- PART 1 - GENERAL

- CONTRACT CONDITIONS

- Work of this Section is bound by the Contract Conditions and Division 1, bound herewith, in addition to this Specification and accompanying Drawings.

- EXTENT OF WORK

- At both College Union Building & Library-Resource Center:
  - Remove existing Ballast and dispose on Campus where directed.

- At College Union Building where located on Drawings:

  - Remove existing Roofing Assembly down to Insulation Board, and replace Roofing.

- At Library-Resource Center:
  - Remove existing Roofing Assembly down to Insulation Board, and replace Roofing.

- At the Residence Hall:
  - Remove existing Ballast and dispose on Campus where directed.
  - Remove and replace existing fiberglass Roofing flashing with new metal flashing.
  - Remove existing Roofing Assembly down to Insulation Board, and replace Roofing.

- RELATED WORK SPECIFIED IN OTHER SECTIONS

- Sheetmetal Flashing & Trim: Section 07620

- ALTERNATES

- Refer to Bidding Documents for possible effect upon Work of this Section.

- REFERENCED SPECIFICATIONS

- Roofing:
  - Unless otherwise specified, comply with applicable portions of Recommended Performance Criteria for Elastomeric Single Ply Roof Membrane System document ME-20, published by Midwest Roofing Contractors Assn.; 1000 Power & Light Bldg.; Kansas City, MO 64105. Copies of Specification can be obtained from Association.
  - Wherever the word "should" appears it shall mean "shall".

- Thermal Roof Insulation:
  - Test Method for determining Aged Thermal Resistance Values (R) of Insulation: 15 year time-weighted Long Term Thermal Resistance (LTTR) average as stipulated in ASTM C-1289.

- PART 1 - GENERAL

- COORDINATION

- Coordinate with other Trades affecting or affected by Work of this Section.

- REGULATORY AGENCY REQUIREMENTS

- Comply with Wind Uplift and other Building Code requirements if more restrictive than those specified herein. Notify Architect about differences before starting work.
- Comply with OSHA Fall Protection Requirements.
- Label Products indicating compliance with U.L. fire-resistive requirements specified in Building Code.

- LAYOUT DRAWINGS

- Submit three copies.
- Include Roof outline, Splice locations, Penetrations, and Edge details.
- Include Membrane Manufacturer's approval of Drawings.

- MANUFACTURER'S INSTRUCTIONS

- Submit to Architect: 1 copy of Manufacturer's Installation Instructions
- Submit to General Contractor for inclusion in Owner's Maintenance Manual: Manufacturer's Maintenance Instructions including recommended materials for flashing, splicing, and bonding.

- MANUFACTURER'S CERTIFICATIONS

- Submit evidence of the following:
  - That Roofer is Manufacturer-trained and Manufacturer-approved to perform this Work:
    - To each General Contractor Bidder: With each Subbid Proposal.
    - To Architect: Prior to ordering Products.
  - That Manufacturer has reviewed and approves this Specification:
    - To Architect: Prior to ordering Products.
- Immediately following Work completion, submit to Architect:

- Certification that Manufacturer's Representative has inspected Work prior to, during, and after Work completion, and that Work complies with these Specifications and Manufacturer's instructions.

PART 1 - GENERAL

PRE-INSTALLATION MEETING

- Prior to starting work, Roofer shall arrange meeting to clarify any questions about Specifications, details, and other application requirements.
- Representatives of the following shall attend:
  - Roofing Contractor
  - Roofing Manufacturer
  - General Sheetmetal Subcontractor

PRODUCT DELIVERY, STORAGE, & HANDLING

- Deliver in unopened original packaging, with Manufacturer's legible labels thereon.
- Protect against damage, discoloration, and moisture.
- Do not cut, tear, or puncture Roofing.
- Store under Protective Coverings and above ground on Pallets.
- Store Adhesives and Flashing Materials between 60ºF and 80ºF for at least 4 hours immediately prior to installation.
- Protect Foam Insulation against Fire and direct Sunlight exposure.
- Protect Foam Insulation edges against crushing and breaking.
- Do not stack Foam Insulation higher than 8 ft.
- Maintain clear aisle space between Foam Insulation Stacks to facilitate Fire Suppression.
- Weight Foam Insulation as required to prevent wind-induced damage.
- Do not overload Building Structure with stored Materials.

WEATHER REQUIREMENTS

- Comply with Manufacturer's recommendations.

FIELD MEASUREMENTS

- Verify prior to fabrication.
- If field measurements differ slightly from Drawing dimensions modify Work as required for accurate fit. If measurements differ substantially, notify Architect prior to fabrication.

- ADVANCE NOTICES

- Notify Architect and Roofing Manufacturer at least 2 working days before starting work.

- PART 1 - GENERAL

- WORK WARRANTY

- Roofing and Flashings are subject to 2 year Warranty called for in Supplementary Conditions.
- Roofer is responsible for proper placement of Metalwork, which has been provided by other Trades, and is in contact with Roofing.

- MAINTENANCE WARRANTY

- Prior to Final Project Acceptance submit in the proper format the following Warranties for inclusion in Owner's Maintenance Manual:
  - We, the undersigned, do hereby warrant Single Ply Roofing and related Roof Insulation and Flashing against failure under normal usage as may occur within the following time periods after Project Substantial Completion date, and defective Work will be repaired or replaced at no additional cost to Owner:

    - 2 Years: Defective Labor, Materials and Workmanship including any resulting damage to Building Materials and/or Building Contents.

      ROOFING CONTRACTOR_____
      By: _____

    - 15 Years: Defective Materials and Workmanship, but not including any damaged Building Materials or Building Contents.

      ROOFING MANUFACTURER: _____
      By: _____

      ROOFING CONTRACTOR: _____
      By: _____

    - ALTERNATE BID – 20 years: Defective Materials and Workmanship, but not including any damaged Building Materials or Building Contents.

      ROOFING MANUFACTURER: _____
      By: _____

      ROOFING CONTRACTOR: _____
      By: _____

- PART 2 - PRODUCTS

- VAPOR RETARDER

- Owens Corning Permastop, Fortifiber Vaporstop 298, Reef Griffolyn, or approved.

- ROOF INSULATION

- Manufacturer & Brand: Contractor's choice
- Insulating Material: Extruded Polystyrene Foam
- Manufacturing Standard: ASTM C-578
- Type: HCFC-free with zero Ozone-depletion
- Minimum Compressive Strength: 15 psi
- Minimum Overall Thickness: 4 inches

- INSULATION PROTECTION BOARD

- Manufacturer & Brand: G-P DensDeck Prime Roof Board, JM Invinsa Roof Board, or approved.
- Thickness: 1/2 inches
- Flame Spread Rating: 0
- Smoke Development Rating: 0
- Extent of Work: Provide over Thermal Insulation to receive Roofing.

- CRICKET FORMING BOARD

- Material: Polyisocyanurate Insulation Board, or approved.
- Manufacturer: Contractor's choice
- Minimum Density: 1-1/2 pcf
- Shape: Tapered 1/2 inch per ft., minimum.
- Extent of Work: Provide where necessary to form Roof Slope Crickets.

- ROOFING MEMBRANE

- Manufacturer & Brand: Carlisle Sure-Weld, Firestone UltraPly, JM UltraGuard, Stevens EP, or approved.
- Material: Reinforced Thermoplastic Polyolefin (TPO)
- Manufacturing Standard: ASTM D-6878
- Minimum UL 790 Fire-resistiveness Class: A
- Color: White
- Minimum Solar Reflectance Index (SRI) after 3-years Weather Exposure: 0.74
- Thickness: 0.060 inches
- Attachment Method: Mechanically-attached

- PART 2 - PRODUCTS

- ROOFING MEMBRANE (Cont.)

- Optional System:
  - Contractor may at Contractor's option substitute the following:
    - Manufacturer: Duro-Last, or approved.
    - Material: PVC
    - Manufacturing Standard: ASTM D-751
    - Minimum UL 790 Fire-resistiveness Class: A
    - Color: White
    - Thickness: 0.050 inches
    - Attachment Method: Mechanically-attached

- FLASHING MEMBRANE

- Material & Thickness: Recommended by Roofing Membrane Manufacturer for conditions of use.
- Color: Match Roofing Membrane

- ADHESIVE, CEMENT, MASTIC, & SEALANT

- Furnished by Membrane Manufacturer.

- NAILING STRIPS, CURBS, & BLOCKING

- Materials: Recommended by Membrane Manufacturer for conditions of use
- Source: Furnished by Membrane Manufacturer

- FASTENERS

- Manufacturer & Type: Approved by Membrane Manufacturer
- Material: Non-corrosive
- Length: As required to satisfy conditions of use

(Cont.)

- PART 2 - PRODUCTS

- TRAFFIC PADS

- Manufacturer & Brand: Carlisle Walkway Pads, or approved.
- Approximate Minimum Face Size: 30x30 inches
- Extent of Work: Provide on Roof surface in 30 inch minimum wide strip around Roof-mounted Mechanical Equipment requiring maintenance and where necessary to connect Equipment with Roof Access Hatch where shown on Drawings.

- OTHER MATERIALS

- Manufacturer & Type: Approved by Membrane Manufacturer
- Extent of Work: Provide all required for complete weatherproof installation.

- PART 3 - EXECUTION

- EXISTING CONDITIONS

- Verify that Surfaces to receive Roofing System are clean, smooth, sound, dry, and free of sharp edges, fins, grease, oil, water, ice, frost, foreign matter, and other conditions that could adversely affect Roofing execution and permanence, and are otherwise properly prepared.
- Prior to starting Work notify Owner about defects requiring correction.
- Do not start Work until conditions are satisfactory.

