SECTION 07 01 50.19
PREPARATION FOR RE-ROOFING

PART 1 - GENERAL

1.1 DESCRIPTION

A. Roof tear-off and removal of base flashings on existing construction in preparation to receive new roofing membrane.

B. Existing Membrane Roofing System: Built-up asphalt, roofing membrane, with related insulation, surfacing, and components and accessories between deck and roofing membrane.

1.2 RELATED WORK

A. Use of the premises and phasing requirements: Section 01 00 00 GENERAL REQUIREMENTS.

B. Temporary construction and environmental-protection measures for reroofing preparation: Section 01 00 00 GENERAL REQUIREMENTS

C. HVAC equipment removal and reinstallation: Division 23 sections.

D. Electrical equipment disconnection and reconnection: Division 26 sections.

1.3 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only. Editions of applicable publications current on date of issue of bidding documents apply unless otherwise indicated.

B. American National Standards Institute/Single-Ply Roofing Institute (ANSI/SPRI):

ANSI/SPRI FX-1-01(R2006) Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners.

C. ASTM International (ASTM):

C208-08.....Cellulosic Fiber Insulating Board

C728-05.....Perlite Thermal Insulation Board

C1177/C1177M-08.....Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing

C1278/C1278M-07.....Standard Specification for Fiber-Reinforced Gypsum Panel

D1079-09.....Standard Terminology Relating to Roofing and Waterproofing

D. FM Approvals: RoofNav Approved Roofing Assemblies and Products.
   4450-89.....Approved Standard for Class 1 Insulated Steel Deck Roofs
   4470-10.....Approved Standard for Class 1 Roof Coverings
   1-28-09.....Loss Prevention Data Sheet: Design Wind Loads.
   1-29-09.....Loss Prevention Data Sheet: Above-Deck Roof Components
   1-49-09.....Loss Prevention Data Sheet: Perimeter Flashing
E. National Roofing Contractors Association: Roofing and Waterproofing Manual

1.4 MATERIALS OWNERSHIP

A. Assume ownership of demolished materials and remove from Project site and dispose of legally, unless indicated to be reused, reinstalled, or otherwise to remain Owner's property.

1.5 DEFINITIONS

A. Refer to ASTM D1079 and NRCA "The NRCA Roofing and Waterproofing Manual" for definition of terms.

1.6 QUALITY CONTROL

A. Requirements of Division 07 roofing section for qualifications of roofing system and roofing insulation Installer; work of this section shall be performed by same Installer.
   1. Where Project requirements include removal of asbestos-containing material, Installer must be legally qualified to perform the required work.
   2. Where Project requirements include work affecting existing roofing system to remain under warranty, Installer must be approved by warrantor of existing roofing system.
B. Regulatory Requirements: Comply with governing EPA notification regulations. Comply with hauling and disposal regulations of authorities having jurisdiction.
C. Reroofing Conference: Conduct conference at Project site.
   1. Meet with Owner; Architect-Engineer; testing and inspecting agency representative; roofing system manufacturer's representative; roofing Installer including project manager, superintendent, and foreman; and installers whose work interfaces with or affects reroofing.

2. Review methods and procedures related to roofing system tear-off and replacement

1.7 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Manufacturer's Literature and Data:

1. Recover boards.

C. List of proposed infill materials.

D. List of proposed temporary roofing materials.

E. Fastener pull-out test report.

F. Photographs or Videotape: Document existing conditions of adjacent construction including site improvements.

G. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a licensed landfill facility.

H. Qualification Data: For Installer.

1. Certificate indicating Installer is licensed to perform asbestos abatement.
2. Certificate indicating Installer is approved by warrantor of existing roofing system.

1.8 PROJECT CONDITIONS

A. Owner will occupy portions of building below reroofing area. Conduct reroofing so Owner's operations will not be disrupted.

1. Coordinate work activities daily with Owner.
2. Provide Owner with not less than 72 hours' notice of activities that may affect Owner's operations.

B. Protect building and landscaping from damage.

C. Maintain access to existing walkways and adjacent occupied facilities.

D. Available Information: The following are available for Contractor reference:

1. Construction Drawings for existing roofing system.
2. Contractor is responsible for interpretation and conclusions based upon available information.

E. Weather Limitations: Proceed with reroofing preparation only when weather conditions permit Work to proceed without water entering existing roofing system or building.

F. Hazardous Materials: A report on the presence of hazardous materials is included in specification for Contractor to review and use.
   1. Examine report to become aware of locations where hazardous materials are present.
   2. Hazardous material remediation is specified elsewhere in the Contract Documents.

PART 2 - PRODUCTS

2.1 INFILL MATERIALS

A. Use infill materials matching existing membrane roofing system materials.

2.2 TEMPORARY ROOFING MATERIALS

A. Design of temporary roofing and selection of materials are responsibilities of Contractor.

2.4 AUXILIARY REROOFING MATERIALS

A. General: Auxiliary reroofing preparation materials recommended by roofing system manufacturer and compatible with components of existing and new membrane roofing system.
B. Base Sheet Fasteners: Capped head, factory-coated steel fasteners, listed in FM Approval's "RoofNav."
C. Metal Flashing Sheet: Metal flashing sheet is specified in Section 07 60 00 SHEET METAL FLASHING AND TRIM.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect existing membrane roofing system that is indicated not to be reroofed.
   1. Limit traffic and material storage to areas of existing roofing membrane that have been protected.
   2. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.
B. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.
   1. Comply with Owner's requirements for maintaining fire watch when temporarily disabling smoke detectors.

C. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.

D. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

1. If roof drains are temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drainage method to remove water and eliminate ponding.
2. Do not permit water to enter into or under existing membrane roofing system components that are to remain.

E. Verify that rooftop utilities and service piping have been shut off before beginning the Work.

3.2 ROOF TEAR-OFF

A. General: Notify Owner each day of extent of roof tear-off proposed for that day and obtain authorization to proceed.

B. Remove aggregate ballast from roofing membrane.

C. Remove loose aggregate from aggregate-surfaced built-up bituminous roofing using a power broom.

D. Remove pavers and accessories from roofing membrane. Store and protect pavers and accessories for reuse. Discard cracked pavers.

E. Roof Tear-Off: Remove existing roofing membrane and other membrane roofing system components down to the deck.
Remove cover boards and or roof insulation substrate boards.

1. Dry bitumen and felts that are firmly bonded to concrete decks may remain. Remove wet or un-adhered bitumen and felts.
2. Comply with FM Approvals requirements for removal of excess asphalt from steel decks.
3. Remove fasteners from deck.

G. Partial Roof Tear-Off: Where indicated, remove existing roofing membrane and other membrane roofing system components down to the deck.

1. Remove substrate boards if damaged.
4. Remove fasteners from deck.

H. Partial Roof Tear-Off: Remove existing roofing membrane and immediately check for presence of moisture by visually observing cover boards roof and insulation substrate boards that will remain.
   1. Coordinate with Owner's inspector to schedule times for tests and inspections immediately after membrane removal.
   2. Remove wet or damp boards and roof insulation. Removal will be paid for by adjusting the Contract Sum according to unit prices included in the Contract Documents.
   3. Dry bitumen and felts that are firmly bonded to concrete decks may remain. Remove wet or un-adhered bitumen and felts.
   4. Comply with FMG requirements for removal of excess asphalt from steel decks.
   5. Remove fasteners from deck or cut fasteners off slightly above deck surface and apply recover board prior to installing roof membrane.

3.3 DECK PREPARATION

A. Inspect deck after tear-off or partial tear-off of membrane roofing system.

B. Verify that concrete substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263. Do not proceed with roofing work if moisture condenses under the plastic sheet.

C. If broken or loose fasteners that secure deck panels to one another or to structure are observed or if deck appears or feels inadequately attached, immediately notify Architect-Engineer. Do not proceed with installation until directed by Architect-Engineer.

D. If deck surface is not suitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect-Engineer. Do not proceed with installation until directed by Architect-Engineer.

E. Provide additional deck securement as indicated on Drawings.

3.4 INFILL MATERIALS INSTALLATION

A. Immediately after removal of selected portions of existing membrane roofing system, and inspection and repair, if needed, of deck, fill in the tear-off areas to match existing membrane roofing system construction.

1. Installation of infill materials is specified in Section 07 22 00 Roof and Deck insulation.
2. Install new roofing membrane patch over roof infill area. If new roofing membrane is installed the same day tear-off is made, roofing membrane patch is not required.

3.5 TEMPORARY ROOFING MEMBRANE

A. Install approved temporary roofing membrane over area to be reroofed.

B. Remove temporary roofing membrane before installing new roofing membrane.

C. Prepare the temporary roof to receive new roofing membrane according to approved temporary roofing membrane proposal. Restore temporary roofing membrane to watertight condition. Obtain approval for temporary roof substrate from roofing membrane manufacturer and Architect-Engineer before installing new roof.

3.6 EXISTING BASE FLASHINGS

A. Remove existing base flashings around parapets, curbs, walls, and penetrations.

1. Clean substrates of contaminants such as asphalt, sheet materials, dirt, and debris.

B. Do not damage metal counter-flashings that are to remain. Replace metal counter-flashings damaged during removal with counter-flashings specified in Section 07 60 00 SHEET METAL FLASHING AND TRIM.

C. If parapet framing has deteriorated, immediately notify VA Project Engineer.

3.7 FASTENER PULL-OUT TESTING

A. Retain independent testing and inspecting agency to conduct fastener pull-out tests according to SPRI FX-1, and submit test report to Architect-Engineer before installing new membrane roofing system.

1. Obtain Architect-Engineer's approval to proceed with specified fastening pattern. Architect-Engineer may furnish revised fastening pattern commensurate with pull-out test results.

3.8 DISPOSAL

A. Collect demolished materials and place in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

1. Storage or sale of demolished items or materials on-site is not permitted.

B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION