

Before



After (Work in Progress)

## Greve Hall Roof Repair & Replacement The University of Tennessee Knoxville, Tennessee

Roof Replace/Restore	15,614 s.f.
Construction Cost	\$197,000
Cost/s.f.	\$12.62
Completion Date	2014



Additional work on the project included removal and salvage of the clay tile roofing between the penthouses for reuse on the roof restoration of the clay tile roofing on the gabled north and south sides of the building. The clay tile roofing removed between the penthouses was replaced with a low-profile standing seam metal roof system accordingly.

Greve Hall is one of the older residence halls that had recently been converted into a 'surge' space building for the University. The building is used primarily as a temporary facility for administrative offices and classrooms while other building renovations take place around the UTK campus. Greve Hall is a 7-story "high-rise" structure with sloping gable clay tile roofs on the north and south sides of the building. Adjacent low-slope roof areas and the penthouse stair structures continued to leak after minor renovations and the building occupants demanded corrective action.



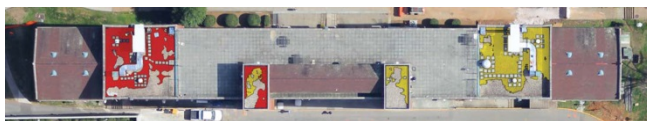
Before



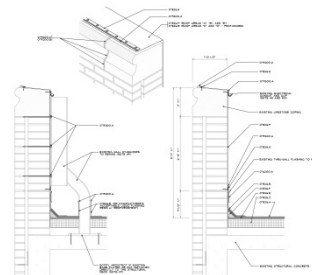
After (Work in Progress)

An infrared thermal moisture survey was conducted on the roof by a third party entity which revealed almost a complete water saturation of the existing roof insulation on the northern end of the building and a partial water saturation of the existing roof insulation on the southern end of the building. The main roof area (originally constructed as a plaza paver roof system) concealed the readings of the infrared thermal moisture survey so roof cores were taken at various locations on the plaza paver area to confirm the wetness of the existing roof insulation beneath the plaza paver roof system.

The 4'-0" tall masonry parapet walls around the low-sloped roof areas were requested to be removed and rebuilt because of its instability. The Owner advised this parapet rebuild would be handled as a separate project. Since the existing parapet wall was to remain in its current condition, Architects Weeks Ambrose McDonald decided to utilize an EPDM membrane for the parapet wall flashing because of cost and because of its membrane elongation properties.



Infrared Thermal Moisture Survey



Parapet Wall Flashing Detail

All salvaged material not reused on the project (ex: clay tile roof and concrete pavers) were turned over to the Owner for other uses around the University.

The scope of work included a complete roof system tear-off of the existing EPDM ballasted membrane roof on the north/south and penthouse low-sloped roof areas, as well as the plaza paver roof and replacing it with a new cold-applied 2-ply SBS modified bitumen roof with new tapered insulation.



Salvaged Clay Tile Roof



Salvaged Concrete Pavers