ADDENDUM 5

SECTION 07620

SHEET METAL FLASHING AND TRIM

## PART 1 GENERAL

1.1 SECTION INCLUDES

A. Miscellaneous building sheet metal flashing.

B. Associated sealant.

1.2 RELATED SECTIONS

A. Section 07540 – Thermoplastic Membrane Roofing: Membrane clad sheet metal flashings incorporated into roofing.

B. Section 07900 - Joint Sealers: Sealant types.

C. Section 09900 - Paints and Coatings: Prime and finish painting of sheet metal flashing and trim.

1.3 REFERENCES

A. ASTM A653 - Steel Sheet, Zinc-Coated, (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.

B. ASTM B32 - Solder Metal.

C. ASTM B209 - Aluminum and Aluminum Alloy Sheet and Plate.

D. ASTM B749 - Lead and Lead Alloy Strip, Sheet and Plate.

E. ASTM D4586 - Asphalt Roof Cement - Asbestos Free.

F. NRCA - National Roofing Contractor's Association "Roofing Manual."

G. SMACNA - Sheet Metal and Air Conditioning Contractors National Association "Architectural Sheet Metal Manual."

H. SSPC - Structural Steel Painting Council.

1.4 SYSTEM DESCRIPTION

A. Work of this section is to provide flashing and sheet metal not specifically described in other sections of these

specifications but required to prevent penetration of water through exterior shell of building.

1.5 SUBMITTALS

A. Shop Drawings: Clearly indicate materials, configurations and profiles, jointing methods and locations, fastening methods and locations, flashing terminations and installation details. Show joint layout and elevations for joints exposed to view from grade outside of building with dimensions.

B. Setting Drawings or Templates: Submit setting drawings or templates and setting instructions for exact locations of items to be embedded in work of other sections.

C. Product Data: Submit manufacturer's literature completely describing manufactured products.

1.6 QUALITY ASSURANCE

A. Perform work in accordance with NRCA and SMACNA standard details and requirements.

1.7 QUALIFICATIONS

A. Fabricator and Installer: Company specializing in sheet metal flashing work with minimum 5 years documented experience.

1.8 STORAGE AND HANDLING

A. Deliver products to site, store handle and protect in accordance with manufacturer's instructions and recommendations.

B. Deliver, store and handle packaged materials in original containers with seals unbroken and labels intact until time of use.

C. Discharge materials carefully and store on clean concrete or raised platform in secure dry area. Do not dump on ground.

D. Stack preformed and prefinished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

E. Prevent contact with materials during storage which may cause discoloration, staining or damage.

F. Do not store materials with strippable film in areas exposed to sunlight.

1.9 FIELD MEASUREMENTS

A. Verify field measurements are as indicated on shop drawings.

1.10 COORDINATION

A. Ensure timely delivery of items to be embedded in work of other sections; furnish with setting drawings and templates.

B. Coordinate installation of reglets with installation of underlayments.

C. Coordinate installation of sheet metal work in contact with, but not incorporated into, membrane roofing with installation of roofing; install under supervision of roofing system applicators.

1.11 WARRANTY

A. Installer's Warranty: Cover damage to work resulting from failure of work of this section to resist penetration of moisture for a period of 2 years from date of Substantial Completion.

**PART 2 PRODUCTS**

2.1 SHEET MATERIALS

A. Galvanized Steel: ASTM A653; minimum 24 gauge core steel or as indicated on Drawings; minimum 1.25 oz/sq ft galvanized coating.

B. Aluminum: ASTM B209; minimum 0.062 inch or as indicated on Drawings; plain sheet; finish to match adjacent aluminum.

C. Lead: ASTM B749, Grade B; minimum 4 lbs/sq ft.

2.2 ACCESSORIES

A. Fasteners: Galvanized steel, aluminum, or stainless steel with soft neoprene washers at exposed fasteners; finish as follows:

1. Galvanized Steel: Galvanized steel or stainless steel.

2. Lead: Galvanized steel or stainless steel.

3. Aluminum: Aluminum or stainless steel.

B. Drawbands: Stainless steel hose clamps; worm drive.

C. Protective Backing Paint: SSPC Paint 12; cold-applied asphalt mastic type; non-corrosive; compounded for 15 mil dry film thickness.

D. Solder: ASTM B32; 50/50 type.

E. Sealant: Sealant Type 1 - Typical Building Sealant as specified in Section 07900.

F. Plastic Cement: ASTM D4856; asphalt type with mineral fiber components; capable of setting within 24 hours at temperature of 75 degrees F and 50 percent relative humidity.

