SECTION 07000
GENERAL INFORMATION

PART 1 – GENERAL

1.1 SUMMARY
A. This section general information standards for moisture protection and insulation.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS
A. All building foundation walls at basement level should be waterproofed.
B. Insulation applied to foundation wall on exterior should be Dow Blue Board or equal. Exposed insulation shall be coated for protection.
C. Generally, walls will be insulated with a minimum of R-19 insulation and roof structure will be insulated with a minimum of R-30 insulation.
D. Sprayed-on fire proofing shall have NO ASBESTOS.
E. No metal roofs are allowed unless approved by UC Denver Fac. Ops. through the UC Denver Project Manager.
F. All roofs shall have walking treads for access to equipment. Walking treads shall be compatible with the roof system. Set smooth side down.
G. All flashing joints, including equipment bases shall be waterproofed.

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
A. Quality Assurance shall be provide in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

2.2 MATERIALS, GENERAL

PART 3 – EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION, GENERAL

3.3 TESTING, CLEANING, AND CERTIFICATION

3.4 COMMISSIONING (DEMONSTRATION)

3.5 SCHEDULES
END OF SECTION
SECTION 07300

SHINGLES AND ROOFING TILES

PART 1 – GENERAL

1.1 SUMMARY
   A. This section provides standards for shingles and roofing tiles.

1.2 REFERENCES
   A. Manual Part 2, Section 2.8 Building Guidelines

1.3 SYSTEM PERFORMANCE REQUIREMENTS

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1

PART 2 – PRODUCTS

2.1 MANUFACTURERS

2.2 MATERIALS, GENERAL
   A. Acceptable Roof System
      1. Asphalt Shingles, Square Tab Strip Shingles, UL Class “A, Heavyweight: Mineral-surfaces, self-sealing, 3tab fiberglass based asphalt strip shingles complying with ASTM D 3018, bearing UL Class “A” external fire exposure label and UL “Wind Resistant” label, weighting not less than 240 lbs. Per square. Color shall be in accordance with Campus Materials Standards.
   B. Asbestos shingles are not permitted.

PART 3 – EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION GENERAL

3.3 TESTING, CLEAN, and CERTIFICATION

3.4 COMMISSIONING (DEMONSTRATION)

3.5 SCHEDULES

END OF SECTION
SECTION 07450
CLADDING AND SIDING

PART 1 – GENERAL

1.1 SUMMARY
A. This section provides standards for cladding and siding.

1.2 REFERENCES
A. Manual Part 2, Section 2.8 Building Guidelines

1.3 SYSTEM PERFORMANCE REQUIREMENTS

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
B. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
C. Product and system warranties shall be provided in accordance with Division 1.

PART 2 – PRODUCTS

2.1 MANUFACTURERS
A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by the following:
   1. Manta Vin-cor Steel Corporation, VCS-125, 1-1/2” deep x 12” wide, Vin-Cor TRS, polyvinyl chloride, 10 year guarantee finish. Color shall be in accordance with Campus Materials Standards.
   2. Walton Corporation
   3. Morin Building Products Co., Inc.

2.2 MATERIALS, GENERAL

PART 3 – EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION, GENERAL

3.3 TESTING, CLEANING, AND CERTIFICATION

3.4 COMMISSIONING (DEMONSTRATION)

3.5 SCHEDULES

END OF SECTION
SECTION 07500
MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SUMMARY
A. This section provides standards for membrane roofing. (Note: Architect/Engineer should consider LEED and light colored roofs to reduce energy use.)

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS

A. Built-Up Roof Services Classification:
1. UL Class "A" rating and "FM Class I" or noncombustible, and complying with "Class 90" wind uplift resistance.

B. Aggregate-Surfaced Asphalt Built-Up Roofing:
1. Built-up roofing shall have base-sheet ply (ASTM D 2626, Type I) nailed if possible, otherwise mopped down with 20 lbs. (+/-25%) of steep asphalt (ASTM D 312, Type III).
2. A prime cementitious substrate shall be applied with 1.0 gal. per square of asphalt cutback primer (ASTM D 41) on non-nailable decks.
3. On nailable decks, base sheet shall be glass fiber felt nailed as per manufacturer's instructions. Asbestos base sheets are not permitted.
4. Five courses of 4-ply sheets, each mopped down with 20 lbs. +1-25% of asphalt of type indicated below.
   - Slopes to 1/4 inch: Asphalt Type I (dead level) .............................................. ASTM D 312
   - Slopes 1/4 inch to 1/2 inch: Asphalt Type II (flat) .......................................... ASTM D 312
   - Slopes 1/2 inch to 2 inches: Asphalt Type III (steep) ...................................... ASTM D 312
5. Plysheets shall be asphalt impregnated glass fiber mat ASTM D 2178, Type IV.
6. Aggregate surfacing course of 60 lbs. (+/- 25%) of asphalt (Type I, dead level), plus 500 lbs. of gravel or crushed stone or 400 lbs. of slag, cast in hot, fluid asphalt. Provide aggregate complying with ASTM D 1863, or if unavailable, provide with aggregate complying with ASTM D 448 gradations 6, 7, or 67, with maximum 3% moisture content and complying with all other requirements of ASTM D 1863.
7. Silvercoat all roofs where applicable.
8. Gravel for built-up roofs shall be minimum 1/2 inch diameter. On single ply roofs 1-1/2 to 2-1/2 inch rounded rock required.

C. Ethylene Propylene Diene Monomer (EPDM):
1. Specify Carlisle Syntec Systems, substitutions of equal quality are acceptable.
2. Provide labeled materials which have been tested and listed by UL in "Building Materials Directory" for application indicated, with "Class A" rated materials/system for roof slopes shown.
3. Material shall have the following fire performance characteristics. Provide insulation materials which are identical to those with fire performance characteristics, as listed for each material or assembly of which insulation is a part and have been determined by the testing and inspecting agency.
   - Surface Burning Characteristics.................................................................ASTM E 84
Fire Resistance Ratings ................................................................. ASTM E 119
Combustibility Characteristics ........................................................... ASTM E 136
Wind Uplift .................................................................................... FM "Class 90"

4. EPDM Standards: Material shall be ethylene propylene diene monomers formed into uniform, flexible sheets, complying with the following standards.
   Tensile Strength ........................................................................... ASTM D 412, 1300 psi.
   Ultimate Elongation ..................................................................... ASTM D 412, 300%
   Brittleness Temperature .... ASTM D 746, -67 degree F, flashing membrane -75 degree F
   Tear Resistance ........................................................................... ASTM D 624, 125 lbs./lin. inch
   Resistance to Ozone Aging .......................................................... ASTM D 573, Note

Note: Maximum reduction in elongation due to aging of 30%. Maximum loss of tensile strength 15% (168 hours at 240 degree F)

D. Modified Bitumens:
   1. Manufacturer: All Modified Bitumens are based on Owens/Corning Fiberglass Derbigum HPS-XS membrane having a minimum tensile strength of 200 lbs./inch at 0 degree F as REC NBS build Science Series 5S.

   Asphalt Primer .............................................................................. ASTM D 41
   Asphalt Bitumen ........................................................................... ASTM D 312

E. Scuppers, downspouts and overflow drains shall not be installed in such a manner as to allow the water to run down the face of the building wall or across sidewalks.

F. All roofs shall have positive slopes to drains

1.4 DEFINITIONS
1.5 SUBMITTALS
1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1 including the following:
      1. Warranties on roofing system flashing and all integral accessories are to be 20 years.
      2. A 5 year minimum guarantee of roofing system by the Contractor and a 20 year roofing system guarantee by manufacturer shall be required.

PART 2 – PRODUCTS

2.1 MANUFACTURERS
   A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by the following:
      1. Owens Corning Derbigum
2. Manville
3. Firestone

2.2 MATERIALS, GENERAL

A. Flexible Sheet Roofing System:
1. Flexible sheet roofing membranes are to be modified bitumen, UL listing “Class A” Derbigum by Owens Corning, or equal.
2. Penetrations through roofs will have cant strips. Pitch pans will not be used.
3. All roof curbs are to be a minimum 12 inches high above finish roof.

B. Asphalt Bitumen, Roofing Felts, Gravel:
1. Gravel: Red scoria lava rock (match existing)
2. Walkway Pads: Celotex Carey tread
3. Minimum R Value: R30

PART 3 – EXECUTION

3.1 EXAMINATION
3.2 INSTALLATION, GENERAL
3.3 TESTING, CLEANING, AND CERTIFICATION
3.4 COMMISSIONING (DEMONSTRATION)
3.5 SCHEDULES

END OF SECTION
SECTION 07700
ROOF SPECIALTIES AND ACCESSORIES

PART 1 – GENERAL

1.1 SUMMARY
A. This section provides standards for roof specialties and accessories.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS
A. All roof curbs to be a minimum of 12 inches above finished roof membrane.

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

2.2 MATERIALS, GENERAL

PART 3 - EXECUTION

3.1 EXAMINATION

3.2 INSTALLATION, GENERAL

3.3 TESTING, CLEANING, AND CERTIFICATION

3.4 COMMISSIONING (DEMONSTRATION)

3.5 SCHEDULES

END OF SECTION
SECTION 07900

JOINT SEALERS

PART 1 – GENERAL

1.1 SUMMARY
   A. This section provides standards for joint sealers.

1.2 REFERENCES

1.3 SYSTEM PERFORMANCE REQUIREMENTS

1.4 DEFINITIONS

1.5 SUBMITTALS

1.6 QUALITY ASSURANCE
   A. Quality Assurance shall be provided in accordance with Division 1.

1.7 DELIVERY, STORAGE, AND HANDLING
   A. Delivery, storage, and handling shall be provided in accordance with Division 1.

1.8 WARRANTY
   A. Product and system warranties shall be provided in accordance with Division 1.

PART 2 – PRODUCTS

2.1 MANUFACTURERS
   A. Acceptable Manufacturers: Subject to compliance with requirements, provide products by the following:
      1. Exterior Sealant:
         a. Pecora Corporation, Pynatrol II, or Urexpan NR-200
         b. DAP
         a. Tremco
      2. Joint Backing Material:
         a. Dow Chemical, Ethafoam
         a. Sonneborn, Sonofom
         b. Schlegel Manufacturing Company, Schlegel foam

2.2 MATERIALS, GENERAL
   A. Exterior Sealant:
      1. FS TT-D-00227E, Class A, Type 2, non-sag two-component polyurethane sealant at exterior vertical surfaces, flashing reglets and retainers.
      2. FS TT-S-00227, Class A, Type 1, self-leveling two-component polyurethane sealant at exterior horizontal surfaces.

PART 3 – EXECUTION
3.1 EXAMINATION
3.2 INSTALLATION, GENERAL
3.3 TESTING, CLEANING, AND CERTIFICATION
3.4 COMMISSIONING (DEMONSTRATION)
3.5 SCHEDULES

END OF SECTION