



CITY OF ALBANY
Public Works Department

ADDENDUM #6

SS-19-05,
RIVERFRONT WET WEATHER LIFT STATION
AND FORCE MAIN

In order to clarify the intent of the Specifications and Drawings, the following provisions are provided and shall be considered part of the contract documents.

In order to ensure that all bidders are aware of these provisions, each bidder shall sign this addendum below and attach it to the proposal.

IMPORTANT: Failure to include a signed Addendum could result in the disqualification of your bid.

APPENDIX B

Section 07411 – METAL ROOFING PANELS:

Replace existing Section 07411 with the new attached Section 07411. The new language makes several changes which include the following:

- Updated reference sections
- Updated specifications to refer to the 2014 Oregon Structural Specialty Code instead of the International Building Code
- Updated shop drawing and color chart requirements
- Added new specifications for additional contractor warranty requirements
- Updated acceptable roofing manufacturers and products
- Updated materials and properties requirements
- Specifications updated or added for Miscellaneous Materials: Roof Insulation and Roofing Panel Installation.

Contractor's Signature

Date

Company Name *(please type or print)*

SECTION 07411
METAL ROOFING PANELS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Preformed metal roofing panels, trim, fasteners, gutters, downspouts, and accessories.

1.02 REFERENCED SECTIONS

- A. The following Section is referenced in this Section
 - 1. Section 01330 – Submittals
 - 2. Section 07212 – Board Insulation
 - 3. Section 07600 – Flashing and Sheet Metal

1.03 PERFORMANCE REQUIREMENTS

- A. Air Infiltration: Maximum air infiltration rate of 0.009 cubic feet per minute per square foot at a pressure differential of 6.24 pounds per square foot when tested in accord with ASTM E1680.
- B. Water Penetration: No uncontrollable water leakage at a pressure differential of 6.24 pounds per square foot when tested in accord with ASTM E1646.
- C. Wind Uplift: Comply with Underwriter's Laboratories Test Method 580, Class 90 Rating.
- D. Conform to requirements of the 2014 Oregon Structural Specialty Code (OSSC).
- E. Design metal roofing panels for attachment with concealed clip fasteners. Exposed fasteners are permitted only to control expansion, and at panel end splices.
- F. Spacing of clip fasteners established by the manufacturer to accommodate both positive and negative design loads, while allowing for expansion and contraction of the entire roofing system resulting from variations in temperature.

1.04 SUBMITTALS

- A. Comply with Section 01330.
- B. Product Data:
 - 1. Manufacturer's standard catalog information for the metal roofing panels, accessories, and other products.
 - 2. Identify material specifications, structural properties, and gauge thicknesses.

- C. Shop Drawings:
 - 1. Show layout of roofing panels, joint and anchorage details, perimeter flashing and trim details, panel seam termination, openings, dimensions, accessories, and other construction details.
- D. Color Charts:
 - 1. Submit a minimum of 2 hard-copies of the manufacturer's standard color charts with accurate color representation.
 - 2. The Owner will select multiple colors from the chart for final color selection.
 - 3. Submit a minimum of 3 samples of the selected colors on 2-inch by 2-inch squares (minimum size) metal for final color selection by the Owner.
- E. Qualifications of Installing Contractor and Job Foreman
- F. Manufacturer's recommended installation instructions.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications
 - 1. Installing Contractor:
 - a. Minimum 5-years experience in roofing panel projects of similar nature.
 - b. Either directly employed by the metal roofing manufacturer or certified by the metal roofing manufacturer to install roofing panels.
 - 2. Job Foreman:
 - a. Trained by the roofing manufacturer in the installation of the metal roofing panel system.
 - b. Minimum 10 projects of similar nature.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, handle, and protect metal roofing panels to prevent corrosion, deformation, and other damage.
- B. During storage, stack packaged bundles of metal roofing panels on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.
- C. Handle panel bundles with non-marring slings.
- D. Do not install damaged metal roofing panels.

1.07 WARRANTY

- A. Provide Manufacturer's standard watertightness and panel finish warranties meeting the minimum requirements below:

1. Warranties shall be from the manufacturer of the metal roofing panels and shall warrant the total system.
2. Warranties shall cover the installation for a period of 20 years and shall not be pro-rated.
3. Watertightness Warranty: Warranty shall state that manufacturer agrees to repair or replace metal roofing system including roofing panels, trim, flashings, insulation and penetrations that fail to maintain watertightness.
4. Panel Finish Warranty: Warranty shall state that manufacturer agrees to repair the finish or replace metal roofing panels that show evidence of deterioration, loss of integrity and color retention, including cracking, flaking, blistering, and chalking.
5. Warranty shall be signed by the manufacturer and the Certified Installation Contractor.
6. Warranty shall become effective on the date of project acceptance by the Owner.

1.08 SPECIAL GUARANTEE

- A. The Certified Installation Contractor or Contractor shall provide a written Special Guarantee to the Owner covering a period of 3-years covering the following:
 1. All labor and materials.
 2. Addressing problems covered by the Manufacturer's Warranty independent from Owner's involvement.
 3. Watertightness Guarantee: Agrees to repair or replace metal roofing system including roofing panels, trim, insulation, flashings, and penetrations that fail to maintain weathertightness.
 4. Interior Finishes: Agrees to repair finishes or coatings damaged by water infiltration.
 5. Agrees to address problems within 3-days of notification by the Owner, and agrees to reimburse the Owner for Owner initiated temporary repairs resulting from failure to respond in a timely manner.
 6. Special Guarantee shall be signed by the Contractor or the Certified Installation Contractor.
- B. Special Guarantee shall become effective on the date of project acceptance by the Owner.

PART 2 - PRODUCTS

2.01 METAL ROOFING PANELS

- A. Acceptable Manufacturers and products:
 1. Garland, R-Mer Loc

2. Equivalent products shall meet warranty requirements in this Section. Equivalent as manufactured by one of the following, or equal.:
 - a. AEP-Span, Design Span hp.
 - b. ATAS International, Inc., PC System
 - c. Approved equal.
- B. Materials and Properties
 1. Form metal roofing panels from 24 gauge minimum, steel sheet conforming to ASTM A792, Grade 33.
 2. Galvanized in accordance with ASTM A792, AZ50, thickness 1.6 mils.
 3. Profile: 1-inch high integral standing seams at 16 inch centers.
- C. Structural Properties
 1. Minimum Thickness: 24 gage.
 2. Minimum Yield Strength: 50,000 pounds per square inch.
- D. Fabrication: Factory formed in continuous lengths.
- E. Finish
 1. Apply coatings either before or after forming and fabricating panels.
 2. Fluoropolymer Coating: Two-coat, thermo-cured, full-strength 70 percent "Kynar 500" coating consisting of a primer with a minimum dry film thickness of 0.15 mils and a finish coat with a minimum 0.75-mil dry film thickness for a total dry film thickness of not less than 0.9 mil. In addition, the coating shall provide a 30 percent reflective gloss when tested in accordance with ASTM D23.
 3. Durability: Provide coating that has been field tested under normal range of weathering conditions for minimum of 20 years without significant peel, blister, flake, chip, crack, or check in finish; without chalking in excess of No. 8 in accordance with ASTM D659; and without fading in excess of 5 NBS units.
 4. Colors: As selected by the Owner from the manufacturer's standard colors. A minimum of 24 standard colors shall be available for selection. One color will be selected for the building.

2.02 MISCELLANEOUS MATERIALS

- A. Gutters: Fabricated from the same material, finish and same color as the roof panels.
- B. Downspouts: In accordance with Section 07600.
- C. Roof Penetrations: In accordance with Section 07600 and as shown on the Drawings.
- D. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets, self-locking bolts, end-welded studs, and other suitable fasteners designed to withstand design loads.

Fasteners shall be concealed, except in locations where exposed fasteners are the only option.

1. Materials:
 - a. Exterior Applications: Use aluminum, corrosion-resistant steel, or stainless steel fasteners. Color of exposed corrosion resistant and aluminum fasteners shall match roof color.
 - b. Interior Applications: Use galvanized or cadmium-plated fasteners.
 2. Provide exposed fasteners with heads matching color of roof panel by means of plastic caps or factory-applied coating.
 3. Provide metal-backed neoprene washers under heads of exposed fasteners bearing on weather side of panels.
 4. Locate and space exposed fasteners in true vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of neoprene washer.
- E. Felts: Asphalt-saturated organic felts conforming to the requirements of ASTM D2626, 40 lbs.
- F. Accessories: Provide components required for a complete roof panel system, including trim, copings, fascias, mullions, sills, corner units, ridge closures, clips, seam covers, battens, flashings, louvers, sealants, gaskets, fillers, closure strips, and similar items. Match materials and finishes of panels.
1. Closure Strips: Provide steel closures to match roof panel profile, prefinished to match roof color. Provide closures where indicated or necessary to ensure weathertight construction.
 2. Sealing Tape: Pressure-sensitive 100 percent solids polyisobutylene compound sealing tape with release paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
 3. Joint Sealant: One-part elastomeric polyurethane, polysulfide, or silicone rubber sealant as recommended by the roof manufacturer.
 4. Clips:
 - a. Provide UL listed clip designed to allow panels to thermally expand and contract and provide ± 1 inch of thermal movement. Clips and connection to panels shall be designed to reduce oil-canning, and allow movement of the metal panels due to expansion and contraction. Clip shall incorporate a self-centering feature to allow a minimum of 1" of movement in both directions along panel length.
 - b. Clip shall be designed to meet positive and negative pressures as calculated per OSSC.
 - c. Clip shall be 16 gauge minimum.
- G. Ice and Water Shield: Bituminous resin modified with synthetic resins membrane, 40 mils thick with release film to maintain self-adhesive qualities and required

