



Department of Facilities Management

Action Plan

NUMBER: 2.002

DIVISION: Department of Facilities Management

TITLE: Roof Maintenance Plan

DATE: 05/01/2009

REVISED: N/A

Action Plan for: All Department of Facilities Management Employees

Authorized by: Director Facilities Management

I. Purpose and Scope

Facilities Management will conduct regular inspections to report and address any areas of repair for the safety of WKU campus roofs.

II. Plan

All campus roofs are to be walked on a rotating schedule quarterly to inspect and repair the following:

- A. Cap flashing
- B. Edge metal
- C. Base flashing
- D. Penetration
- E. Field of the roof
- F. Ballast
- G. Clean roof drain baskets
- H. Remove any organic debris
- I. Roof adhesives; and Surface coating, if present
- J. Keep roof clean and free of debris

III. Procedure

- A. Cap flashing, which are metal or other rigid covers at membrane terminations, should be inspected for:
 - 1. Loose areas of attachment or loose or missing fasteners
 - 2. Loose or displaced sections of metal: deformed metal that could collect water and funnel it through an end joint

3. Corrosion
 4. Missing or loose covers
 5. Sealants showing signs of cracking, weather, and/or aging
- B. Edge metal, installed at the edge of a roofing system to terminate the roof and provide waterproof flashing, should be checked for:
1. Loose area of attachment
 2. Loose or missing fasteners
 3. Loose or missing stripped-in flashing
 4. Splits in the stripping at metal flashing joints
 5. Corroded metal
 6. Missing or displaced metal sections or joint covers
 7. Open joints and sealants displaying signs of cracking or weathering or aging
 8. Check and repair termination bars
- C. Base flashing, which are roof membrane terminations at walls and curbs, should then be looked at. Watch for:
1. A secure and sealed top termination
 2. Continuous adhesion of base flashing to substrate, with no loose membrane or extensive bridging
 3. A covered top seal of the membrane base flashing
 4. Closed seams at the bottom of the base flashing at its attachment to the field membrane
 5. Sealed seams at vertical laps
 6. Sealants in good condition, without signs of cracking, weathering or aging
 7. Base flashing material without signs of deterioration or building movements
- D. Penetrations are pipes, drains, and other items that are inserted through the roof membrane. They must be flashing properly to assure a watertight roof. An inspector should examine the following:
1. The drain clamping ring and drain strainer to ensure they are properly secured for a watertight seal at the membrane-to-drain interface
 2. Thorough adhesion of sealant inside pitch pockets and membrane adhesions around the outside of pitch pockets
 3. Pitch pockets containing adequate fill material to prevent water from collecting
 4. Pipe boot flanges sealed tightly to the roof membrane
 5. A tight seal and termination around pipe(s) at the top of pipe boots
 6. Replace missing drain baskets
- E. In the field of roof, be sure that
1. No fasteners protrude against the membrane, causing a “tenting” effect; or that there are no visibly loose fastening points
 2. The membrane contains no worn spots, deteriorated areas, or holes in the membrane
 3. Insulation panels are in their original position; no buckling or warping
 4. There are no changes in insulation or substrate firmness when the roof is walked on
 5. Adequate drainage is present
 6. Around rooftop equipment, no areas have been degraded by equipment leaks or spills, or have been punctured by dropped tools or equipment parts from workers maintaining roof mounted equipment

- F. Condition review: Management will work with a third party certified roofing contractor to facilitate a roof assessment report for the 5 worst roofs on campus which may include:
1. Total square footage and layout
 2. Materials assessment through core analysis
 3. Life expectancy
 4. Roofing types and materials
 5. Replacement or service life extension recommendations
 6. Thermal scans which show water infiltration of the roofing system
 7. Replacement budget estimations

Note: These reports will be performed as the prior recommended roof are addressed or at the request of administration

- G. Other:
1. DFM Maintenance personnel will work with PDC to ensure quality workmanship when roof penetrations, new roof tie-ins etc. are being performed by contractors for a campus facility
 2. Employee performing the roof inspections should complete the "Roof Inspection Check List" and turn the completed forms into their manager
 3. Manager will provide the "Critical Needs" committee with a copy of the current roof assessment report for funding consideration and project assignment