- PROTECTION

- Protect other Work against damage and discoloration caused by Work of this Section.
- Prevent Adhesive Solvent Fumes from being drawn into Building Ventilation System.

- EXISTING ROOFING REMOVAL

- Before re-roofing, remove existing Roofing.
- Disposition of Removed Existing Materials:
    - Removed Ballast: Collect and stockpile elsewhere on Campus where directed by Owner.
    - Other Materials: Remove from Campus, and lawfully dispose.

(Cont.)

- PART 3 - EXECUTION

- EXISTING ROOFING REMOVAL (Cont.)

- If repairs or replacement are required, Owner will issue Change Order authorizing Work to be performed, and Contract Sum and Contract Time will be adjusted accordingly.
- If repairs or replacement are required, delay re-roofing until preparatory work is completed.
- Allow no leaks into existing Building. If leaks should occur, repair or, when directed, replace any damaged Building Materials or Contents.

- SURFACE PREPARATION

- Prior to roofing, remove from Materials to be reroofed, any oil, grease, debris, obstruction, snow, ice, moisture, or projections which could damage System.

- VAPOR RETARDER INSTALLATION

- Apply, in accordance with Membrane Manufacturer's instructions, over Decks to receive Thermal Insulation.
- Minimum Side Laps: 2 inches
- Minimum End Laps: 6 inches
- Seal Edge, Perimeter, and Penetration Laps with Adhesive.

- INSULATION INSTALLATION

- General:
  - Apply in dry condition in accordance with Manufacturer's instructions and Regulatory Agency requirements.
  - Apply in 2 or more layers to specified overall thickness.
  - Stagger Joints between adjacent Insulation layers at least 8 inches.
  - Maximum Open Space between adjacent Insulation Sheets: 1/8 inch
  - Position long sides of Insulation Sheets with Continuous Joints. Stagger adjacent Transverse Joints.
  - Neatly cut and fit Insulation at Roof Edges and at any Vertical Projections through Insulation. Fill Open Spaces with Edge Expansion Strips.
  - Miter Insulation at any Ridges.
  - Do not damage Insulation edges or faces during installation.
- At Sloping Insulation, if any, maintain the following:
  - 1/4 inch per ft. minimum slope.
  - Minimum specified thickness at Roof Drains.
  - Provide tapered Fiber Edge Strip at any exposed Insulation edges.

(Cont.)

- PART 3 - EXECUTION

- INSULATION INSTALLATION (Cont.)

- At Roof Drains:
  - Taper top layer of Insulation for 24 inches around and downward toward Drain.

- INSULATION PROTECTION BOARD INSTALLATION

- Apply to Roof Insulation in accordance with Manufacturers' instructions.

- CRICKET BOARD INSTALLATION

- Form into shapes shown on Drawings, and apply to Roof Insulation in accordance with Manufacturers' instructions.
- Maintain 1/2 inch per ft. minimum slope at Cricket Valleys.

- MEMBRANE INSTALLATION

- Follow Manufacturer's instructions using Mechanically Attached method.
- Place Sheet in final position without stretching.
- Allow Sheets to relax 30 minutes minimum before making splices or anchoring to Substrate.
- Overlap adjacent Sheets at least 3 inches for splicing.
- Remove any Wrinkles or Air Pockets.
- Secure Membrane as instructed by Membrane Manufacturer.
- Make Seams and Penetrations watertight.
- Check Seam sealing for continuity and integrity.
- Prior to end of each Working Day, seal exposed Seam edges with Sealant.
- Flash Membrane perimeter and penetrations as instructed by Membrane Manufacturer.

- TRAFFIC PAD INSTALLATION

- Space Pads 6 inches apart to permit Water-flow.
- Do not install directly over field-fabricated Roofing Seams.
- Secure to Roofing with Adhesive recommended by Roofing Manufacturer.

(Cont.)

- PART 3 - EXECUTION

- PROTECTING COMPLETED WORK

- Prevent Water-flow beneath or behind any completed Work.
- Notify General Contractor to protect completed Work against damage and discoloration caused by workmen of other Trades.
- To any Roof-mounted Mechanical Equipment, conspicuously locate and apply brightly colored Decal, which warns Equipment Maintenance Workers against spilling Liquid Freon, Petroleum-based Products, and other Materials which can damage Roofing Membrane.

- WASTE MANAGEMENT

- Collect Scrap Materials, and lawfully deposit where directed for recycling.

- CLEANING & REPAIRING

- Including Work of other Sections, clean, repair and touch-up, or replace when directed, Products which have been soiled, discolored, or damaged by Work of this Section.
- Remove debris from Project Site upon Work completion, or sooner if directed.

END OF SECTION