load, handle, transport, unload and stack such items at a location to be determined by the Owner.

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- B. Contractor shall be held responsible for proper inventorying and distribution to appropriate subcontractors of salvaged material for reinstallation. A cost will be assessed for any lost, misplaced or damaged items unable to be replaced in kind, for which the Contractor will be back-charged.

3.10 CLEAN-UP

- A. All residue and debris from protection and removal work shall be removed from existing construction leaving the premises clean and neat.
- B. Return remaining Salvage Items to Owner which are not required for new construction and which are identified for return by the Architect.
- C. All remaining debris from storage activities and Salvage Items shall be removed upon completion of reinstallation activities.

END OF SECTION 02222

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SECTION 06100 - ROUGH CARPENTRY

PART 1 – GENERAL

1.1 SUMMARY

- A. Comply with all of the Contract Documents, including Drawings, General Requirements, General Conditions and Addendum to General Conditions.
- B. This Section includes, but is not limited to, the following:
 - 1. Wood blocking, grounds, cants, and nailers
 - 2. Plywood bases and blocking
 - 3. Sheathing
 - 4. Temporary protection
- C. Intent: It is the intent of this Section to provide for any rough carpentry as preparation of associated roofing and gutter repair work. Work shall be accomplished using materials and in a manner in keeping with the building's historic character without damaging existing original material.

1.2 RELATED DOCUMENTS

- A. Drawings and General provisions of Contract, including General and Supplementary Conditions and Division 1 – General Requirements, apply to work of this Section.
- B. Related Sections include the following:

Section 01300 – Submittals
 Section 01400 – Quality Requirements
 Section 01430 – Mock-up for Preservation Work
 Section 02222 – Protection, Salvage and Removal of Historic Elements
 Section 03930 – Concrete Rehabilitation
 Section 04100 – Mortar and Repointing
 Section 04200 – Brick Unit Masonry
 Section 04520 – Stone Restoration
 Section 04535 – Brick Salvaging
 Section 05120 – Structural Steel
 Section 06100 – Rough Carpentry
 Section 06300 – Epoxy Repair for Deterioration and Decay in Wooden Members
 Section 06401 – Exterior Architectural Woodwork
~~Section 07315 – Slate Roofing (NOT USED)~~
 Section 07620 – Sheet Metal Flashing and Trim
 Section 07920 – Joint Sealants
 Section 09890 – Coating Removal
 Section 09900 – Painting

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1.3 REFERENCES AND STANDARDS

- A. American Plywood Association:
 - 1. APA E30a-81, Residential and Commercial Construction Guide.
- B. American Wood Preservative Association:
 - 1. AWWA C20 1974, Structural Lumber Fire Retardant by Pressure Treatment.
- C. American Wood Preservers Bureau:
 - 1. LP-2 1980, Standard for Softwood, Lumber, Timber, Plywood Pressure Treated with Water-borne Preservatives.
- D. Federal Specifications:
 - 1. FS-FF-B-561C, Bolts, (Screw), Lag.
 - 2. FS-FF-B-575C, Bolts, Finned Neck; Key Head; Machine; Ribbed Neck; Square Neck; Tee Head.
 - 3. FS FF-B-584E(1), Bolts, Finned Neck; Key Head; Machine; Ribbed Neck; Square Neck; Tee Head.
 - 4. FS FF--B-588C(1), Bolt, Toggle: And Expansion Sleeve, Screw.
 - 5. FS FF-N-105B(3), INT AMD 4, Nails, Brads, Staples and Spikes: Wire, Cut and Wrought.
 - 6. FS FF-N-836D(1), Nut: Square, Hexagon, Cap, Slotted, Castle, Knurled, Welding and Single Ball Seat.

1.4 DEFINITIONS

- A. Rough carpentry includes carpentry work required as part of other Sections and generally not exposed, unless otherwise specified.

1.5 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
 - 2. Include data for construction adhesives.
 - 3. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials, both before and after exposure to elevated temperatures when tested according to ASTM D 5516 and ASTM D 5664.

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4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
- B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee Board of Review.

1.6 QUALITY ASSURANCE

- A. Restoration Specialist: The Contractor or Subcontractor(s) performing the work of this Section must have a minimum of three (3) consecutive years of experience and during that time have successfully completed at least two (2) projects of similar cost, type and scope to the work required by this Section.
- B. Source Limitations for Engineered Wood Products: Obtain each type of engineered wood product through one source from a single manufacturer.
- C. Source Limitations for Fire-Retardant-Treated Wood: Obtain each type of fire-retardant-treated wood product through one source from a single producer.

