PART 1 GENERAL

1.01 SECTION INCLUDES
   A. Manufactured curbs, equipment rails, and pedestals.
   B. Roof hatches.

1.02 RELATED REQUIREMENTS
   A. Section 05.31.00 - Steel Decking.
   B. Section 07.54.23 - Thermoplastic-Polyolefin Roofing (TPO).

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS
   A. See Section 01.30.00 - Administrative Requirements, for submittal procedures.
   B. Product Data: Manufacturer's data sheets on each product to be used.
      1. Preparation instructions and recommendations.
      2. Storage and handling requirements and recommendations.
      3. Installation methods.
      4. Maintenance requirements.
   C. Shop Drawings: Submit detailed layout developed for this project. Show dimensioned location and number for each type of roof accessory.
      1. Non-penetrating Rooftop Supports: Submit design calculations for loadings and spacings.
      2. Submit shop drawings sealed and signed by a Professional Engineer experienced in design of this type of work and licensed in Tennessee.
   D. Warranty Documentation:
      1. Submit manufacturer warranty.
      2. Ensure that forms have been completed in Owner's name and registered with manufacturer.
      3. Submit documentation that roof accessories accessories are acceptable to roofing manufacturer, and do not limit the roofing warranty.
1.05 DELIVERY, STORAGE, AND HANDLING
   A. Store products in manufacturer's unopened packaging until ready for installation.
   B. Store products under cover and elevated above grade.

1.06 WARRANTY
   A. See Section 01.78.00 - Closeout Submittals, for additional warranty requirements.
   B. Correct defective Work within a five year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURED CURBS
   A. Manufactured Curbs, Equipment Rails, and Other Roof Mounting Assemblies:
   B. Manufactured Curbs, Equipment Rails, and Other Roof Mounting Assemblies: Factory-assembled hollow sheet metal construction with fully mitered and welded corners, integral counterflashing, internal reinforcing, and top side and edges formed to shed water.
      1. Sheet Metal: Hot-dip aluminum zinc alloy coated steel sheet (Galvalume) complying with ASTM A792/A792M; AZ55 coating designation; 18 gage, 0.048 inch thick.
      2. Roofing Cants: Provide integral sheet metal roofing cants dimensioned to begin slope at top of roofing insulation; 1:1 slope; minimum cant height 4 inches.
      3. Manufacture curb bottom and mounting flanges for installation directly on roof deck, not on insulation; match slope and configuration of roof deck.
      4. Provide the layouts and configurations shown on the drawings.
   C. Curbs Adjacent to Roof Openings: Provide curb on all sides of opening, with top of curb horizontal for equipment mounting.
      1. Provide preservative treated wood nailers along top of curb.
      2. Insulate inside curbs with 1-1/2 inch thick fiberglass insulation.
      3. Height Above Finished Roof Surface: 6 inches, minimum.
      4. Height Above Roof Deck: 14 inches, minimum.
   D. Equipment Rails: Two-sided curbs in straight lengths, with top horizontal for equipment mounting.
      1. Provide preservative treated wood nailers along top of rails.
      2. Height Above Finished Roof Surface: 6 inches, minimum.
      3. Height Above Roof Deck: 14 inches, minimum.
   E. Pipe, Duct, and Conduit Mounting Pedestals: Vertical posts, minimum 8 inches square unless otherwise indicated.
      1. Provide sliding channel welded along top edge with adjustable height steel bracket, manufactured to fit item supported.
      2. Height Above Finished Roof Surface: 6 inches, minimum.
      3. Height Above Roof Deck: 14 inches, minimum.

2.02 ROOF HATCHES
   A. Roof Hatches: Factory-assembled aluminum frame and cover, complete with operating and release hardware.
      1. Style: Provide flat metal covers unless otherwise indicated.
      2. Mounting: Provide frames and curbs suitable for mounting on corrugated metal roof deck.
B. Frames/Curbs: One-piece curb and frame with integral cap flashing to receive roof flashings; extended bottom flange to suit mounting.
   1. Material: Galvanized steel, 14 gage, 0.0747 inch thick.
   3. Insulation: 1 inch rigid glass fiber, located on outside face of curb.
   4. Curb Height: 12 inches from surface of roof deck, minimum.

C. Metal Covers: Flush, insulated, hollow metal construction.
   1. Capable of supporting 40 psf live load.
   2. Material: Galvanized steel; outer cover 14 gage, 0.0747 inch thick, liner 22 gage, 0.03 inch thick.
   4. Insulation: 1 inch rigid glass fiber.
   5. Gasket: Neoprene, continuous around cover perimeter.

D. Safety Railing System: Manufacturer's standard accessory safety rail system mounted directly to curb.
   3. Gate: Same material as railing; automatic closing with latch.
   4. Finish: Manufacturer's standard; molded in integral safety yellow.
   5. Gate Hinges and Post Guides: ASTM B221 (ASTM B221M), 6063 alloy, T5 temper aluminum.
   7. Fasteners: Type 316 stainless steel.

E. Hardware: Steel, zinc coated and chromate sealed, unless otherwise indicated or required by manufacturer.
   1. Lifting Mechanisms: Compression or torsion spring operator with shock absorbers that automatically opens upon release of latch; capable of lifting covers despite 10 psf load.
   2. Hinges: Heavy duty pintle type.
   3. Hold open arm with vinyl-coated handle for manual release.

2.03 NON-PENETRATING ROOFTOP ASSEMBLIES

A. Non-Penetrating Rooftop Assemblies: Manufacturer-engineered and factory-fabricated, with pedestal bases that rest on top of roofing membrane, not requiring any attachment to the roof structure and not penetrating the roofing assembly.
   1. Design Loadings and Configurations: As required by applicable codes.
   2. Support Spacing and Base Sizes: As required to distribute load sufficiently to prevent indentation of roofing assembly.
   3. Steel Components: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A123/A123M.
   4. Hardware, Bolts, Nuts, and Washers: Stainless steel, or carbon steel hot-dip galvanized after fabrication in accordance with ASTM A153/A153M.

B. Pipe Supports: Provide attachment fixtures complying with MSS SP-58 and as indicated.
   1. See relevant piping system specification section for additional requirements.

C. Conduit and Cable Tray Supports:

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.
B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION
   A. Clean surfaces thoroughly prior to installation.
   B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION
   A. Install in accordance with manufacturer's instructions, in manner that maintains roofing weather integrity.

3.04 CLEANING
   A. Clean installed work to like-new condition.

3.05 PROTECTION
   A. Protect installed products until completion of project.
   B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION