



**823 University Avenue**

Saint Paul, MN 55104

**PROJECT MANUAL**

November 22, 2016

**MACDONALD & MACK**

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I hereby certify that this specification was prepared under my supervision and that I am a duly registered Architect under the laws of the State of Minnesota.

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Amy Meller 47218

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## SECTION 011000 - SUMMARY

### PART 1 - GENERAL

#### 1.1 PROJECT INFORMATION

- A. Project Identification: 823 University Avenue, St. Paul, MN 55104.
- B. Owner's Representative: Aaron Rubenstein, Historic Saint Paul.
  - 1. Telephone: 612-226-5517
  - 2. E-mail: arubenstein@historicsaintpaul.org
- C. Architect: Amy Meller, AIA. MacDonald & Mack Architects.
  - 1. Telephone: 612-341-4051.
  - 2. E-mail: amym@mmarchltd.com

#### 1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Base Scope of Project Work includes:
  - 1. Remove an existing chain link fence and gates facing University Avenue and install an ornamental fence where indicated on drawings.
  - 2. Remove bituminous paving in area indicated and install landscaping.
  - 3. Remove existing signage, abandoned alarm boxes, and other attachments that are no longer used in areas of work on south and east elevations within scope of work.
  - 4. Repair brickwork and stucco in areas indicated on the south and east elevations.
  - 5. Install transom windows in existing openings on the south elevation.
  - 6. Replace double-hung windows on the south elevation.
  - 7. Replace a door and transom on the east elevation.
  - 8. Replace a residential door on the east elevation.
  - 9. Remove non-historic metal soffit materials at the pent roof. Replace the soffit, and repair the wood trim and brackets.
  - 10. Remove the existing asphalt roofing at the pent roof and install new metal tile roofing.
  - 11. Paint the stucco, brick, doors, windows, and wood trim and brackets on south and east elevations where indicated on drawings.
  - 12. Install new signage and lighting.
- B. Type of Contract: Single prime contract.
- C. Use of Site: Limited to work in areas indicated on drawings.
- D. Owner's Occupancy Requirements: Full Owner occupancy.
- E. Work Restrictions:
  - 1. Maintain access to business entrances.

2. Maintain off-street parking.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

## SECTION 012100 - ALLOWANCES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Types of allowances include the following:
  - 1. Lump-sum allowances.

#### 1.2 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Owner's Rep of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.

#### 1.3 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

#### 1.5 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

#### 1.6 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

- A. Allowance No. 01: Lump-Sum Allowance: Include the sum of \$3,500.00 for furnishing and installing a 2'-2" high by 18'-0" long panel sign above the storefront windows on the south elevation.
  - 1. See drawings for basis-of-design.
  
- B. Allowance No. 02: Lump-Sum Allowance: Include the sum of \$6,000.00 for furnishing and installing a projecting sign on the south elevation.
  - 1. See Specification 012300 "Alternates" for Alternate No. 8: Sign substitution.

END OF SECTION 012100

## SECTION 012300 - ALTERNATES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

#### 1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
  - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

#### 1.3 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: Site improvements (deduct).
  - 1. Base Bid: Remove a section of asphalt paving, prepare soil for planting, and furnish and install plantings as indicated on Sheet A101 and in project manual.
  - 2. Alternate: Omit asphalt paving removal, soil preparation, and plantings from the site improvements scope as indicated on Sheet A101 and in project manual.
- B. Alternate No. 2: Chain link fence removal (deduct).
  - 1. Base Bid: Remove gates and sections of chain link fence as indicated on Sheet A101.
  - 2. Alternate: Omit fence removal at east property line from the site improvements scope as indicated on sheet A101.
- C. Alternate No. 3: Roofing material substitution (deduct).
  - 1. Base Bid: Furnish and install a stone-coated metal tile roof at pent roof above second floor windows as indicated on Sheet A201 as specified in Section 073114 "Stone Coated Metal Roof."
  - 2. Alternate: Furnish and install asphalt shingles in lieu of metal roof tiles as indicated on Sheet A203 and as specified in Section 073113 "Asphalt Shingles."
- D. Alternate No. 4: Exterior building painting (deduct).
  - 1. Base Bid: Paint all walls, doors, windows, and trim on the entire east elevation, including south building projections, as indicated on Sheet A101.
  - 2. Alternate: Omit all exterior painting from the painting scope on the east elevation beginning at the south building projection and ending at the alley as indicated on Sheet A101.
- E. Alternate No. 5: Residential door (deduct).
  - 1. Base Bid: Furnish and install a new residential 2-panel square primed white steel prehung front door to Apartment 823A and paint as indicated on Sheet A501.
  - 2. Alternate: Omit new apartment door 823A from door replacement scope. Paint existing apartment 823A door.
- F. Alternate No. 6: Interior first floor window trim (deduct).
  - 1. Base Bid: Furnish and install trim around first floor picture windows and transoms as indicated on Sheet A501. Paint trim.
  - 2. Alternate: Omit first floor picture and transom window interior trim and painting from window scope.
- G. Alternate No. 7: Electrical removal (deduct).



1. Base Bid: Remove unused electrical conduit from wall.
2. Alternate: Exclude existing electrical conduit on east elevation from removals scope as indicated on Sheet A202.

H. Alternate No. 8: Sign substitution (deduct).

1. Base Bid: Furnish and install a projecting sign on the south elevation.
2. Alternate: Furnish and install a panel sign and two goose neck light fixtures on the east elevation in lieu of a projecting sign on the south elevation.
3. Owner's Rep to provide cut sheets of projecting sign and panel sign design.

END OF SECTION 012300

## SECTION 013591 - HISTORIC TREATMENT PROCEDURES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes general protection and treatment procedures for entire Project.

#### 1.2 DEFINITIONS

- A. Consolidate: To strengthen loose or deteriorated materials in place.
- B. Dismantle: To disassemble or detach a historic item from a surface, or a nonhistoric item from a historic surface, using gentle methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- C. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Owner's Rep.
- D. Remove: To take down or detach a nonhistoric item located within a historic space, area, or room, using methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Repair: To correct damage and defects, retaining existing materials, features, and finishes while employing as little new material as possible. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- F. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- G. Retain: To keep existing items that are not to be removed or dismantled.

### PART 2 - PRODUCTS - (Not Used)

### PART 3 - EXECUTION

#### 3.1 PROTECTION, GENERAL

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from historic treatment procedures.
  - 1. Use only proven protection methods, appropriate to each area and surface being protected.
  - 2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where historic treatment work is being performed.

3. Erect temporary barriers to form and maintain fire-egress routes.
4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during historic treatment work.
5. Contain dust and debris generated by historic treatment work, and prevent it from reaching the public or adjacent surfaces.
6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
8. Provide supplemental sound-control treatment to isolate removal and dismantling work from other areas of the building.

B. Temporary Protection of Historic Materials:

1. Protect existing historic materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
2. Do not attach temporary protection to historic surfaces.

C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:

1. Notify Owner's Rep, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by historic treatment work before commencing operations.
2. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

### 3.2 PROTECTION FROM FIRE

A. General: Follow fire-prevention plan and the following:

1. Comply with NFPA 241 requirements unless otherwise indicated.
2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
3. Prohibit smoking by all persons within Project work and staging areas except where specifically designated for smoking.

B. Fire Extinguishers, Fire Blankets, and Rag Buckets: Maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.

### 3.3 GENERAL HISTORIC TREATMENT

A. Ensure that supervisory personnel are present when work begins and during its progress.

- B. Notify Owner's Rep of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
- C. Where missing features are indicated to be repaired or replaced, provide work with appearance based on accurate duplications rather than on conjecture, subject to approval of Owner's Rep.
- D. Where work requires existing features to be removed, perform these operations without damage to adjacent materials or to the substrate.

END OF SECTION 013591

## SECTION 024296 - HISTORIC REMOVAL AND DISMANTLING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes historic treatment procedures in the form of special types of selective demolition work for designated historic spaces, areas, rooms, and surfaces.

#### 1.2 DEFINITIONS

- A. Dismantle: To disassemble or detach a historic item from a surface, or a nonhistoric item from a historic surface, using gentle methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- B. Existing to Remain: Existing items that are not to be removed or dismantled, except to the degree indicated for performing required Work.
- C. Remove: To take down or detach a nonhistoric item located within a historic space, area, or room, using methods and equipment to prevent damage to historic items and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- D. Retain: To keep existing items that are not to be removed or dismantled.

#### 1.3 PRECONSTRUCTION MEETINGS

- A. Preconstruction Conference: Conduct conference at Project site.
  - 1. Review list of items indicated to be removed.
  - 2. Review methods and procedures related to removal and dismantling work.

#### 1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with notification regulations of authorities having jurisdiction before beginning removal and dismantling work. Comply with hauling and disposal regulations of authorities having jurisdiction.

#### 1.5 FIELD CONDITIONS

- A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- B. Notify Owner's Rep of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

- C. Hazardous Materials: If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Owner's Rep. Owner will remove hazardous materials under a separate contract.

## PART 2 - PRODUCTS - (Not Used)

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Preparation for Removal and Dismantling: Examine construction to be removed or dismantled to determine best methods to safely and effectively perform removal and dismantling work.
  - 1. Verify that affected utilities are disconnected and capped.

### 3.2 HISTORIC REMOVAL AND DISMANTLING

- A. Anchorages:
  - 1. Remove anchorages associated with removed items.
  - 2. Dismantle anchorages associated with dismantled items.
  - 3. In nonhistoric surfaces, patch holes created by anchorage removal or dismantling according to the requirements for new work.
  - 4. In historic surfaces, patch or repair holes created by anchorage removal or dismantling according to Section that is specific to the historic surface being patched.

### 3.3 LIST OF ITEMS TO BE REMOVED

- A. The following items are to be removed:
  - 1. Sections of existing parking lot chain link fence and gates (confirm ownership at east property line).
  - 2. Area of existing asphalt paving in parking lot as indicated in the drawings.
  - 3. Existing signage, lighting, abandoned alarm boxes, and unused attachments from the south (University Avenue) elevation and two-story portion of the east elevation.
  - 4. Existing electrical conduit on east elevation as indicated in the drawings.
  - 5. Existing panels at first floor transom openings on the south and east elevations.
  - 6. Existing second floor double-hung windows on the south elevation.
  - 7. Existing entrance door into Demera Restaurant on the east elevation.
  - 8. Existing residential door to second floor apartment on the east elevation.
  - 9. Existing asphalt shingles on south elevation pent roof.
  - 10. Patching materials on existing brick and stucco surfaces on the south and east elevations.
  - 11. Strip of metal lath wrapping onto the face of the south elevation at the east corner.
  - 12. Existing areas of failing stucco as indicated in the drawings.

END OF SECTION 024296

## SECTION 040120 - BRICK MASONRY REPAIR AND REPOINTING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes repairing and repointing brick masonry, including replacing units.

#### 1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For brick masonry specialist including field supervisors and workers.
- B. Quality-control program.

#### 1.5 SEQUENCING AND SCHEDULING

- A. Work Sequence: Perform brick masonry repointing work in the following sequence, which includes work specified in this and other Sections:
  - 1. Inspect masonry for open mortar joints and permanently or temporarily point them before cleaning to prevent the intrusion of water and other cleaning materials into the wall.
  - 2. Rake out mortar from joints surrounding masonry to be replaced and from joints adjacent to masonry repairs along joints.
  - 3. Repair masonry, including replacing existing masonry with new masonry materials.
  - 4. Rake out mortar from joints to be repointed.
  - 5. Point mortar and sealant joints.
  - 6. After repairs and repointing have been completed and cured, perform a final cleaning to remove residues from this work.
- B. As scaffolding is removed, patch anchor holes used to attach scaffolding. Patch holes in mortar joints according to "Repointing Masonry" Article.