1.6 PERFORMANCE COORDINATION

- A. Design Requirements:
 1. Grading furnish each piece of lumber with official grade mark of inspection bureau or association under which lumber is produced.
 2. Sizes: Provide finish sizes in accordance with U.S. Product Standard PS 20, "American Softwood Lumber Standard"; dressed lumber, S4S.
 3. Pressure-preservative treated wood:
 - a. Use pressure-preservative treated wood in conjunction with roofing, for blocking and nailers at roof curbs, parapet copings, cants, support for metal flashings, and other wood less than 18 inches above grade.
 - b. Use pressure preservative treated wood for wood in contact with exterior masonry walls or concrete, and elsewhere as indicated.
- B. Fire Resistance Requirements: Treat those items required to be treated by authorities having jurisdiction over Work and those items shown or specified as "Fire Retardant Treated Wood".
- C. Interface with Other Systems:
 1. Coordinate with Work of other trades affected by work of this Section.
 2. Provide items, such as anchors or supports, in a timely manner so as not to delay job progress.
 3. Correlate location of nailers, blocking, grounds and similar supports to allow attachment of other work.

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1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.
1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

1.8 ENVIRONMENTAL CONCERNS

- A. Obtain confirmation from each supplier that timber and timber products incorporated in the Work are "Certified Wood" from sources certified by the Forest Stewardship Council (FSC) or an FSC Accredited Certification Body (ACB) as in conformance with FSC standards. The FSC allows a product to be certified only if it has demonstrated a chain of custody from the certified forest through the supply chain to the consumer. Further details of the FSC and ACBs are obtainable at www.fscoax.org/principal.htm. Provide evidence of certification along with the timber submittals as outlined in each Section.

1.9 GUARANTEE

- A. The Contractor shall provide a two (2) year written guarantee, covering the rough carpentry materials and workmanship. Should any defects occur during the stated period, they shall be corrected immediately, and all damage caused by such defects shall be corrected. All corrective work shall be at the Contractor's expense.

PART 2 - PRODUCTS

2.1 LUMBER

- A. Lumber Standards: Manufacture lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. Inspection Agencies: Inspection agencies and the abbreviations used to reference with lumber grades and species include the following:
1. NLGA - National Lumber Grades Authority (Canadian).
 2. SPIB - Southern Pine Inspection Bureau.
 3. WWPA - Western Wood Products Association.
- C. Grade Stamps: Factory-mark each piece of lumber with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
- D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.

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1. Provide dressed lumber, S4S, unless otherwise indicated.
 2. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated
- E. Miscellaneous Lumber, General:
1. Type: Sound, thoroughly seasoned, well manufactured and free from warp that cannot be corrected in process of bridging or nailing.
 2. Use same species for members in any one assembly.
 3. Seasoning: Season lumber two inches and less in thickness to moisture content of 19 percent or less, with indication of "S-Dry" on gradestamp.
 4. Grades for blocking, bridging materials: Conform to grading rules of manufacturer's association for specie of wood being used.
 5. Furring, cant strips, blocking, nailers, plates, grounds: Same material as light framing except utility grade is acceptable.
- F. For structural light framing (2" to 4" thick, 2" to 4" wide), provide the following grade and species.
1. Select structural grade.
 2. No. 1 grade.
 3. Same species as indicated for structural framing grade, or as follows:
 - a. Douglas Fir/Larch or Hem/Fir; WWPA Construction or Standard.
 - b. Southern Pine; SPIB Construction Standard or Stud.
- G. Decking: Design stresses as specified for structural members, 2 inches thick with single tongue and groove, V-jointed, matched and dressed where exposed.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: Lumber that is continuously protected from liquid water may be treated according to A/WPA C31 with inorganic boron (SBX).
1. Preservative Chemicals: Chromated copper arsenate (CCA).
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

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2.3 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including but not limited to the following:
1. Blocking.
 2. Cants.
 3. Nailers.
 4. Furring.
 5. Support bases.
 6. Bucks.
 7. Grounds.
 8. Stripping.
- B. For items of dimension lumber size, provide Construction grade lumber with 15 percent maximum moisture content and the following species:
1. Mixed southern pine; SPIB.
- C. For concealed boards, provide lumber with 15 percent maximum moisture content and the following species and grades:
1. Mixed southern pine, No. 2 grade; SPIB.
- D. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.4 SHEATHING

- A. Plywood Roof Sheathing: Exterior sheathing, APA Rated.
1. Thickness: Not less than 15/32-inch.

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
1. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: CABO NER-272.
- D. Wood Screws: ASME B18.6.1.

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- E. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- F. Lag Bolts: ASME B18.2.1. (ASME B18.2.3.8M).
- G. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.6 MISCELLANEOUS MATERIALS

- A. Building Paper: Asphalt-saturated organic felt complying with ASTM D 226, Type I (No. 15 asphalt felt), unperforated.
- B. Sheathing Tape: Pressure-sensitive plastic tape for sealing joints and penetrations in sheathing and recommended by sheathing manufacturer for use with type of sheathing required.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Do not use materials with defects that impair quality of rough carpentry or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- C. Apply field treatment complying with A WPA M4 to cut surfaces of preservative-treated lumber and plywood.
- D. Fastenings: Install fasteners at spacings recommended by "NFPA National Design Specifications for Stress Grade Lumber" and APA Form E30a.
- E. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood; predrill as required.

3.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

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- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated. Build anchor bolts into masonry during installation of masonry work. Where possible, secure anchor bolts to formwork before concrete placement.

3.3 WOOD FURRING

- A. Install plumb and level with closure strips at edges and openings. Shim with wood as required for tolerance of finished work.
 - 1. Firestop furred spaces on walls at each floor level and at ceiling line of top story, with wood blocking or noncombustible materials, accurately fitted to close furred spaces.
- B. Furring to Receive Plywood Paneling: Install 1-inch by 3-inch furring at 2 feet o.c., horizontally and vertically. Select furring for freedom from knots capable of producing bent-over nails and resulting damage to paneling.

3.4 HARDBOARD UNDERLAYMENT

- A. Comply with AHA's "Application Instructions for Basic Hardboard Products" and hardboard manufacturer's written instructions for preparing and applying hardboard underlayment.
 - 1. Fastening Method: Nail underlayment to subflooring.

3.4 BUILDING PAPER APPLICATION

- A. Apply building paper horizontally with 2-inch overlap and 6-inch end lap; fasten to sheathing with galvanized staples or roofing nails. Cover upstanding flashing with 4-inch overlap.

3.5 SHEATHING TAPE APPLICATION

- A. Apply sheathing tape to joints between sheathing panels and at items penetrating sheathing. Apply at upstanding flashing to overlap both flashing and sheathing.

END OF SECTION 06100

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SECTION 06401 - EXTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. Comply with all of the Contract Documents, including Drawings, General Requirements, General Conditions and Addendum to General Conditions.
- B. The work of this section includes, but is not limited to face brick reconstruction and brick unit masonry and accessories used in structural, non-visible areas, indentified by repair codes on drawings as WD 02, WD 03, WD 04, WD 05, WD 06, WD 07, WD 08, and WD 09.
- C. This Section includes, but is not limited to, the following:
 - 1. Replacement of all damaged fascia, soffit, trim, column, window sill and railing elements as indicated on the drawings and encountered in the universal replacement of gutters and leaders.
 - 2. Shop priming exterior woodwork
 - 3. Temporary protection

1.2 RELATED DOCUMENTS

- A. Drawings and General provisions of Contract, including General and Supplementary Conditions and Division 1 – General Requirements, apply to work of this Section.
- B. Related Sections include the following:
 - 1. Section 01300 – Submittals
 - 2. Section 01400 – Quality Requirements
 - 3. Section 01430 – Mock-up for Preservation Work
 - 4. Section 02222 – Protection, Salvage and Removal of Historic Elements
 - 5. Section 03930 – Concrete Rehabilitation
 - 6. Section 04100 – Mortar and Repointing
 - 7. Section 04200 – Brick Unit Masonry
 - 8. Section 04520 – Stone Restoration
 - 9. Section 04535 – Brick Salvaging
 - 10. Section 05120 – Structural Steel
 - 11. Section 06100 – Rough Carpentry
 - 12. Section 06300 – Epoxy Repair for Deterioration and Decay in Wooden Members
 - 13. ~~Section 07315 – Slate Roofing (NOT USED)~~
 - 14. Section 07620 – Sheet Metal Flashing and Trim
 - 15. Section 07920 – Joint Sealants
 - 16. Section 09890 – Coating Removal
 - 17. Section 09900 – Painting