G. Flashing Compound: Polyisobutylene type non-skinning non-drying sealant; bulk or tape form as applicable to installation requirements.

H. Building Paper: FS UU-B-790, Type 1, Grade D; 60 minute weather resistance; weighing not less than 4 pounds per 100 square feet.

2.3 FABRICATION

A. Fabricate sheet metal flashings and related components in accordance with profiles and material thickness recommended by SMACNA except where more stringent requirements are indicated on Drawings or specified herein.

B. Form sheet metal flashings and related components of materials indicated on Drawings unless specified otherwise.

C. As far as practicable, form and fabricate sheet metal in shop. Where on-site fabrication is required, provide work equal to shop quality.

D. Fabricate required connection pieces.

E. Form sections square, true and accurate in size, in maximum possible lengths and free of distortion or defects detrimental to appearance or appearance.

F. Allow for expansion and contraction at joints.
   1. Provide loose locking slip joints:
      a. At maximum 8 feet from internal and external corners.
      b. At maximum 24 foot intervals on straight runs.
      c. At centers of runs, less than 20 feet but more than 20 feet.
   2. Fill loose locked seams with flashing compound prior to assembly.

G. Reinforce for strength and appearance.

H. Cut, fit and drill sheet metal to accommodate related, adjacent or adjoining work.

I. Hem exposed edges of metal on underside 1/2 inch; miter and seam corners.

J. Solder metal joints. After soldering, remove flux. Wipe and wash solder joints clean.

K. Fabricate corners from one piece with minimum 18 inch long legs; solder for rigidity, seal with sealant.

L. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.

M. Fabricate cleats and starter strips of same material as sheet, interlockable with sheet.

2.4 FINISH

A. Back paint concealed metal surfaces and surfaces in contact with dissimilar metals and cementitious materials with protective backing paint to a minimum dry thickness of 15 mils.

**PART 3 EXECUTION**

3.1 EXAMINATION

A. Verify that openings are solidly set and ready for flashing installation.

B. Do not begin installation until unsatisfactory conditions have been corrected.

3.2 PROTECTION

A. Exercise care when working on and about roof surfaces to avoid damaging and puncturing membrane and flashings.

B. Place plywood panels on built-up roof surfaces adjacent to work of this section as temporary protection during course of cutting and fabrication.

C. Do not store sheet metal materials directly on roof surface. Place on pallets, plywood panels or temporary sleepers.

D. Protect interior of building from water intrusion during operations performed under this section.

3.3 INSTALLATION - SHEET METAL FLASHING

A. Conform to details indicated on Drawings and included in NRCA and SMACNA manuals.

B. Install shop fabricated sheet metal work in accordance with final reviewed shop drawings. Install manufactured assemblies in accordance with manufacturer’s installation instructions.

C. Perform required site fabrication in accordance with Part 2 “Fabrication” Article above.

D. Install work watertight with components in true and accurate alignment with other components and related work, with joints accurately fitted, with corners reinforced and with surfaces free from dents.

E. Install flashings to ensure diversion of moisture to exterior.

F. Coordinate sheet metal installation with work of other trades to ensure proper sequencing.

G. Secure flashings in place using concealed fasteners. Use exposed fasteners only in locations indicated or authorized by Architect.

1. Fasten in accordance with SMACNA.

2. Secure sheet metal runs to underlying material by fastening through slotted holes in flange at 3 inches oc maximum, unless indicated otherwise.

3. Provide waterproof washers where fasteners penetrate flashings.

4. Where sheet metal occurs over other sheet metal, use nails with minimum 1 inch diameter metal disks.

H. Apply plastic cement compound between metal flashings and felt flashings.

I. Fit flashings tight in place. Make corners square, faces true and straight in planes, and lines accurate to profiles.

J. Solder metal joints for full metal surface contact. After soldering, wash metal clean with neutralizing solution and rinse with water.

K. Install sheet metal work so as to adequately provide for expansion and contraction in finished work.

L. Apply joint compound at slip joints or wherever metal-to-metal contact occurs and movement may occur.

M. Install sealant and sealant accessories in accordance with Section 07900.

3.4 ADJUSTING

A. Replace damaged material with new undamaged material prior to final acceptance.

3.5 CLEANING

A. Clean sheet metal work; leave free from grease, finger marks and stains.

B. Remove scrap and debris from surrounding areas and grounds.

3.6 PROTECTION

A. Protect installed work of this section from defacement or

damage until final acceptance.

END OF SECTION