## 1.6 QUALITY ASSURANCE

- A. Brick Masonry Specialist Qualifications: Engage an experienced brick masonry repair firm to perform work of this Section. Firm shall have completed work similar in material, design, and extent to that indicated for this Project with a record of successful in-service performance. Experience in only installing masonry is insufficient experience for masonry repair work.
- B. Quality-Control Program: Prepare a written quality-control program for this Project to systematically demonstrate the ability of personnel to properly follow methods and use materials and tools without damaging masonry. Include provisions for supervising performance and preventing damage.
- C. Mockups: Prepare mockups of brick masonry repair to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation.
  - 1. Masonry Repair: Prepare sample areas for each type of masonry repair work performed. If not otherwise indicated, size each mockup not smaller than two adjacent whole units or approximately 48 inches in least dimension. Construct sample areas in locations in existing walls where directed by Owner's Rep unless otherwise indicated. Demonstrate quality of materials, workmanship, and blending with existing work.
  - 2. Repointing: Rake out joints in two separate areas, each approximately 36 inches high by 48 inches wide, unless otherwise indicated, for each type of repointing required, and repoint one of the areas.

## 1.7 WARRANTY

- A. Materials and Workmanship: Two years.

## 1.8 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit repointing work to be performed according to product manufacturers' written instructions and specified requirements.
- B. Temperature Limits, General: Repair brick and repoint mortar joints only when air temperature is between 40 and 90 deg F and is predicted to remain so for at least seven days after completion of the Work unless otherwise indicated.
- C. Cold-Weather Requirements: Comply with the following procedures unless otherwise indicated:
  - 1. When air temperature is below 40 deg F, heat mortar ingredients, replacement brick and existing masonry walls to produce temperatures between 40 and 120 deg F.
  - 2. When mean daily air temperature is below 40 deg F, provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for seven days after pointing.
- D. Hot-Weather Requirements: Protect mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar materials. Provide artificial shade and wind breaks, and use cooled materials as required to minimize evaporation. Do not apply mortar to substrates with temperatures of 90 deg F and above unless otherwise indicated.



## PART 2 - PRODUCTS

### 2.1 MASONRY MATERIALS

- A. Face Brick: As required to complete brick masonry repair work.
  - 1. Units with colors, color variation within units, surface texture, size, and shape that match existing brickwork.
    - a. Basis-of-design: Confirm with Owner's Rep.

### 2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I or Type II, except Type III may be used for cold-weather construction; white or gray, or both where required for color matching of mortar.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Mortar Cement: ASTM C 1329/C 1329M.
- D. Mortar Sand: ASTM C 144.
  - 1. Exposed Mortar: Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
  - 2. Colored Mortar: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
- E. Water: Potable.

### 2.3 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
- B. Do not use admixtures in mortar unless otherwise indicated.
- C. Mixes: Mix mortar materials in the following proportions:
  - 1. Rebuilding (Setting) Mortar by Type: ASTM C 270, Proportion Specification, Type N unless otherwise indicated; with cementitious material limited to portland cement and mortar cement.
  - 2. Pigmented, Colored Mortar: Add mortar pigments to produce exposed, setting (rebuilding) mortar of colors required.

## 2.4 ACCESSORY MATERIALS

- A. Setting Buttons and Shims: Resilient plastic, nonstaining to masonry, sized to suit joint thicknesses and bed depths of masonry units, less the required depth of pointing materials unless removed before pointing.
- B. Other Products: Select materials and methods of use based on the following, subject to approval of a mockup:
  - 1. Previous effectiveness in performing the work involved.
  - 2. Minimal possibility of damaging exposed surfaces.
  - 3. Consistency of each application.
  - 4. Uniformity of the resulting overall appearance.
  - 5. Do not use products or tools that could do the following:
    - a. Remove, alter, or harm the present condition or future preservation of existing surfaces, including surrounding surfaces not in Contract.
    - b. Leave residue on surfaces.

## PART 3 - EXECUTION

### 3.1 BRICK REMOVAL AND REPLACEMENT

- A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated. Carefully remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
- B. Support and protect remaining masonry that surrounds removal area.
- C. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- D. Notify Owner's Rep of unforeseen detrimental conditions including voids, cracks, bulges, and loose units in existing masonry backup, rotted wood, rusted metal, and other deteriorated items.
- E. Remove in an undamaged condition as many whole bricks as possible.
  - 1. Remove mortar, loose particles, and soil from brick by cleaning with hand chisels, brushes, and water.
  - 2. Remove sealants by cutting close to brick with utility knife and cleaning with solvents.
- F. Clean masonry surrounding removal areas by removing mortar, dust, and loose particles in preparation for brick replacement.
- G. Replace removed damaged brick with other removed brick in good condition, where possible, matching existing brick. Do not use broken units unless they can be cut to usable size.
- H. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.

1. Maintain joint width for replacement units to match existing joints.
  2. Use setting buttons or shims to set units accurately spaced with uniform joints.
- I. Lay replacement brick with rebuilding (setting) mortar and with completely filled bed, head, and collar joints. Butter ends with enough mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C 67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
  2. Rake out mortar used for laying brick before mortar sets according to Part 3.2 Repointing Masonry. Point at same time as repointing of surrounding area.
  3. When mortar is hard enough to support units, remove shims and other devices interfering with pointing of joints.
- J. Curing: Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
1. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

### 3.2 REPOINTING MASONRY

- A. Rake out and repoint joints to the following extent:
1. All joints in areas indicated to be pointed 100%.
    - a. Horizontal parapet cap joints to receive sealant. Seal joints according to Section 079200 "Joint Sealants."
  2. Joints at other locations indicated with the following defects:
    - a. Holes and missing mortar.
    - b. Cracks 1/16 inch or more in width and of any depth.
    - c. Eroded surfaces 1/4 inch or more deep.
    - d. Deterioration to point that mortar can be easily removed by hand, without tools.
    - e. Joints filled with substances other than mortar.
- B. Do not rake out and repoint joints where not required.
- C. Rake out joints as follows, according to procedures demonstrated in approved mockup:
1. Remove mortar from joints to depth of 2 times joint width but not less than 1/2 inch or not less than that required to expose sound, unweathered mortar. Do not remove unsound mortar more than 2 inches deep; consult Owner's Rep for direction.
  2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.

3. Do not spall edges of masonry units or widen joints. Replace or patch damaged masonry units as directed by Owner's Rep.
- D. Notify Owner's Rep of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
- E. Pointing with Mortar:
1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
  2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer, and allow it to become thumbprint hard before applying next layer.
  3. After deep areas have been filled to same depth as remaining joints, point joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing masonry units have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to featheredge the mortar.
  4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
  5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
  6. Hairline cracking within mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.
- F. Pointing with Sealant: Comply with Section 079200 "Joint Sealants" and as follows:
1. After raking out, keep joints dry and free of mortar and debris.
  2. Clean and prepare joint surfaces. Prime joint surfaces unless sealant manufacturer recommends against priming. Do not allow primer to spill or migrate onto adjoining surfaces.
  3. Fill sealant joints with specified joint sealant:
    - a. Install sealant using only proven installation techniques that ensure that sealant is deposited in a uniform, continuous ribbon, without gaps or air pockets, and with complete wetting of the joint bond surfaces equally on both sides. Fill joint flush with surrounding masonry and matching the contour of adjoining mortar joints.
    - b. Install sealant as recommended in writing by sealant manufacturer but within the following general limitations, measured at the center (thin) section of the bead:
      - 1) Fill joints to a depth equal to joint width, but not more than 1/2 inch deep or less than 1/4 inch deep.
    - c. Tool sealant to form smooth, uniform beads, slightly concave. Remove excess sealant from surfaces adjacent to joint.
    - d. Do not allow sealant to overflow or spill onto adjoining surfaces, or to migrate into the voids of adjoining surfaces, particularly rough textures. Remove excess and

spillage of sealant promptly as the work progresses. Clean adjoining surfaces by the means necessary to eliminate evidence of spillage, without damage to adjoining surfaces or finishes, as demonstrated in an approved mockup.

- G. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

### 3.3 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, applied by low pressure spray.
  - 1. Do not use metal scrapers or brushes.
  - 2. Do not use acidic or alkaline cleaners.

END OF SECTION 040120

## SECTION 060312 - HISTORIC WOOD REPAIR

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes historic treatment of wood in the form of repairing wood features as follows:
  - 1. Repairing wood brackets and trim.
- B. Related Requirements:
  - 1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.

#### 1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
  - 1. Review methods and procedures related to historic wood repair.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

#### 1.4 QUALITY ASSURANCE

- A. Mockups: Prepare mockups of historic treatment repair processes to demonstrate aesthetic effects and to set quality standards for materials and execution, and for fabrication and installation. Prepare mockups so they are as inconspicuous as practicable.
  - 1. Wood Patch-Type Repair: Prepare an approximately two inch-by-two inch square in either a piece of existing trim or wood bracket to demonstrate patch-type repair.
  - 2. Wood Replacement Repair: Prepare a one-foot length (minimum) of trim to demonstrate replacement repairs.

## PART 2 - PRODUCTS

### 2.1 HISTORIC WOOD REPAIR, GENERAL

- A. Quality Standard: Comply with applicable requirements in Section 12, "Historic Restoration Work," and related requirements in AWI/AWMAC/WI's "Architectural Woodwork Standards" for construction, finishes, grade rules, and other requirements unless otherwise indicated.
  - 1. Exception: Industry practices cited in Section 12, Article 1.5, "Industry Practices," of the Architectural Woodwork Standards do not apply to the work of this Section.

### 2.2 WOOD-REPLACEMENT MATERIALS

- A. Wood, General: Clear fine-grained lumber; kiln dried to a moisture content of 6 to 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch (0.8 mm) deep by 2 inches (51 mm) wide.
  - 1. Species: Match species of each existing type of wood component or assembly unless otherwise indicated.

### 2.3 WOOD-REPAIR MATERIALS

- A. Wood Consolidant: Ready-to-use product designed to penetrate, consolidate, and strengthen soft fibers of wood materials that have deteriorated due to weathering and decay and designed specifically to enhance the bond of wood-patching compound to existing wood.
- B. Wood-Patching Compound: Two-part, epoxy-resin, wood-patching compound; knife-grade formulation as recommended in writing by manufacturer for type of wood repair indicated, tooling time required for the detail of work, and site conditions. Compound shall be designed for filling voids in damaged wood materials that have deteriorated due to weathering and decay. Compound shall be capable of filling deep holes and spreading to featheredge.

### 2.4 MISCELLANEOUS MATERIALS

- A. Borate Preservative Treatment: Inorganic, borate-based solution, with disodium octaborate tetrahydrate as the primary ingredient; manufactured for preserving weathered and decayed wood from further damage caused by fungi and wood-boring insects; complying with AWPA P5; containing no boric acid.
- B. Cleaning Materials:
  - 1. Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium pyrophosphate (TSPP), 1/2 cup (125 mL) of laundry detergent that contains no ammonia, 5 quarts (5 L) of 5 percent sodium hypochlorite bleach, and 15 quarts (15 L) of warm water for each 5 gal. (20 L) of solution required.
  - 2. Mildewcide: Commercial, proprietary mildewcide or a solution prepared by mixing 1/3 cup (80 mL) of household detergent that contains no ammonia, 1 quart (1 L) of 5 percent sodium hypochlorite bleach, and 3 quarts (3 L) of warm water.

- C. Adhesives: Wood adhesives with minimum 15- to 45-minute cure at 70 deg F (21 deg C), in gunnable and liquid formulations as recommended in writing by adhesive manufacturer for each type of repair and exposure condition.
- D. Fasteners: Use fastener metals that are noncorrosive and compatible with each material joined.

## 2.5 WOOD FINISHES

- A. Unfinished Replacement Units: Provide exposed exterior and interior wood surfaces of replacement units unfinished; smooth, filled, and suitably prepared for on-site priming and finishing.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Clean wood of mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. After cleaning, rinse thoroughly with fresh water. Allow to dry before repairing or painting.
- B. Condition replacement wood members and replacement units to prevailing conditions at installation areas before installing.

### 3.2 HISTORIC WOOD REPAIR, GENERAL

- A. General: In treating historic items, disturb them as minimally as possible and as follows:
  - 1. Stabilize and repair wood to reestablish structural integrity and weather resistance while maintaining the existing form of each item.
  - 2. Remove coatings and apply borate preservative treatment before repair. Remove coatings according to Section 090391 "Historic Treatment of Plain Painting" unless otherwise indicated.
  - 3. Repair items in place where possible.
  - 4. Refinish historic wood according to Section 090391 "Historic Treatment of Plain Painting" unless otherwise indicated.
- B. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use only the gentlest mechanical methods, such as scraping and natural-fiber bristle brushing, that will not abrade wood substrate, reducing clarity of detail. Do not use abrasive methods, such as sanding, wire brushing, or power tools, except as approved by Owner's Rep.
- C. Repair Wood: Match existing materials and features, retaining as much original material as possible to perform repairs.
- D. Replace Wood: Where too badly deteriorated to be patched, duplicate and replace units with units made from new wood matching existing wood. Use surviving prototypes to create patterns for duplicate replacements.



### 3.3 WOOD PATCH-TYPE REPAIR

- A. General: Patch wood that exhibits depressions, holes, or similar voids, and that has limited amounts of rotted or decayed wood.
  - 1. Treat wood with wood consolidant prior to application of patching compound. Coat wood surfaces by brushing, applying multiple coats until wood is saturated and refuses to absorb more. Allow treatment to harden before filling void with patching compound.
  - 2. Remove rotted or decayed wood down to sound wood.
- B. Apply borate preservative treatment to accessible surfaces either before applying wood consolidant or after removing rotted or decayed wood.
- C. Apply wood-patching compound to fill depressions, nicks, cracks, and other voids created by removed or missing wood.
  - 1. Prime patch area with application of wood consolidant or manufacturer's recommended primer.
  - 2. Apply patching compound in layers as recommended in writing by manufacturer until the void is completely filled.
  - 3. Sand patch surface smooth and flush with adjacent wood, without voids in patch material, and matching contour of wood member.

### 3.4 WOOD-REPLACEMENT REPAIR

- A. General: Replace parts of or entire wood items at locations where damage is too extensive to patch.
  - 1. Remove broken, rotted, and decayed wood down to sound wood.
  - 2. Custom fabricate new wood to replace missing wood; either replace entire wood member or splice new wood part into existing member.
  - 3. Secure new wood using finger joints, multiple dowels, or splines with adhesive and nailing to ensure maximum structural integrity at each splice. Use only concealed fasteners. Fill nail holes and patch surface to match surrounding sound wood.
- B. Apply borate preservative treatment to accessible surfaces after replacements are made. Apply treatment liberally by brush to joints, edges, and ends; top, sides, and bottom.
- C. Repair remaining depressions, holes, or similar voids with patch-type repairs.

END OF SECTION 060312

## SECTION 061000 - ROUGH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Framing with dimension lumber.
  - 2. Wood blocking, furring, and nailers.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Wood Products, General: Maximum Moisture Content of Lumber: 19 percent.
- B. Dimension Lumber Framing:
  - 1. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade.
    - a. Species: Any species.
- C. Miscellaneous Lumber: Construction or No. 2 grade any species.
- D. Fasteners: Stainless steel where exposed to weather, in ground contact, in contact with treated wood, or in area of high relative humidity.
- E. Metal Framing Anchors:
  - 1. Hot-dip galvanized steel for interior locations.
  - 2. Stainless steel for exterior and where indicated.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

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

END OF SECTION 061000

## SECTION 062013 - EXTERIOR FINISH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Exterior wood trim.
  - 2. Plywood soffits.

#### 1.2 ACTION SUBMITTALS

- A. Samples: For each type of product involving selection of colors, profiles, or textures.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Exterior Standing and Running Trim:
  - 1. Lumber Trim and Moldings for Painted Finish: Western red cedar, White pine, or other white softwoods.
    - a. Molding Types: Brick mold.
- B. Plywood Soffits:
  - 1. Thickness: 3/8 inch, field verify to match historic thickness.
  - 2. Face Species: Douglas fir or Western red cedar.
  - 3. Pattern and Surface: Channel groove, smooth.
- C. Fasteners: Stainless steel or hot-dip galvanized steel unless otherwise indicated.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
- B. Lumber and moldings for painted applications; primed, including both faces and edges.

END OF SECTION 062013

## SECTION 062023 - INTERIOR FINISH CARPENTRY

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Interior trim.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

##### A. Interior Standing and Running Trim:

1. Trim and Moldings for Transparent Finish (Stain or Clear Finish): Match existing wood species.
2. Trim and Moldings for Opaque Finish (Painted): White pine, White hardwoods, or primed medium-density fiberboard.
3. Profiles: Match existing wood trim and molding profiles.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.
- B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.

END OF SECTION 062023

## SECTION 073113 - ASPHALT SHINGLES

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Asphalt shingles.
2. Underlayment.
3. Metal flashing.

#### 1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified.

#### 1.3 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

#### 1.4 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace asphalt shingles that fail within specified warranty period.

1. Material Warranty Period: 25 years.
2. Workmanship Warranty Period: Two years.
3. Roofing Installer's Warranty: Two years.

### PART 2 - PRODUCTS

#### 2.1 GLASS-FIBER-REINFORCED ASPHALT SHINGLES

A. Three-Tab-Strip Asphalt Shingles: ASTM D 3462/D 3462M, glass-fiber reinforced, mineral-granule surfaced, and self-sealing; with tabs regularly spaced.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
  - a. CertainTeed Roofing Corporation.

- b. GAF Materials Corporation.
  - c. Owens Corning.
- 2. Strip Size: Manufacturer's standard.
  - 3. Algae Resistance: Granules resist algae discoloration.
  - 4. Impact Resistance: UL 2218, Class 4.
  - 5. Color and Blends: Terra cotta red.

## 2.2 ADDITIONAL ROOFING MATERIALS

- A. Underlayment: Felt.
- B. Metal Flashing: Anodized aluminum.

## PART 3 - EXECUTION

### 3.1 UNDERLAYMENT INSTALLATION

- A. General: Comply with underlayment manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
  - 1. Single-Layer Felt Underlayment

### 3.2 METAL FLASHING INSTALLATION

- A. Install metal flashings according to recommendations in ARMA's "Residential Asphalt Roofing Manual" and NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems."

### 3.3 ASPHALT-SHINGLE INSTALLATION

- A. General: Install asphalt shingles according to manufacturer's written instructions, recommendations in ARMA's "Residential Asphalt Roofing Manual," and recommendations in NRCA's "NRCA Guidelines for Asphalt Shingle Roof Systems."
- B. Install first and remaining courses of asphalt shingles stair-stepping diagonally across roof deck with manufacturer's recommended offset pattern at succeeding courses, maintaining uniform exposure.
- C. Fasten asphalt-shingle strips according to manufacturer's written instructions.

END OF SECTION 073113

## SECTION 073114 – STONE COATED METAL ROOF TILE

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes exposed-fastener, lap-seam, metal roof panels.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of metal roof tile indicated.

#### 1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
  - 1. Conform to applicable building code for roof assembly fire hazard requirements.
  - 2. Conform to building code for minimum wind uplift resistance.

#### 1.4 WARRANTY

- A. Manufacturing Warranty: 50 years.
- B. Wind Warranty: 120 mph winds, full warranty period.

### PART 2 - PRODUCTS

#### 2.1 STONE COATED METAL ROOF TILE

- A. Metal Tile: Interlocking metal panels with an interlocking nose, resembling barrel roofing tile.
  - 1. Material: Roll formed, Aluminum-Zinc Alloy Coated Steel with 3-1/4" raised barrels.
  - 2. Finish: Ceramic coated colored stone chip finish.
  - 3. Color: Capri clay.
- B. Basis of Design Product: Subject to compliance with requirements, provide Decra Roofing Systems "Villa Tile" or comparable product.
  - 1. Other available manufacturers offering comparable products that may be incorporated into the Work include, but are not limited to the following:
    - a. Gerard USA Metal Roofing.

- b. Atas International, Inc.
- c. Future Roof Systems.
- d. Interlock Lifetime Roofing Systems.

## 2.2 UNDERLAYMENT MATERIALS

- A. Sheet Metal Materials: Aluminum-Zinc Alloy Coated Steel sheet: ASTM A 792/A 792M, Class AZ50 (AZ150) coating designation; minimum Grade 37 (Grade 255).
- B. Felt Underlayment: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felts.
- C. Sealant: ASTM C920-86 One-part elastomeric urethane sealant as recommended in writing by panel manufacturer. Where sealant will be exposed, provide in color to match panels.
- D. Fasteners: Screws - Minimum No. 9 hex (1/4" diameter) by 1-1/2" long (38.1 mm) minimum, corrosion resistant, black or color coordinated to match the panels where visible.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrate and conditions for compliance with requirements for maximum moisture content, soundness of framing, and other conditions affecting performance of DECRA metal roofing. Damaged, rotted or loose roofing materials shall be removed and the substrate corrected for re-roofing applications. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrate of any projects and substances detrimental to metal panel roofing. Cover knotholes or other minor voids in substrate with sheet metal flashing secured with roofing nails.
- B. Coordinate installation of metal panels with flashing and other adjoining work to ensure proper sequencing. Do not install roofing until vent stacks and other penetrations through roofing have been installed, are securely fastened and flashing is in place.
- C. Inspect and verify exterior stucco wall enclosures are completed.

### 3.3 INSTALLATION

- A. General: Comply with manufacturers written instructions for products and applications indicated, unless more stringent requirements apply.
- B. Underlayment: Apply number of plies required by governing code, but at least one ply, with each ply overlapping ply below a minimum 6 inches and ends lapped at least 18 inches.