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1.3 REFERENCES AND STANDARDS

- A. Hardwood Lumber Standard: Comply with National Hardwood Lumber Association (NHLA) rules.
- B. Hardwood Plywood Standard: Comply with PS 51.
- C. Softwood Lumber Standards: Comply with PS20 and with applicable grading rules of the respective grading and inspecting agency for the species and product indicated.
- D. Plywood Standard: Comply with PS 1/ANSI A199.1.
- E. Glued-up Lumber Standard: Comply with PS 56.
- F. Hardboard: ANSI/AHA A135.4
- G. High Pressure Laminate: NEMA LD 3.
- H. Medium Density Fiberboard: ANSI A208.2.
- I. Particleboard: ANSI A208.1.
- J. Architectural Woodwork Quality Standards, latest edition (AWI).

1.4 SUBMITTALS

- A. Submit in accordance with Section 01300 – Submittals.
- B. Product Data: Submit manufacturer's product data for each product and process specified as work of this section and incorporated into items of architectural woodwork during fabrication, finishing, and installation.
 - 1. Submit manufacturer's maintenance recommendations for wood and metal finishes.
- C. Quality Certification: Submit woodwork fabricator's certification, stating that the fabricated woodwork complies with quality grades and other requirements indicated.
 - 1. Submit certification of fire retardant treatment of items required by code.
- D. Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, large scale details, attachment devices and other components. Show abutting work of other trades, location of connections and attachments made on site.
- E. Samples: Submit fully finished samples of the following items:
 - 1. Solid wood with transparent finish, 3 finished samples, 19mm x 152mm x 457mm, for each species.
 - 2. All other exposed materials and finishes: 3 samples, 305mm square, for each type, color and surface finish.
 - 3. Exposed hardware, one unit of each type and finish.

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- F. Mock-ups: Fabricate full-scale samples of items specified or requested by the Contracting Officer, as shown on the drawings.

1.5 QUALITY ASSURANCE

- A. AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards", published by the Architectural Woodwork Institute (AWI), except as otherwise indicated.
- B. Restoration Specialist: The Contractor or Subcontractor(s) performing the work of this Section must have a minimum of three (3) consecutive years of experience and during that time have successfully completed at least two (2) projects of similar cost, type and scope to the work required by this Section.
- C. Mockups: Prepare samples for restoration methods to demonstrate aesthetic effects and qualities of materials and execution for each type of architectural wood element requiring rehabilitation or replication. Test sample shall be of an appropriate size to adequately demonstrate repair, replication, finishing and installation methods:
 - 1. Prior to beginning work and after manufacturer's data and initial samples have been approved, prepare a field mockup sample for each type of wood installation and repair, including finish coat.
 - 2. Notify Architect seven (7) days in advance of dates and times when mockups shall be installed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. The Architect-approved sample shall meet or exceed the level of craftsmanship as exhibited in the mockup installation, which shall serve as a standard for acceptable technique and appearance for all woodwork.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber, plywood, and other panels; place spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.
- B. Architectural woodwork shall be fully protected from the weather while in transit from point of origin or fabrication to the job site. When delivered at the building the materials shall be immediately placed under cover and adequately protected from damage, kept clean, stored, and handled in such a manner as to avoid injury.
- C. Delivered materials that do not conform to selected samples or are damaged, marred, or otherwise not suitable for installation shall be removed from the job site and replaced with acceptable materials at the Contractor's expense.
- D. Deliver materials to the site in original and unopened containers and packing bearing labels cataloguing and typing materials. Delivered materials shall be identical to approved samples.

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1.7 GUARANTEE

- A. The Contractor shall provide a two (2) year written guarantee, covering the rough carpentry materials and workmanship. Should any defects occur during the stated period, they shall be corrected immediately, and all damage caused by such defects shall be corrected. All corrective work shall be at the Contractor's expense.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General Requirements:
1. The grades of all materials under this section shall be defined by the rules of the recognized association of lumber manufacturers producing the materials specified. All new wood shall match the existing wood species and grain pattern.
- B. New Wood:
1. Where new wood trim is required, match existing wood species and conform to "Premium Grade" requirements of the AWI Quality Standards for materials and workmanship of all woodwork.
 2. Select wood trim that matches required species, configuration, pattern and color to the greatest extent possible.
 3. New woodwork shall be sound and free from splits, cracks, shakes, waness, and loose or unsound knots and decay. Any material which is in any way defective and does not meet specifications for quality and grade, or is otherwise not in proper condition, shall be rejected. To the extent that unavoidable defects occur, they shall be patched in the same manner as indicated for existing in place wood.
- C. Preservative Treatment by Nonpressure Process: Comply with AWPA N1 using the following preservative for woodwork items indicated to receive water-repellent preservative treatment:
1. Water-Repellent Preservative: Formulation containing 3-iodo-2-propynyl butyl carbamate (IPBC) complying with AWPA P8 as its active ingredient.
 2. Water-Repellent Preservative/Insecticide: Formulation containing 3-iodo-2-propynyl butyl carbamate (IPBC) as its active ingredient, combined with an insecticide containing chlorpyrifos as its active ingredient, both complying with AWPA P8.
- D. Nails: Stainless steel.
- E. Screws: Stainless steel.

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2.2 FABRICATION

- A. Design and construction features: Comply with details shown for profile and construction of architectural woodwork. Where not otherwise shown, comply with applicable AWI Premium Quality Standards, except as modified herein. Submit shop drawings for alternate details for review and approval by Owner and Architect. Only first class materials and workmanship will be admissible in the execution of this work.
- B. Finished work shall be constructed in the most careful and thorough manner in accordance with details and approved shop drawings. Exposed surfaces and edges shall be finished smooth and be free from marks, blemishes, or defacements of any kind caused by workmanship or in the manufacturer of the work.
- C. Joints shall be neatly and accurately made, fitted tight, blocked or otherwise put together so as to avoid opening. No open joints are acceptable in the finished work.
- D. Architectural woodwork shall be fabricated and assembled at the shop, insofar as possible in one piece and delivered at the building ready to set in place. The material shall be worked in the best manner known to the trade; mortised, tenoned, doweled, blocked, and glued together so as to avoid the use of nails as much as possible; mouldings cleanly cut, sharply defined and mitered accurately made. Plain butt joints, will not be accepted. Where nails and screws are necessary, they shall be concealed.
- E. Wood Moisture Content: Comply with requirements of referenced quality standard for moisture content of lumber at time of fabrication and for relative humidity conditions in the installation areas.
- F. Fabricate woodwork to dimensions, profiles, and details indicated with openings and mortises precut, where possible, to receive hardware and other items and work.
- G. Measurements: Before proceeding with fabrication of woodwork required to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit.
- H. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- I. Woodwork for Opaque Finish:
 - 1. Grade: Premium
 - 2. Wood Species: Eastern white pine, sugar pine, or western white pine
- J. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
- K. Shop Priming: Shop prime woodwork for paint finish with one coat of wood primer specified in Division 9 painting Sections.

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1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to surfaces installed in contact with concrete or masonry and to end-grain surfaces.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.
- B. Quality Standard: Install woodwork to comply with same grade specified in Part 2 for type of woodwork involved.
- C. Install woodwork true and straight with no distortions. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
- D. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk concealed fasteners and blind nailing. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork.
- F. Install trim with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Scarf running joints and stagger in adjacent and related members.
- G. Complete finishing work specified in this Section to extent not completed at shop or before installation of woodwork. Fill nail and screw holes with matching filler where exposed.
- H. Refer to 09900 – Painting for final finishing of installed architectural woodwork.

END OF SECTION 06401

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SECTION 07620 – SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.1 SUMMARY

- A. This project consists of all labor, equipment, materials and services required to perform the exterior repairs at Holly Grove Mansion, Charleston, WV, as indicated on the Drawings and specified herein.
- B. Work of this Section includes, but is not limited to, the following flashing and sheet metal work:
1. ~~Copper step flashing at dormers of 1815 building.~~
 2. ~~Copper step at chimneys of 1815 building.~~
 3. ~~All flashing associated with new slate roof of 1815 building.~~
 4. Copper leaders and strainer baskets.
 5. Work identified on the Drawings by Repair Codes FL 01, FL 02, FL 03, FL 04, FL 05, RO (SL) 04, RO (SL) 04a, and SM 01.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 - General Requirements, apply to work of this Section.
- B. Related Sections include the following:
1. Section 01300 – Submittals.
 2. Section 01400 – Quality Requirements.
 3. Section 01430 – Mock-up for Preservation Work.
 4. Section 02222 – Protection, Salvage and Removal of Historic Elements.
 5. Section 04200 – Brick Unit Masonry.
 6. Section 05120 – Structural Steel.
 7. ~~Section 07315 – Slate Shingles. (NOT USED)~~
 8. Section 07920 – Joint Sealants.

1.3 REFERENCES AND STANDARDS

- A. American Society of Testing and Materials (ASTM).
- B. Copper Development Association (CDA):
1. Copper Roofing - A Practical Handbook
- C. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA):

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1. Architectural Sheet Metal Manual, latest edition.

1.4 SUBMITTALS

- A. General: Submittals shall be in accordance with Section 01300 – Submittals.
- B. Restoration Program: Submit a written description of work for all sheet metal restoration and new installation. Include details of methods and procedures, tools, equipment and procedures.
 1. Include means and methods to protect wood elements during soldering operations.
- C. Shop Drawings:
 1. Submit full-scale shop drawings of new flashing. Include all profiles, jointing pattern, features, method of attachment, terminations and dimensions.
- D. Product data, Flashing, Sheet Metal, and Accessories: Manufacturer's technical product data, installation instructions and general recommendations for each specified sheet material and fabricated product.
- E. Samples of the following flashing, sheet metal, and accessory items:
 1. 8-inch-square samples of specified flashing materials.

1.5 QUALITY ASSURANCE

- A. Restoration Specialist: The Contractor or subcontractor(s) performing the work of this section must have a minimum of three (3) consecutive years of experience and during that time have successfully completed at least two (2) projects of similar cost, type and scope to the work required in this section. Workers shall be carefully supervised to ensure that the work is accomplished to meet or exceed the highest standards of the trade. In acceptance or rejection of the work by the Architect, no allowance will be made for lack of skill on the part of the mechanics.
 1. Submit qualifications of all workers scheduled to perform work of this section.
- B. Separations: Separate noncompatible metals or corrosive substrates with a coating of asphalt mastic or other permanent separation as recommended by manufacturer.
- C. Industry Standard: Unless otherwise shown or specified, comply with the Sheet Metal and Air Conditioning Contractors National Association's (SMACNA) "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown.
- D. Mockups: Before installing copper flashing at masonry, window, slate and gutter elements, construct mockups for each form of construction and finish required to verify

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selections made under Sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mockups to comply with the following requirements, using exposed and concealed materials and forming methods indicated for completed Work.

1. Locate mockups in the location and of the size indicated or, if not indicated, as directed by Architect.
 2. Notify Architect 7 days in advance of the dates and times when mockups will be constructed.
 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 4. Obtain Architect's approval of mockups before starting metal roofing Work.
 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 6. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.
- E. The building is listed on the National Register of Historic Places. The Work is subject to review by the Capitol Building Commission, the West Virginia State Historic Preservation Officer (SHPO), and the Architect. .

1.6 PROJECT CONDITIONS

- A. Coordinate work of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of work and protection of materials and finishes.

1.7 GUARANTEE

- A. The Contractor shall provide a two (2) year written guarantee, covering the flashing and sheet metal materials and workmanship. Should any defects occur during the stated period, they shall be corrected immediately, and all damage caused by such defects shall be corrected. All corrected Work shall be at the Contractor's expense.

PART 2 - PRODUCTS

2.1 SHEET METAL FLASHING AND TRIM MATERIALS

- A. Copper: ASTM B 370; temper H00 (cold-rolled) except where temper 060 is required for forming; 20 oz. except as otherwise indicated.

2.2 FASTENERS

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- A. Fasteners: Same metal as flashing/sheet metal or other non-corrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.

2.3 MISCELLANEOUS MATERIALS

- A. Solder:
1. 50/50 tin/lead solder, for use with copper (ASTM B 32), with rosin flux.
- B. Sealant:
1. Mastic Sealant: Polyisobutylene; nonhardening, non-skinning, non-drying, non-migrating sealant.
 2. Elastomeric Sealant: Generic type recommended by manufacturer of metal and fabricator of components being sealed and complying with requirements for joint sealants as specified in Section 07920 – Joint Sealants.
 3. Epoxy Seam Sealer: 2-part non-corrosive metal seam cementing compound, recommended by metal manufacturer for exterior/interior nonmoving joints including riveted joints.
- C. Adhesives: Type recommended by flashing sheet manufacturer for waterproof/weather-resistant seaming and adhesive application of flashing sheet.
- B. Reglets: Lead wedge as indicated on Drawings, compatible with flashing indicated, non-corrosive.
- C. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of work, matching or compatible with material being installed, non-corrosive, size and gage required for performance.

2.4 FABRICATED UNITS

- A. General Metal Fabrication: Shop-fabricate work to greatest extent possible. Comply with details shown and with applicable requirements of SMACNA "Architectural Sheet Metal Manual" and other recognized industry practices. Fabricate for waterproof and weather-resistant performance, with expansion provisions for running work, sufficient to permanently prevent leakage, damage, or deterioration of the work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil canning, buckling, and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.

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- B. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- C. Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used or would not be sufficiently water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- D. Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.
- E. Separations: Provide for separation of metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact, with permanent separation as recommended by manufacturer/fabricator.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements indicated for conditions affecting performance of sheet metal flashing. Do not proceed with installation until unsatisfactory conditions have been corrected. Coordinate flashing installation with flat seamed copper sheet metal roofing and other adjoining work to provide the proper sequencing to provide a leakproof, secure and non-corrosive installation.

3.2 PREPARATION

- A. Do not install the Work of this Section unless all necessary nailers, blocking and other supporting components have been provided.
- B. Do not install the Work of this Section unless all substrates are clean and dry.

3.3 INSTALLATION REQUIREMENTS

- A. General: Except as otherwise indicated, comply with manufacturer's installation instructions and recommendations and with SMACNA "Architectural Sheet Metal Manual." Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weatherproof.
- B. Tinning and Soldering

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1. Use soldering irons (heavy coppers) as Industry Standard. Torch soldering is not acceptable.
2. Clean, flux and tin all surfaces to be soldered.
3. Sweat solder thoroughly into seams, completely filling the seam for the full width.
4. Upon completion of soldering, remove all traces of flux residue, and if required, apply a neutralizing wash followed by a clean water wash.

C. Installing Cap Flashing

1. Form and install the cap to provide a spring tight fit against the base flashing. Lap all end joints and base flashing a minimum of 3-inch. Extend the cap continuously around corners or provide lock seams. Install waterstop flashing at expansion joints.
2. Cap Flashing for Installation in Reglets:
 - a. Extend the built-in portion of the cap a min., of 2--inch into the reglet. Form the edge of the built in portion with a ¼-inch hook dam.
 - b. Secure the cap with lead wedges 8-inches oc. Fill joint completely with closed-cell backer rod and Type II sealant and tool to a slightly concave surface.
3. Surface Mounted Cap Flashing:
 - a. Form the top portion of the cap flashing which comes in contact with the wall surface with a 1-inch wide bearing surface. Form a 45 degree x 1/4" wide stiffener and calking flange along the top edge.
 - b. Apply Type II sealant on the back side of the bearing surface.
 - c. Secure the cap flashing to the wall with fasteners spaced 12-inches oc through the bearing surface.
 - d. Apply Type II sealant along the calking flange.

D. Dressing Down Existing cap Flashing

1. Turn up all cap flashings as required to perform the Work. Upon completion of the Work, dress down all disturbed cap flashings so they lie flat against the base flashing.
2. Secure the cap flashing to the wall surface with fasteners spaced 18-inches oc.
3. Install matching metal patches at corners of cap flashings which have been cut to perform the Work. Lap the patches a minimum of 1-inch on each side of the cap flashing.
 - a. Secure the patch by pop-riveting or by soldering.

E. Installing Base Flashings

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1. Form the base flashing with locked and soldered joints into lengths not more than 24'-0" oc.
2. Provide expansion joints a maximum of 24'-0" oc on straight runs and a maximum of 4' from corners. Form expansion joints with a 3" loose locked seam filled with Type 3 Sealant.
 - a. Expansion Joint: slit the cross folded portion of the flashing where it is bent at a right angle. Solder a patch over the slit to avoid binding at the cross fold.
3. Extend the vertical portion of the base flashing a minimum of 3-inch up behind the cap flashing.
 - a. Where shown on the Drawings, lock the base flashing to the cap flashing with a minimum ¾-inch loose lock joint.
4. Extend the horizontal portion of the base flashing onto the roof surface a minimum of 4-inches and terminate in a ½-inch folded edge. Secure with nails spaced 3-inches oc staggered.

3.4 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.
- B. Protection: Advise Contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction to ensure that work will be without damage or deterioration other than natural weathering at time of Substantial Completion.

END OF SECTION 07620