accessories similar to Jiffy Seal Ice and Water Guard (Summer Grade) as manufactured by Proteco Wrap Company.

- H. Sealants; In accordance with the manufacturer's recommendations and as required for a watertight assembly.

2.03 ROOF INSULATION

- A. Extruded-Polystyrene Insulation in accordance with section 07212.
- B. Verify that the insulation is acceptable to the roof system specified in this Section and is compatible with the roof warranty. If manufacturer requires an alternative board insulation, submit with the product data and include the rationale for the substitution.
- C. Insulation installed in concealed locations surface with the following burning characteristics:
 - 1. Furnish in widths required to fit around panel clips.
- D. R-value per inch: R 5 minimum aged value.
- E. Thickness per Drawings.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Prior to beginning installation of the metal roofing panels, check supporting substrate for correct installation and suitability for installation of the panels.

3.02 INSULATION INSTALLATION

- A. General:
 - 1. Comply with roof system manufacturer's instructions for particular conditions of installation in each case. If printed instructions are not available or do not apply to project conditions, consult manufacturer's technical representative for specific recommendations before proceeding with work.
 - 2. Extend insulation full thickness as shown over entire area to be insulated. Cut and fit tightly around obstructions, and fill voids with insulation. Remove projections which interfere with placement.
- B. Adhesive:
 - 1. Gun grade, mastic type, compatible with insulation and substrate; bond strength as required by board system manufacturer.

3.03 UNDERLAYMENT

- A. Prior to installing metal roofing, install a continuous ice and water shield along ridges, eaves, valley, gutters, and all roof penetrations. Cover ice and water shield

with one ply of felt over board insulation and install slip sheets prior to installing metal roofing panels over felts.

3.04 ROOFING PANEL INSTALLATION

- A. Install the metal roofing panels over the roof sheathing indicated on the Drawings.
- B. Install metal roofing panels in accordance with the manufacturer's instructions and requirements in this Section.
- C. Provide single continuous panels from eaves to ridge.
- D. Prior to installing roofing panels, apply one ply of felt on the structural roof deck. Install felt beginning from the lower edge and with at least 3-inch side laps and 4-inch end laps.
- E. Place individual metal roofing panels on supporting surface with panel seams vertically oriented. Overlap panels a minimum of 5 inches with overlap away from prevailing wind direction. Adjust to final position without warps or deflections and with ends accurately aligned before being permanently fastened.
- F. Fully engage interlocking seams.
- G. Cut and neatly fit metal roofing panels and accessories around openings and other work projecting through or adjacent to the panel. Torch cutting is prohibited. Debur cut edges and touch up with paint. Flash as necessary to make watertight.
- H. Accessories: Install components required for a complete roof panel system, including trim, copings, ridge closures, clips, seam covers, battens, flashings, gutters, sealants, closure strips, and similar items.
- I. Joint Sealers: Install gaskets, joint fillers, and sealants where required for weatherproof performance of panel systems. Provide types of gaskets, sealants, and fillers indicated or, if not otherwise indicated, types recommended by panel manufacturer.
- J. Standing Seam Roof Panel System: Fasten roof panels to supports with concealed clip in accordance with the manufacturer's instructions. Arrange hold-down clips to allow for positive load of 40 pounds per square foot and negative load to meet UL I-90.
- K. Installation Tolerances: Shim and align panel units within installed tolerance of 1/4-inch in 20-foot distance on level/plumb/slope and location/line as indicated, and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.
- L. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals indicated on the Drawings.

3.05 GUTTERS

- A. Install gutters with positive drainage, 1/4-inch per foot.
- B. Install such that gutter is leaktight at gutter section joints, downspout connections, and at ends.

3.06 TOUCH-UP

- A. Upon completion of installation of metal roofing panels, inspect the installation with the Owner's Representative to locate areas where the finish has been damaged or where the installation does not meet the requirements of the roofing panel manufacturer.
- B. Touch up damaged coating surfaces with touch-up paint provided by the manufacturer. Follow the manufacturer's instructions to minimize color irregularities.

END OF SECTION