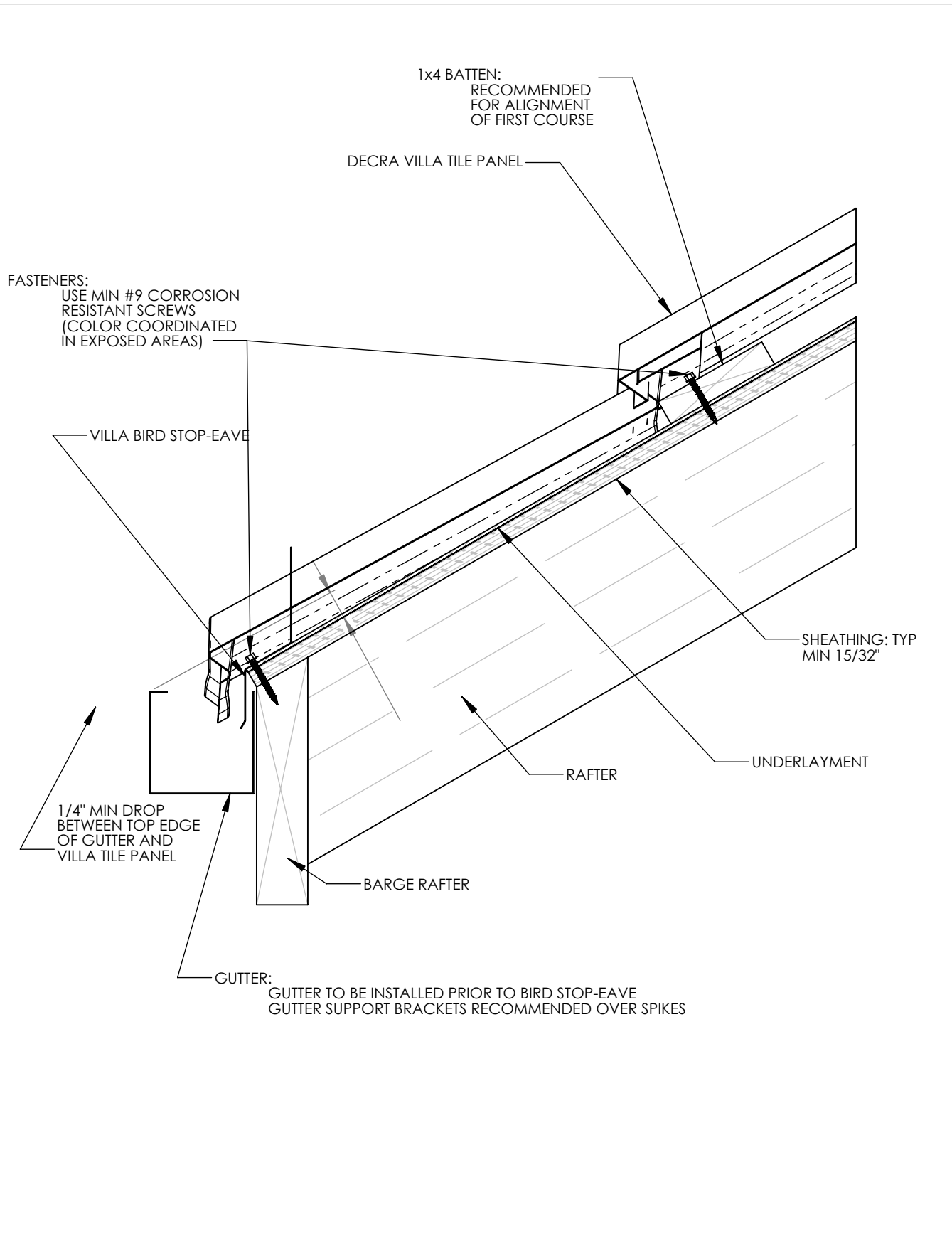


- C. Flashing: Install as indicated on approved submittals and in accordance with manufacturers written instructions.
- D. Tile Panels: Install tile panels, accessories, and flashing level and plumb. Use fasteners per above specifications.
  - 1. Install each tile panel with alternating courses staggered in accordance with manufacturer's instructions. Do not create a pattern.
  - 2. Fasten each panel with minimum 4 fasteners horizontally along the back flange of each panel at pre-punched tabs. Review manufacturer's instructions for fastening order.
  - 3. First course of panels positioned at eave will require 4 fasteners in the nose of the panel; use specified fasteners with color finish matching the panel color.

### 3.4 CLEANING AND PROTECTION

- A. Damaged Units: Replace panels and other components of the work that have been dented, damaged or have deteriorated beyond successful repair by finish touchup with acrylic coating and stone chip granules.
- B. Cleaning: After completing installation, remove any debris from the roof.

END OF SECTION 074113



1x4 BATTEN:  
RECOMMENDED  
FOR ALIGNMENT  
OF FIRST COURSE

DECRA VILLA TILE PANEL

FASTENERS:  
USE MIN #9 CORROSION  
RESISTANT SCREWS  
(COLOR COORDINATED  
IN EXPOSED AREAS)

VILLA BIRD STOP-EAVE

SHEATHING: TYP  
MIN 15/32"

RAFTER

UNDERLAYMENT

1/4" MIN DROP  
BETWEEN TOP EDGE  
OF GUTTER AND  
VILLA TILE PANEL

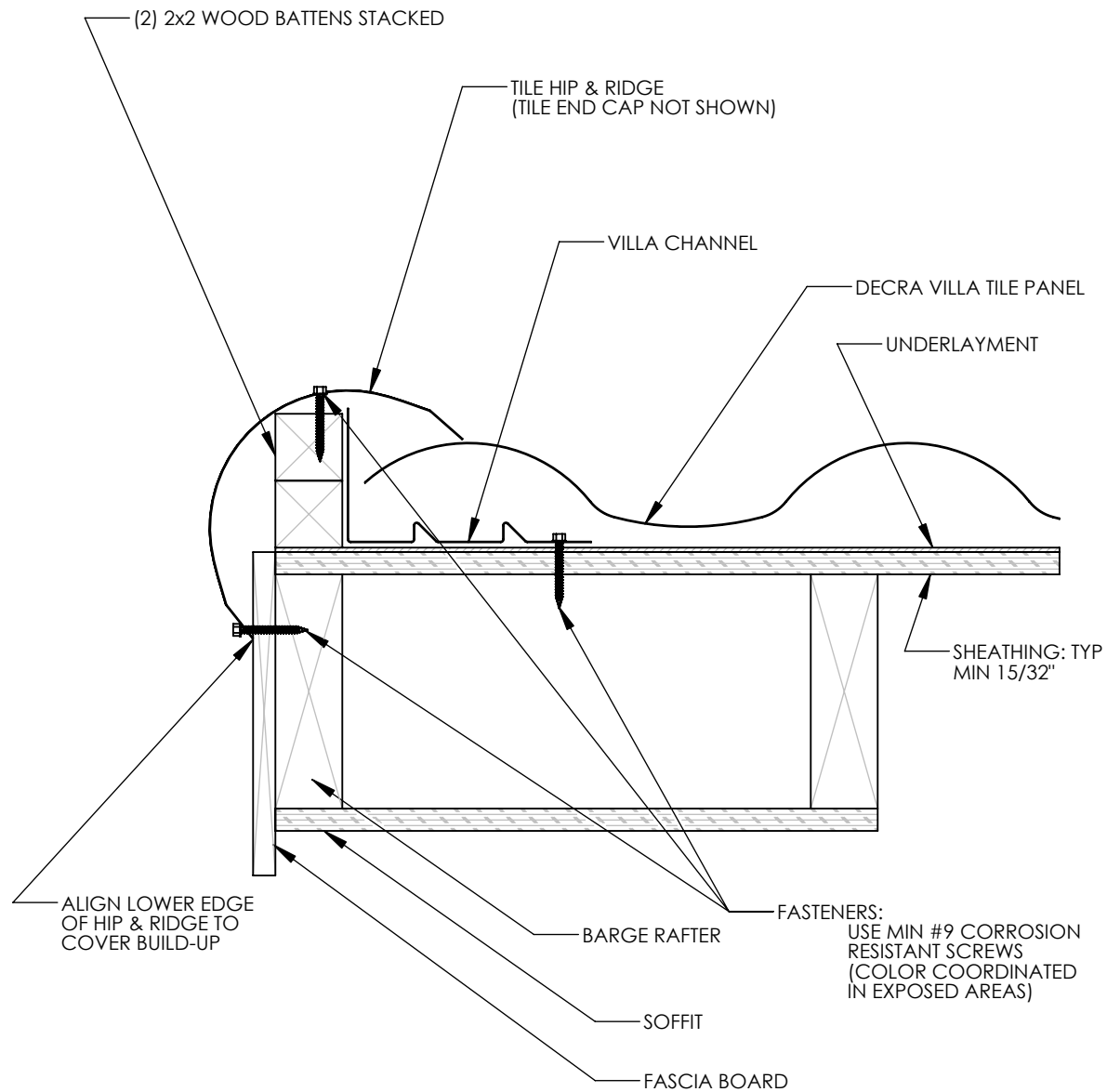
BARGE RAFTER

GUTTER:  
GUTTER TO BE INSTALLED PRIOR TO BIRD STOP-EAVE  
GUTTER SUPPORT BRACKETS RECOMMENDED OVER SPIKES

TITLE	DRAWING No.
<b>Panel Installation Starter/Eave- Villa</b>	<b>ARCH2007-4-01</b>

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1230 RAILROAD ST. CORONA, CA 92882 PH (951)272-8180 Fax (951)272-4476	DATE: <b>05-10-13</b>	SCALE: <b>3" = 1' 0"</b>
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TITLE  
**Rake/ Gable- Villa**

DRAWING No.  
**ARCH2007-4-02**

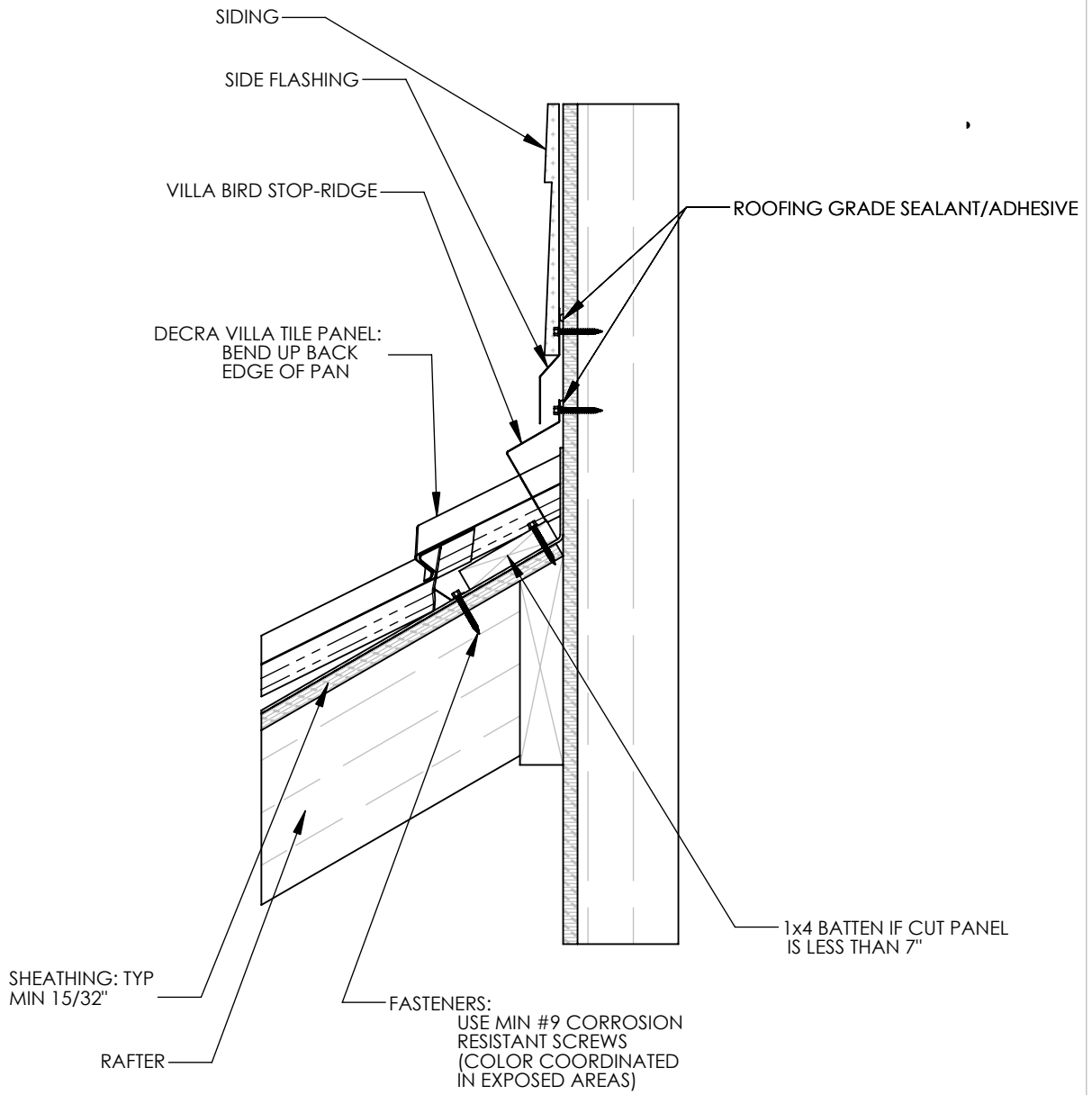
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DATE: **03-13-13**

SCALE: **3" = 1' 0"**



NOTE: FOR BRICK, SEAL THE PANEL BEND TO THE WALL AND COUNTERFLASH WITH SIDE FLASHING

TITLE  
**Roof to Headwall - Villa**

DRAWING No.  
**ARCH2007-4-03b**

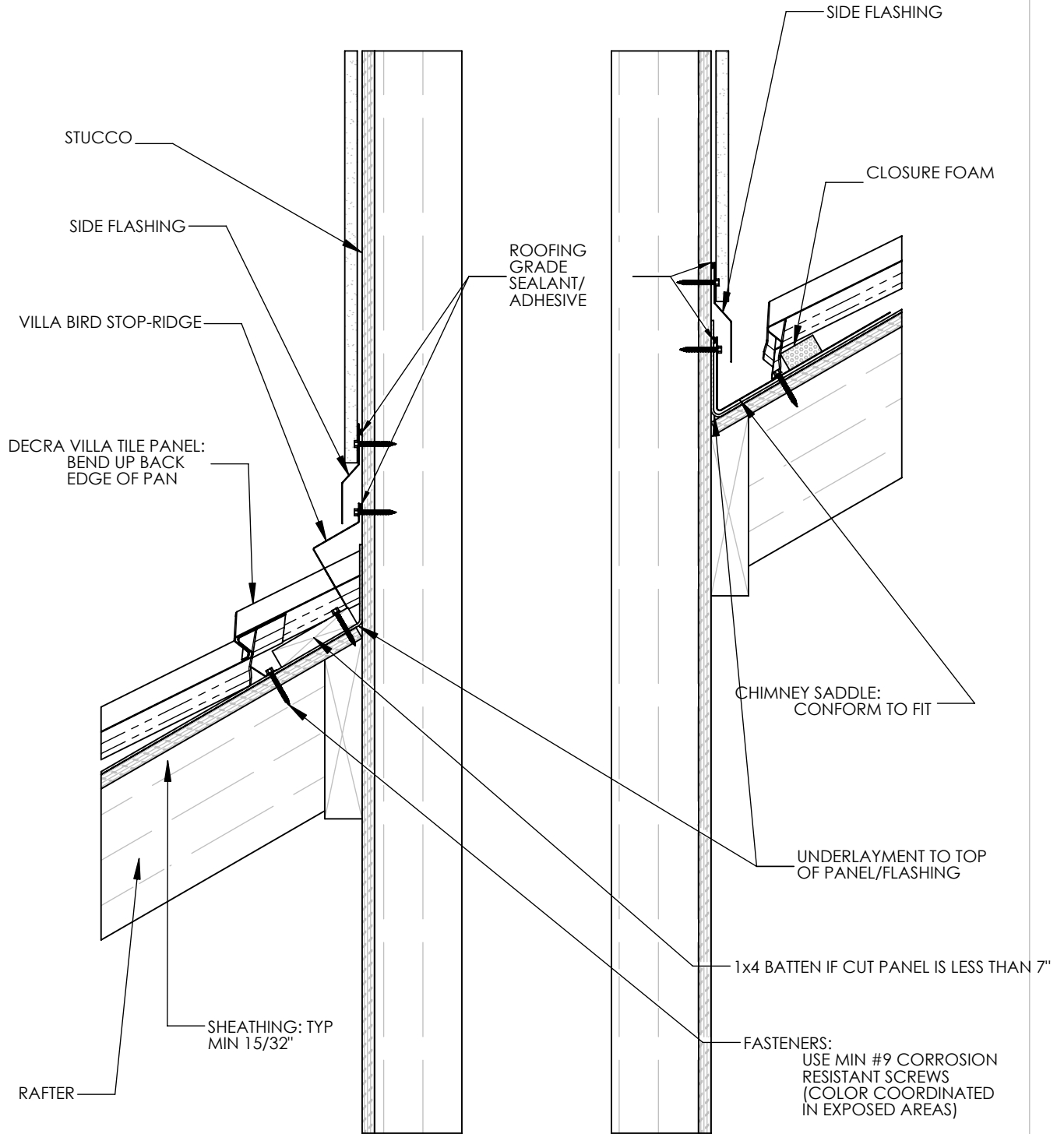
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DATE: **05-20-13**

SCALE: **3" = 1' 0"**



NOTE:  
 IF THE DISTANCE BETWEEN THE TOP OF THE CHIMNEY AND THE NEXT COURSE OF PANELS IS MORE THAN 7', CUT OFF THE NOSE OF THE PANEL EVEN WITH THE CHIMNEY SADDLE AND USE CLOSURE FOAM. SEE SKYLIGHT INSTALLATION.

TITLE  
**Chimney - Stucco - Villa**

DRAWING No.  
**ARCH2007-4-04b**

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DATE: **04-29-13**

SCALE: **3" = 1' 0"**

## SECTION 079200 - JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Silicone joint sealants.
  - 2. Latex joint sealants.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples: For each kind and color of joint sealant required.

#### 1.3 WARRANTY

- A. Installer Warranty: Two years.
- B. Special Manufacturer's Warranty: Five years.

### PART 2 - PRODUCTS

#### 2.1 JOINT SEALANTS

- A. Silicone joint sealants.
- B. Latex joint sealants.
- C. Joint-sealant backing.

### PART 3 - EXECUTION

#### 3.1 SCHEDULE

- A. Exterior roof joints: See Section 073114 "Stone Coated Metal Roof Tile"
- B. Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
  - 1. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.

2. Joint-Sealant Color: As selected by Owner's Rep from manufacturer's full range of colors to match adjacent construction.
- C. Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement.
1. Joint Sealant: Acrylic latex.
  2. Joint-Sealant Color: As selected by Owner's Rep from manufacturer's full range of colors to match adjacent construction.

END OF SECTION 079200

## SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes hollow-metal work.

#### 1.2 SUBMITTALS

- A. Product Data: for each type of product.

### PART 2 - PRODUCTS

#### 2.1 EXTERIOR DOORS AND FRAMES

- A. Basis-of-Design: Steves & Sons Premium 2-panel square primed white steel pre-hung front door.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
  - 1. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
- B. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames. Shim as necessary.

#### 3.2 ADJUSTING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition.

END OF SECTION 081113



## SECTION 084213 - ALUMINUM-FRAMED ENTRANCES

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Exterior manual-swing entrance doors and door-frame units.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

#### 1.3 WARRANTY

- A. Materials and Workmanship: Two years minimum.
- B. Finish: Five years minimum.

### PART 2 - PRODUCTS

#### 2.1 SYSTEM COMPONENTS

A. Entrance Doors:

1. Door Construction: Match overall thickness on University Avenue entrance door.
2. Door Design: Match University Avenue entrance door panel configuration and stile widths.
3. Glazing stops and gaskets: Match stop profile on University Avenue entrance door.

- B. Entrance Door Hardware: Match hardware on University Avenue entrance door.

- C. Glazing: Match glazing on University Avenue entrance door.

#### 2.2 ALUMINUM FINISHES

- A. Aluminum Finishes: Match anodized finish on University Avenue entrance door.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

#### A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure non-movement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
6. Seal perimeter and other joints watertight unless otherwise indicated.

#### B. Metal Protection:

1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or installing nonconductive spacers.
2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

#### C. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 "Joint Sealants" to produce weathertight installation.

#### D. Install components plumb and true in alignment with established lines and grades.

#### E. Install glazing.

#### F. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

END OF SECTION 084213

## SECTION 085200 – WOOD WINDOWS

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Wood Ultimate Magnum Double Hung Windows, including transoms.
2. Wood Ultimate Push-Out Casement/Awning Window, Transom, or Picture Window.

#### 1.2 SUBMITTALS

##### A. Shop Drawings: Submit shop drawings.

##### B. Product Data: Submit catalog data.

##### C. Samples:

1. Submit corner section. Include glazing system, quality of construction and specified finish

#### 1.3 QUALITY ASSURANCE

##### A. Requirements: Consult local code for IBC International Building Code adoption year and pertinent revisions for information on:

1. Egress, emergency escape and rescue requirements.
2. Windows fall prevention and/or window opening control device requirements.

#### 1.4 DELIVERY, STORAGE AND HANDLING

##### A. Deliver in original packaging and protect from weather.

##### B. Store window units in an upright position in a clean and dry storage area above ground to protect from weather.

#### 1.5 WARRANTY

##### A. Clear insulating glass with stainless steel spacers is warranted against seal failure caused by manufacturing defects and resulting in visible obstruction through the glass for twenty (20) years from the original date of purchase. Glass is warranted against stress cracks caused by manufacturing defects from ten (10) years from the original date of purchase.

- B. Factory applied interior finish is warranted to be free from finish defects for a period of five (5) years from the original date of purchase.
- C. Hardware and other non-glass components are warranted to be free from manufacturing defects for ten (10) years from the original date of purchase.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURED UNITS

- A. Wood Ultimate Double Hung Magnum (transom, picture) as manufactured by Marvin Windows and Doors, Warroad, Minnesota.
- B. Wood Ultimate Fixed Casement/Awning or Picture as manufactured by Marvin Windows and Doors, Warroad, Minnesota.

### 2.2 FRAME DESCRIPTION

- A. Wood: Match existing picture windows.
  - 1. Kiln-dried to moisture content no greater than 12 percent at the time of fabrication.
  - 2. Water repellant, preservative treated in accordance with ANSI/WDMA I.S.4.
- B. Frame thickness:
  - 1. Double Hung Magnum: 1 3/4" head and side jambs.
  - 2. Transom, or Picture: 1 1/16" head and side jamb.
  - 3. Stationary Casement/Awning, or Picture: 1 3/16".
  - 4. All windows: Verify bottom frame thickness with Owner's Rep.
- C. Frame depth: Frame depth had an overall 5 21/32" jamb. 4 9/16" jamb depth from the nailing fin plane to the interior face of the frame for new construction.
- D. Frame bevel: 8 degree bevel on sill and subsill.
- E. Sill: 1 7/16".
- F. Subsill: 1 3/32".

### 2.3 SASH DESCRIPTION

- A. Interior Wood: Match existing picture windows.
  - 1. Kiln-dried to moisture content no greater than twelve (12) percent at the time of fabrication.
  - 2. Water repellant preservative treated with accordance with WDMA I.S.4.
- B. Sash thickness:

1. Operating and Transom Units: 1 9/16".
  2. Picture Units: 2".
  3. Stationary Casement/Awning, or Picture: Match existing picture windows.
  4. All windows: Verify bottom rail height with Owner's Rep.
- C. Double-hung operable sash tilt to interior for cleaning or removal.
- D. Double-hung Sash Options: Equal Sash.
- E. Interior Sash Sticking: Match existing first floor picture windows.

#### 2.4 GLAZING

- A. Select quality complying with ASTM C1036. Insulating glass SIGMA/IGCC certified to performance level CBA when tested in accordance with ASTM E2190.
- B. Glazing method: Insulating glass.
- C. Glazing seal: Silicone glazed.
- D. Glass Type: Low E, clear to match existing picture windows.
1. PPG Sun Gate 500.
  2. Cardinal Glass Low-E 180.

#### 2.5 FINISH

- A. Prime: factory-applied enamel primer. Available on Pine product only.

#### 2.6 DOUBLE-HUNG HARDWARE

- A. Balance System: Coil spring block and tackle with nylon cord and fiber filled nylon clutch.
- B. Jamb Carrier: Vinyl extrusion with wood inserts.
1. Color: beige.
- C. Lock: High pressure zinc die-cast cam lock and keeper.
- D. Finish: To be selected by Owner's Rep from manufacturer's standard finishes.
- E. Check rail guide.

#### 2.7 WEATHER STRIP

- A. Operating units:

1. Continuous, leaf weather strip at head jamb, parting stop, dual durometer bulb at check rail, foam bulb type dual durometer weather strip on vertical sash edge; dual durometer bulb weather strip at bottom rail.

- a. Color: Beige.

B. Stationary units:

1. Continuous, bulb weather strip at perimeter of sash, concealed slotted bulb weather strip on exterior of sash, pile strip on interior of blind stop, dual durometer bulb weather strip at bottom rail.

## 2.8 JAMB EXTENSION

A. Jamb extensions are available for various wall thickness factory-applied up to a 12" wide.

1. Finish: Match interior frame finish.

## 2.9 INSECT SCREEN

A. Factory-installed full screen.

1. Screen Mesh: Type to be selected by Owner's Rep from manufacturer's standard line.

B. Aluminum frame finish:

1. Color: To be selected by Owner's Rep from manufacturer's standard color palette.

## 2.10 REMOVABLE INTERIOR GRILLES

A. 3/4" by 15/32" wide.

1. Pattern: See sheet A501.
2. Finish: Match interior sash finish.

B. Simulated Divided Lites (SDL).

1. 7/8" (22mm) wide with internal spacer bar.

C. Muntins: Pine.

1. Muntins adhere to glass with closed-cell copolymer acrylic foam tape.

D. Sticking:

1. Standard: Ovolo
2. Pattern: See sheet A502.
3. Finish: Match panel finish.

## 2.11 ACCESSORIES AND TRIM

### A. Installation Accessories:

1. Factory installed vinyl nailing/drip cap.
2. Masonry brackets.

### B. Exterior Wood Moulding:

1. Profile: Match existing picture window or original wood mouldings. Confirm with Owner's Rep.
  - a. In event original wood mouldings remain following removal of existing non-historic windows:
    - 1) Reuse wood mouldings found to be in good condition.
    - 2) Replicate new wood mouldings if in poor condition.
2. Finish: Match exterior frame finish.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verification of Condition: Before installation, verify openings are plumb, square and of proper dimensions. Report frame defects or unsuitable conditions to the General contractor before proceeding.
- B. Acceptance of Condition: Beginning on installation confirms acceptance of existing conditions.

### 3.2 INSTALLATION

- A. Assemble and install window/door unit(s) according to manufacturer's instruction and reviewed shop drawing.
- B. Install sealant and related backing materials at perimeter of unit or assembly in accordance with Section 07 92 00 Joint Sealants. Do not use expansive foam sealant.
- C. Install accessory items as required.
- D. Use finish nails to apply wood trim and mouldings.

### 3.3 CLEANING

- A. Remove visible labels and adhesive residue according to manufacturer's instruction.
- B. Leave windows and glass in a clean condition. Final cleaning as required in Section 01 74 00.

3.4 PROTECTING INSTALLED CONSTRUCTION

- A. Protecting windows from damage by chemicals, solvents, paint or other construction operations that may cause damage.

END OF SECTION 085200



## SECTION 090320 - HISTORIC TREATMENT OF PLASTER

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Repair of interior gypsum plaster.

##### B. Related Requirements:

1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.
2. Section 090391 "Historic Treatment of Plain Painting" for paint removal, surface preparation for refinishing, and refinishing of historic plaster surfaces.
3. Section 092900 "Gypsum Board" for interior gypsum board repairs and replacement.

#### 1.2 ACTION SUBMITTALS

##### A. Product Data: For each type of product.

##### B. Samples: For each exposed product and for each color and texture specified.

### PART 2 - PRODUCTS

#### 2.1 GYPSUM PLASTER MATERIALS

##### A. Gypsum Materials:

1. Gypsum Neat Plaster: ASTM C 28/C 28M for use with job-mixed aggregates.
2. Gypsum Wood-Fibered Plaster: ASTM C 28/C 28M.
3. Gypsum Ready-Mixed Finish Plaster: ASTM C 28/C 28M; manufacturer's standard, mill-mixed, gaged, interior finish.

##### B. Hydrated Lime: ASTM C 206.

##### C. Aggregates: Aggregates matching existing.

##### D. Fiber: Hair or natural plant fibers to match existing.

##### E. Bonding Compound: ASTM C 631.

## 2.2 LATH

- A. Lath, General: New lath to match existing lath material.
- B. Wood Lath: 1/4 inch by 1-1/4 inch sound, straight-grained, wood strips.
- C. Expanded-Metal Lath: ASTM C 847, cold-rolled carbon-steel sheet, ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coated.

## 2.3 TRIM ACCESSORIES

- A. General: According to ASTM C 841 for gypsum plaster; coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Metal Accessories: Fabricated from zinc or zinc-coated (galvanized) steel.

## 2.4 MISCELLANEOUS MATERIALS

- A. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fasteners for Attaching Lath to Substrates: ASTM C 841.
- C. Wire Ties: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, not less than 0.0475-inch (1.21-mm) diameter, unless otherwise indicated.

## PART 3 - EXECUTION

### 3.1 HISTORIC TREATMENT OF PLASTER, GENERAL

- A. General: In treating historic plaster, disturb it as minimally as possible and as follows unless otherwise indicated:
  - 1. Dismantle loose, damaged, or deteriorated plaster, lath, and support systems that cannot be repaired.
  - 2. Verify that substrate surface conditions are suitable for repairs.
  - 3. Provide lath, furring, and support systems for plaster included in the work of this Section.
  - 4. Replace lost details in new, wet-applied and cast plaster that replicate existing or indicated plaster configurations.
  - 5. Leave repaired plasterwork in proper condition for painting or applying other finishes as indicated.
- B. Illumination: Perform plastering work with adequate, uniform illumination that does not distort the flatness or curvature of surfaces.

### 3.2 PLASTER REMOVAL AND REPLACEMENT, GENERAL

- A. General: Dismantle deteriorated plaster to existing sound plaster in areas disturbed by door and window replacement. Use replacement plaster mixes of gypsum, lime, and aggregate; and application according to ASTM C 842 unless otherwise indicated.
- B. Carefully dismantle areas along straight edges that lie over supports, without damaging surrounding plasterwork.
- C. Maintain lath and supporting members in an undamaged condition so far as practicable. Dismantle damaged lath and supports that cannot be repaired or resecured and replace with new work of same type.
- D. Do not deviate more than plus or minus 1/8 inch in 10 feet (3 mm in 3 m) from a true plane in finished plaster surfaces, as measured by a 10-foot (3-m) straightedge placed on surface.
- E. Clean substrate surfaces to remove grease, waxes, oils, waterborne staining, debris, and other foreign matter and deposits that could impair bond with repair material.
- F. Wet wood lath and masonry bases before plaster application. Keep substrate damp to the touch but without visible water droplets.
- G. Wet remaining plaster abutting the replacement plaster before installing new plasterwork.
- H. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
- I. Gypsum-Plaster Finishes: Match adjacent existing finish(es).

### 3.3 REMOVING AND INSTALLING LATH AND ACCESSORIES

- A. General: Dismantle existing plaster as necessary to expose deteriorated or rusted lath, wire ties, and support system, back to firm substrates and supports. Repair with new materials, well secured to existing lath in good condition and to building structure.
- B. Wood Lath: Install wood lath in same orientation and spacing as remaining wood lath and with lath ends supported by furring or framing. Stagger ends of adjacent laths over different supports, not aligned, and secure with fasteners at each end and spaced a maximum of 24 inches (610 mm) o.c. into supports.
- C. Metal Lath: Install according to ASTM C 841 for gypsum plaster.

### 3.4 PATCH-TYPE REPAIR

- A. General: Patch voids, fractured surfaces, and crushed areas caused by window and door replacement in otherwise sound plaster.

1. Inspect for deterioration of supporting plaster and lath, and repair or replace deteriorated material as required for a sound substrate.
  2. Rake perimeter of hole to sound plaster, and slightly undercut existing plaster to enable replacement plaster to tuck behind existing plaster.
  3. Replace missing lath in kind. Bridge gaps in wood lath with expanded-metal lath, overlapping wood by 6 inches (150 mm) and fastening them together.
  4. Clean hole to remove loose materials and other foreign matter and deposits that could impair bond with repair material.
  5. Wet substrate to damp condition, but without visible water droplets, then install patch material to original profiles.
- B. Finishing: Finish flat surfaces flush and with same texture as adjacent existing plaster.
- C. Hairline cracking within the plaster or plaster separation at edge of a patch is unacceptable. Completely dismantle such work and reinstall or repair.

END OF SECTION 090320

## SECTION 090391 - HISTORIC TREATMENT OF PLAIN PAINTING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes historic treatment of plain painting as follows:
  - 1. Removing existing paint.
  - 2. Repairing substrates.
  - 3. Plain painting of historic surfaces.
- B. Related Requirements:
  - 1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.

#### 1.2 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.
- H. Modern Paint Materials: Paint materials not designed to match historic paint formulations but that may be required to match historic paint colors.
- I. Plain Painting: For historic treatment, this means painting that requires attention to historic treatment requirements, but no special, decorative or artistic painting skill.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

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

## PART 2 - PRODUCTS

### 2.1 PREPARATORY CLEANING MATERIALS

- A. Water: Potable.
- B. Detergent Solution: Solution prepared by mixing 2 cups of tetrasodium pyrophosphate (TSPP), 1/2 cup of laundry detergent that contains no ammonia, 5 quarts of 5 percent sodium hypochlorite bleach, and 15 quarts of warm water for every 5 gal of solution required.
- C. Mildewcide: Commercial proprietary mildewcide or a job-mixed solution prepared by mixing 1/3 cup of household detergent that contains no ammonia, 1 quart of 5 percent sodium hypochlorite bleach, and 3 quarts of warm water.

### 2.2 PAINT, GENERAL

- A. Material Compatibility:
  - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. Colors: Match Owner's Rep's samples.
  - 1. Cement Plastering (stucco): PT-1.
  - 2. Clay Masonry (brick): PT-2.
  - 3. Wood, Aluminum, and Steel (door and window assemblies and wood trim): PT-3.
  - 4. Interior Finishes: Match existing wall and molding colors unless otherwise directed by Owner's Rep.

### 2.3 MODERN PAINT MATERIALS, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."

### 2.4 MODERN PAINT MATERIAL MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Benjamin Moore & Co.
  - 2. Diamond Vogel Paints.
  - 3. Glidden Professional.

4. PPG Architectural Finishes, Inc.
5. Sherwin-Williams Company (The).
6. Valspar Corporation.
7. Zinsser; Rust-Oleum Corporation.

## 2.5 PATCHING MATERIALS

- A. Wood-Patching Compound: See Section 060312 "Historic Wood Repair."
- B. Cementitious Patching Compounds: See Section 092400 "Cement Plastering."
- C. Gypsum-Plaster Patching Compound: See Section 090320 "Historic Treatment of Plaster" and Section 092900 "Gypsum Board."

## PART 3 - EXECUTION

### 3.1 HISTORIC TREATMENT OF PAINTING, GENERAL

- A. Execution of the Work: In treating historic items, disturb them as minimally as possible and as follows:
  1. Remove failed coatings and corrosion and repaint.
  2. Verify that substrate surface conditions are suitable for painting.
  3. Allow other trades to repair items in place and retain as much original material as possible before repainting.
  4. Install temporary protective measures to protect historic painted surfaces that shall be treated later.
- B. Mechanical Abrasion: Where mechanical abrasion is needed for the work, use only the gentlest mechanical methods, such as scraping and lightly hand sanding, that will not abrade softer substrates, reducing clarity of detail. Do not use abrasive methods such as rotary sanding, rotary wire brushing, or power tools except as indicated as part of the historic treatment program and as approved by Owner's Rep.
- C. Heat Processes: Do not use torches, heat guns, or heat plates.

### 3.2 EXAMINATION

- A. Examine substrates and conditions, with historic treatment specialist present, for compliance with requirements for maximum moisture content and other conditions affecting performance of painting work. Comply with paint manufacturer's written instructions for inspection.
- B. Maximum Moisture Content of Substrates: Do not begin application of coatings unless moisture content of exposed surface is below the maximum value recommended in writing by paint manufacturer and not greater than the following maximum values when measured with an electronic moisture meter appropriate to the substrate material:
  1. Gypsum Board: 12 percent.

2. Gypsum Plaster: 12 percent.
3. Masonry (Clay and CMU): 12 percent.
4. Portland Cement Plaster: 12 percent.
5. Wood: 15 percent.

C. Portland Cement Plaster Substrates: Verify that plaster is fully cured.

### 3.3 PREPARATORY CLEANING

- A. General: Use only the gentlest, appropriate method necessary to clean surfaces in preparation for painting. Clean all surfaces, corners, contours, and interstices.
- B. Detergent Cleaning: Wash surfaces by hand using clean rags, sponges, and bristle brushes. Scrub surface with detergent solution and bristle brush until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet. Rinse with water applied by clean rags or sponges.
- C. Mildew: Clean off existing mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris by scrubbing with bristle brush or sponge and detergent solution. Scrub mildewed areas with mildewcide. Rinse with water applied by clean rags or sponges.

### 3.4 PAINT REMOVAL

- A. General: Remove paint where indicated. Where cleaning methods have been attempted and further removal of the paint is required because of incompatible or unsatisfactory surfaces for repainting, remove paint to extent required by conditions.
- B. Paint Removal with Hand Tools: Remove paint manually using hand-held scrapers, wire brushes, sandpaper, and metallic wool as appropriate for the substrate material. Do not use other methods except as indicated as part of the historic treatment program and as approved by Owner's Rep.

### 3.5 SUBSTRATE REPAIR

- A. General: Repair substrate surface defects that are inconsistent with the surface appearance of adjacent materials and finishes.
- B. Wood Substrate:
  1. Repair wood as outlined in Section 060312 "Historic Wood Repair."
  2. Where existing paint is allowed to remain, sand irregular buildup of paint, runs, and sags to achieve a uniformly smooth surface.
- C. Cementitious Material Substrate:
  1. Repair exterior stucco as outlined in Section 092400 "Cement Plastering."
  2. New and Bare Plaster: Neutralize surface of plaster with mild acid solution as recommended in writing by paint manufacturer. In lieu of acid neutralization, follow



manufacturer's written instruction for primer or transition coat over alkaline plaster surfaces.

3. Concrete, Cement Plaster, and Other Cementitious Products: Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. If surfaces are too alkaline to paint, correct this condition before painting.

D. Gypsum-Plaster and Gypsum-Board Substrates:

1. Repair gypsum plaster and Gypsum-Board Substrates as outlined in Section 090320 "Historic Treatment of Plaster" and Section 092900 "Gypsum Board."
2. Rout out surface cracks to remove loose, unsound material; fill with patching compound and sand smooth.

### 3.6 PREPARATION, GENERAL

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
- D. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- E. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.
- F. Shop-primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- H. Aluminum Substrates: Remove loose surface oxidation.
- I. Wood Substrates:
  1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
  2. Sand surfaces that will be exposed to view, and dust off.
  3. Prime edges, ends, faces, undersides, and backsides of wood.
  4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

- J. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

### 3.7 SURFACE-PREPARATION SCHEDULE

- A. General: Before painting, prepare surfaces where indicated on Drawings for painting according to applicable requirements specified in this schedule.

1. Examine surfaces to evaluate each surface condition according to paragraphs below.
2. Where existing degree of soiling prevents examination, preclean surface and allow it to dry before making an evaluation.
3. Repair substrate defects according to "Substrate Repair" Article.

- B. Surface Preparation for MPI DSD 0 Degree of Surface Degradation:

1. Surface Condition: Existing paint film in good condition and tightly adhered.
2. Paint Removal: Not required.
3. Preparation for Painting: Wash surface by detergent cleaning; use solvent cleaning where needed. Roughen or degloss cleaned surfaces to ensure paint adhesion according to paint manufacturer's written instructions.

- C. Surface Preparation for MPI DSD 1 Degree of Surface Degradation:

1. Surface Condition: Paint film cracked or broken but adhered.
2. Paint Removal: Scrape by hand-tool cleaning methods to remove loose paint until only tightly adhered paint remains.
3. Preparation for Painting: Wash surface by detergent cleaning; use other cleaning methods for small areas of bare substrate if required. Roughen, degloss, and sand the cleaned surfaces to ensure paint adhesion and a smooth finish according to paint manufacturer's written instructions.

- D. Surface Preparation for MPI DSD 2 Degree of Surface Degradation:

1. Surface Condition: Paint film loose, flaking, or peeling.
2. Paint Removal: Remove loose, flaking, or peeling paint film by hand-tool or chemical paint-removal methods.
3. Preparation for Painting: Wash surface by detergent cleaning; use solvent cleaning where needed. Use other cleaning methods for small areas of bare substrate if required. Sand surfaces to smooth remaining paint film edges. Prepare bare cleaned surface to be painted according to paint manufacturer's written instructions for substrate construction materials.

### 3.8 PAINT APPLICATION, GENERAL

- A. Prepare surfaces to be painted according to the Surface-Preparation Schedule and with manufacturer's written instructions for each substrate condition.

- B. Blending Plain Painted Surfaces: When painting new substrates patched into existing surfaces or touching up missing or damaged finishes, apply coating system specified for the specific substrate. Apply final finish coat over entire surface from edge to edge and corner to corner.

### 3.9 APPLICATION

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

### 3.10 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Owner's Rep, and leave in an undamaged condition.
- C. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

### 3.11 EXTERIOR HISTORIC PAINTING SCHEDULE

- A. Portland Cement Plaster Substrates (PT-1):
  - 1. Latex System MPI EXT 9.1J:
    - a. Prime Coat: Primer, alkali resistant, water based, MPI #3.

- b. Intermediate Coat: Latex, exterior, matching topcoat.
  - c. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4), MPI #15.
  - d. Color: Match PT-1 color sample provided by Owner's Rep.
  
- B. Clay Masonry Substrates (PT-2):
  - 1. Latex System MPI EXT 4.1A:
    - a. Prime Coat: Latex, exterior, matching topcoat.
    - b. Intermediate Coat: Latex, exterior, matching topcoat.
    - c. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4), MPI #15.
    - d. Color: Match PT-2 color sample provided by Owner's Rep.
  
- C. Aluminum Door, Window, and Trim Substrates (PT-3):
  - 1. Latex System MPI EXT 5.4H:
    - a. Prime Coat: Primer, quick dry, for aluminum, MPI #95.
    - b. Intermediate Coat: Latex, exterior, matching topcoat.
    - c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
  
- D. Galvanized-Metal Door and Trim Substrates (PT-3):
  - 1. Latex System MPI EXT 5.3A:
    - a. Prime Coat: Primer, galvanized, water based, MPI #134.
    - b. Intermediate Coat: Latex, exterior, matching topcoat.
    - c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.
  
- E. Wood Soffits, Doors, Windows, Frames, Casings, and Trim (PT-3):
  - 1. Latex System: MPI REX 6.3A system.
    - a. Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.
    - b. Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Alkyd for Exterior Wood, MPI #5.
    - c. Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Alkyd for Exterior Wood, MPI #5.
    - d. Intermediate Coat: Latex, exterior, matching topcoat.
    - e. Topcoat: Latex, exterior semigloss (Gloss Level 5), MPI #11.
    - f. Color: Match PT-3 color sample provided by Owner's Rep.

### 3.12 INTERIOR HISTORIC PAINTING SCHEDULE

- A. Wood Doors, Windows, Frames, and Moldings:
  - 1. Latex System over Latex Primer: MPI RIN 6.3U system.
    - a. Prime Coat: For MPI DSD 1 degree of surface degradation, touch up with topcoat.
    - b. Prime Coat: For MPI DSD 2 degree of surface degradation, spot prime with Primer, Latex, for Interior Wood, MPI #39.

- c. Prime Coat: For MPI DSD 3 degree of surface degradation, fully prime coat with Primer, Latex, for Interior Wood, MPI #39.
- d. Intermediate Coat: Latex, interior, matching topcoat.
- e. Topcoat: Latex, interior, semigloss (Gloss Level 5)[, MPI #54.
- a. Color: Match existing wood moldings.

B. Gypsum Plaster and Gypsum Board:

- 1. Latex over Latex Sealer System MPI INT 9.2A:
  - a. Prime Coat: Primer sealer, latex, interior, MPI #50.
  - b. Prime Coat: Latex, interior, matching topcoat.
  - c. Intermediate Coat: Latex, interior, matching topcoat.
  - d. Topcoat: Latex, interior, match gloss finish of existing adjacent surfaces.
  - e. Color: Match existing wall color.

END OF SECTION 090391

## SECTION 092400 - CEMENT PLASTERING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Exterior vertical plasterwork (stucco).

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each type of factory-prepared finish coat and for each color and texture specified.

#### 1.3 FIELD CONDITIONS

- A. Temperatures: Maintain temperatures in work areas at not less than 40 deg F or greater than 80 deg F for at least seven days before application of plaster, continuously during application, and for seven days after plaster has set or until plaster has dried.
- B. Avoid conditions that result in plaster drying out too quickly.
  - 1. Distribute heat evenly; prevent concentrated or uneven heat on plaster.
  - 2. Maintain relative humidity levels for prevailing ambient temperature that produce normal drying conditions.
  - 3. Ventilate work areas in a manner that prevents drafts of air from contacting surfaces during plaster application and until plaster is dry.

### PART 2 - PRODUCTS

#### 2.1 METAL LATH

- A. Expanded-Metal Lath: ASTM C 847, cold-rolled carbon-steel sheet with ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized-zinc coating.
  - 1. Diamond-Mesh Lath: Self-furring.
- B. Paper Backing: FS UU-B-790a, Type I, Grade D, Style 2 vapor-permeable paper.

## 2.2 ACCESSORIES

- A. General: Comply with ASTM C 1063, and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Metal Accessories:
  - 1. External- (Outside-) Corner Reinforcement: Fabricated from metal lath with ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized-zinc coating.
  - 2. Cornerbeads: Fabricated from zinc or zinc-coated (galvanized) steel.
  - 3. Casing Beads: Fabricated from zinc or zinc-coated (galvanized) steel; square-edged style; with expanded flanges.

## 2.3 MISCELLANEOUS MATERIALS

- A. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch long, free of contaminants, manufactured for use in cement plaster.
- C. Bonding Compound: ASTM C 932.
- D. Fasteners for Attaching Metal Lath to Substrates: ASTM C 1063.
- E. Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter unless otherwise indicated.

## 2.4 PLASTER MATERIALS

- A. Portland Cement: ASTM C 150/C 150M, Type I.
  - 1. Color for Finish Coats: White.
- B. Colorants for Job-Mixed Finish Coats: Colorfast mineral pigments that produce finish plaster color to match historic stucco finish.
- C. Lime: ASTM C 206, Type S; or ASTM C 207, Type S.
- D. Sand Aggregate: ASTM C 897.

## 2.5 PLASTER MIXES

- A. General: Comply with ASTM C 926 for applications indicated.
- B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:
  - 1. Portland Cement Mixes:

- a. Scratch Coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
  - b. Brown Coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 3 to 5 parts aggregate per part of cementitious material, but not less than volume of aggregate used in scratch coat.
- C. Base-Coat Mixes for Use over Unit Masonry: Single base (scratch) coat for two-coat plasterwork on low-absorption plaster bases as follows:
- 1. Portland Cement Mix: For cementitious material, mix 1 part portland cement and 0 to 3/4 part lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
- D. Job-Mixed Finish-Coat Mixes:
- 1. Portland Cement Mix: For cementitious materials, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 1-1/2 to 3 parts aggregate per part of cementitious material.

## PART 3 - EXECUTION

### 3.1 PLASTER INSTALLATION, GENERAL

- A. Prepare smooth, solid substrates for plaster according to ASTM C 926.
- B. General: Comply with ASTM C 926.
- C. Bonding Compound: Apply on unit masonry substrates for direct application of plaster.
- D. Walls; Base-Coat Mixes for Use over Metal Lath: For scratch and brown coats, for three-coat plasterwork with 3/4-inch total thickness, as follows: Portland cement mixes.
- E. Walls; Base-Coat Mix: For base (scratch) coat, for two-coat plasterwork and having 3/8-inch thickness on masonry as follows: Portland cement mix.
- F. Plaster Finish Coats: Apply to provide finish to match historic stucco.
- G. Installing Accessories:
  - 1. Install according to ASTM C 1063 and at locations indicated on Drawings.
  - 2. Reinforcement for External (Outside) Corners: Install lath-type, external-corner reinforcement or cornerbead at exterior window corner locations only.

### 3.2 HISTORIC TREATMENT OF PLASTER, GENERAL

- A. General: In treating historic plaster, disturb it as minimally as possible and as follows unless otherwise indicated:
  - 1. Dismantle loose, damaged, or deteriorated plaster, lath, and support systems that cannot be repaired.
  - 2. Verify that substrate surface conditions are suitable for repairs.



3. Provide lath, furring, and support systems for cement plaster included in the work of this Section.
4. Leave repaired plasterwork in proper condition for painting or applying other finishes as indicated.
5. Install temporary protective measures to protect historic surfaces that shall be treated later.

### 3.3 PLASTER REMOVAL AND REPLACEMENT, GENERAL

- A. Dismantle plaster that is damaged or deteriorated to the limits indicated. Carefully dismantle areas along straight edges that lie over supports, without damaging surrounding plasterwork.
- B. Maintain lath and supporting members in an undamaged condition so far as practicable. Dismantle damaged lath and supports that cannot be repaired or resecured and replace with new work of same type.
- C. Do not deviate more than plus or minus 1/8 inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.
- D. Clean substrate surfaces to remove grease, waxes, oils, waterborne staining, debris, and other foreign matter and deposits that could impair bond with repair material.
- E. Wet masonry bases before plaster application. Keep substrate damp to the touch but without visible water droplets.
- F. Wet remaining plaster abutting the replacement plaster before installing new plasterwork.
- G. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
- H. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

### 3.4 REMOVING AND INSTALLING LATH AND ACCESSORIES

- A. General: Dismantle existing plaster as necessary to expose deteriorated or rusted lath, wire ties, and support system, back to firm substrates and supports. Repair with new materials, well secured to existing lath in good condition and to building structure.
  1. Cutting: Cut lath so it can be taken out completely from one support to the next. Cut to avoid cracking surrounding plaster.
  2. Cut out existing base-coat plaster beyond the edges of the new lath to permit new plaster to extend onto the old lath. Then step subsequent plaster coats to permit new plaster to extend over the old material.
  3. Fasten new lath to support system and to good existing lath. Wire tie at least every 6 inches.
- B. Metal Lath: Install according to ASTM C 1063.

### 3.5 PATCH-TYPE REPAIR

- A. General: Patch voids, fractured surfaces, and crushed areas in otherwise sound plaster that are larger than cracks at locations indicated on Drawings.
  - 1. Inspect for deterioration of supporting plaster and lath, and repair or replace deteriorated material as required for a sound substrate.
  - 2. Rake perimeter of hole to sound plaster, and slightly undercut existing plaster to enable replacement plaster to tuck behind existing plaster.
  - 3. Replace missing lath in kind.
  - 4. Clean hole to remove loose materials and other foreign matter and deposits that could impair bond with repair material.
  - 5. Wet substrate to damp condition, but without visible water droplets, then install patch material to original profiles.
  
- B. Finishing: Finish flat surfaces flush and with same texture as adjacent existing plaster. For molded plaster shapes, tool surface to restore the sharp edges and the shape of the molded shape to original contours.

END OF SECTION 092400

## SECTION 092900 - GYPSUM BOARD

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Interior gypsum board.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each texture finish indicated on same backing indicated for Work.

### PART 2 - PRODUCTS

#### 2.1 INTERIOR GYPSUM BOARD

- A. Gypsum Wallboard: ASTM C 1396/C 1396M.

#### 2.2 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047. Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.

#### 2.3 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape: Paper.
- C. Joint Compound for Interior Gypsum Board: Setting-type, sandable topping compound.

#### 2.4 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

- C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.
- D. Thermal Insulation: Glass-fiber blanket.
- E. Polyethylene Vapor Retarders: 6-mil-thick sheet minimum.

### PART 3 - EXECUTION

#### 3.1 APPLYING AND FINISHING PANELS

- A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- B. Comply with ASTM C 840.
- C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- D. For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- E. Prefill open joints and damaged surface areas.
- F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- G. Gypsum Board Finish: Finish panels according to ASTM C 840. Finish to match existing gypsum board and plaster wall surfaces.

#### 3.2 PROTECTION

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION 092900

## SECTION 265600 - EXTERIOR LIGHTING

### PART 1 - (Not Used)

### PART 2 - PRODUCTS

- A. Luminaire Basis-of-Design: Barn Light Electric, Emblem Sign Light.
1. Shade Size: 12 inches.
  2. Arm: G22 Gooseneck arm.
  3. Optional Accessories: To be determined by Owner's Rep.
    - a. Swivel knuckle.
    - b. Wire cage.
  4. Socket Type: Standard medium base E26 socket (max 200W standard incandescent).
  5. Use: CSA listed for wet locations.
  6. Photocell: Dusk-to-dawn photocell.
  7. Assembly Finish: To be selected by Owner's Rep from Manufacturer's standard power coat finishes.

### PART 3 - EXECUTION (Not Used)

END OF SECTION 265600

## SECTION 311000 - SITE CLEARING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Bituminous paving removal.
  - 2. Stripping topsoil.
  - 3. Temporary erosion and sedimentation control.

#### 1.2 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
- B. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- C. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 319113 "Soil Preparation."

### PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Protect existing site improvements to remain from damage during construction.

### 3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction.
- B. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

### 3.3 EXISTING UTILITIES

- A. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Owner's Rep not less than two days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Owner's Rep's written permission.

### 3.4 TOPSOIL STRIPPING

- A. Cut and remove bituminous paving where indicated on Drawings before stripping topsoil.
- B. Strip topsoil to depth of 18 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.

### 3.5 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 311000

## SECTION 323100 – ORNAMENTAL FENCE SYSTEM

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This section includes fencing system and concrete foundation for posts.

#### 1.2 SUBMITTALS

- A. Product data and samples.

### PART 2 - PRODUCTS

#### 2.1 ORNAMENTAL FENCE SYSTEM

- A. Fence System: Ornamental aluminum fence system.
  1. Aluminum Extrusions: All posts and rails used in the fence system shall be extruded from aluminum alloy having a minimum yield strength of 35,000 psi. All pickets shall have a minimum yield strength of 25,000 psi.
  2. Fasteners: All fasteners shall be stainless steel. Hidden spring clip shall be used to connect the pickets to the horizontal rails. Rail to post connections shall be made using stainless steel inserts that are hidden inside the horizontal rails.
  3. Accessories: Aluminum sand and die castings shall be used for all scrolls, post caps, finials, and miscellaneous hardware. Die castings shall be made from Alloy A360.0 as per ASTM B85 for superior corrosion resistance.
  4. Fence Panels: Basis of Design: Jerith Jefferson aluminum panel.
    - a. Panel Width: 6 foot width.
    - b. Panel Height: 4 foot.
    - c. Pickets: 5/8-inch square tubing with .050" wall thickness.
    - d. Rails: 1" channels formed in a modified "U" shape with .055" top wall thickness and .082" side wall thickness.
      - 1) 3 horizontal rails per panel.
  5. Posts: 2 inch square aluminum tubing with pre-punched holes for fence rails to slide into and .060 wall thickness.
    - a. Post Height: 6 feet.
    - b. Post Caps: Die cast aluminum caps.



6. Powder Coated Finish:

- a. Coating Material: Posts, post caps, rails, brackets, and joint extrusions to be finished with polyester powder coating.
- b. Color to be selected by Owner's Representative from manufacturer's standard color range.

2.2 CONCRETE FOOTINGS

- A. General: Comply with ACI 301 for cast-in-place concrete; materials consisting of Portland cement complying with ASTM C150, aggregates complying with ASTM C33, and potable water.
- B. Concrete Mixes: Normal weight concrete air entrained with not less than 3,000 psi compressive strength (28 days), 3-inch slump, and 1-inch maximum size aggregate.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install fence in accordance with manufacturer's instructions.
- B. Excavate post holes to proper depth to suit local conditions for stability and support of the fence system without disturbing the underlying materials. Excavate deeper as required for adequate support in soft and loose soils.
- C. Set fence posts in concrete footers at 72½" on center maximum. For installations on a slope, the post spacing must be measured along the grade.
- D. Slide stainless steel inserts in the horizontal rails, then push the ends of the rails into the pre-punched holes in post to fasten in place.
- E. Center and align posts in holes to required depth. Place concrete around posts and tamp for consolidation. After tamping, check alignment of posts, and make necessary corrections before the concrete hardens.

3.2 CLEANING

- A. Remove packing materials, unused product, and site.
- B. If necessary, clean fence system with mild household detergent and clean water. Excess concrete must be removed from posts and other fencing material before it hardens.

END OF SECTION 323100

## SECTION 329113 - SOIL PREPARATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes planting soils specified by composition of the mixes.
- B. Related Requirements:
  - 1. Section 311000 "Site Clearing."
  - 2. Section 329300 "Plants."

#### 1.2 DEFINITIONS

- A. Imported Soil: Soil that is transported to Project site for use.
- B. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- C. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce planting soil.
- D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- E. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- F. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- G. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil"; but in disturbed areas such as urban environments, the surface soil can be subsoil.

### PART 2 - PRODUCTS

#### 2.1 SOIL FILL

- A. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

## 2.2 PLANTING SOILS SPECIFIED BY COMPOSITION

- A. Planting-Soil: Manufactured soil consisting of manufacturer's basic topsoil, blended in a manufacturing facility with sand, stabilized organic soil amendments, and other materials to produce viable planting soil.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Place planting soil according to requirements in other Specification Sections.
- B. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in planting soil.

### 3.2 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  - 1. Under planted areas, use satisfactory soil material.
- C. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
- D. Place fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- E. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:
  - 1. Scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
- F. Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

### 3.3 PLACING MANUFACTURED PLANTING SOIL OVER EXPOSED SUBGRADE

- A. General: Apply manufactured soil on-site in its final, blended condition. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

- B. Subgrade Preparation: Till subgrade to a minimum depth of 4 inches. Remove stones larger than 2 inches in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
- C. Application: Spread planting soil to total depth 8 inches, but not less than required to meet finish grades after natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.
- D. Compaction: Compact each lift of planting soil to 75 to 82 percent of maximum Standard Proctor density according to ASTM D 698.
- E. Finish Grading: Grade planting soil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

### 3.4 PROTECTION AND CLEANING

- A. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Vehicle traffic.
  - 4. Foot traffic.
  - 5. Impoundment of water.
- B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.
  - 1. Dispose of excess subsoil and unsuitable materials on-site where directed by Owner.

END OF SECTION 329113

## SECTION 329300 - PLANTS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes: Plants.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Plants: Furnish nursery-grown plants. Provide well-shaped, fully branched, healthy, vigorous stock.
  - 1. Provide drought and heat tolerant shrubs and or perennials suitable for location. Confirm type and number with Owner's Rep. Plants may include but are not limited to:
    - a. Shrubs: honeysuckle or ninebark (assume 3 shrubs total).
    - b. Perennials: Sedum or daylilies (assume 5 daylilies or 7 sedum total).
- B. Fertilizer: Planting tables with 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.
- C. Mulches: Shredded hardwood.
- D. Weed-control barrier.
- E. Landscape Edgings: Plastic.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Prepare planting area according to Section 329113 "Soil Preparation."
- B. Plastic Edging: Install plastic edging where indicated according to manufacturer's written instructions.
- C. Planting: Space plants or shrubs at distance and depth specified by nursery. Fertilize according to manufacturer's instruction.
- D. Mulching: 2-inch thickness of organic mulch over whole surface of planting area.

END OF SECTION 329300