



The Woodstock Public Library is a 2-story structure clad with brick and stone masonry, and with horizontal cedar siding. The roofs consist of steep-slope and low-slope roofing systems. The steep-slope roofs are covered with 3-tab asphalt shingles. The low-slope roofs are covered with a mechanically attached thermoplastic roof membrane over rigid insulation and structural steel roof deck.

Our assistance was requested due to persistent water leakage issues throughout the library, most of which appeared to be roof related, and due to significant apparent deterioration of the asphalt shingles.

BTC performed an evaluation of the water leakage consisting of a visual review, an infrared survey, water testing, high-voltage electronic leak detection, and exploratory openings. Additionally, an analysis of roof attic ventilation was performed.

High-voltage electronic leak detection testing was performed over approximately 26,000 square feet of low-slope roofing. This test method pinpoints breaches in the membrane by tracing the flow of a high-voltage electric current across the surface of the roof membrane. BTC attributed a majority of the reported water leakage to 87 breaches detected throughout the roof membrane.

BTC attributed other areas of water leakage to issues at roof drains and improper flashing terminations at piers. Additionally, the lack of a proper pan flashing or subsill below windows contributed to some of the reported water leakage.

Although BTC determined that 2 of the 4 steep-slope roofs did not have sufficient code-prescribed ventilation, BTC attributed shingle deterioration to loss of granules and UV related deterioration of the original organic shingles.

Project Name:
Woodstock Public Library

Project Location:
Woodstock, Illinois

Client:
Woodstock Public Library
414 West Judd Street
Woodstock, Illinois 60098

Approximate Construction Cost:
Not Available

Year Completed:
2013

Nature of Services:
Condition Evaluation and Leak Investigation of Existing Roofs, including an Analysis of Attic Ventilation, Infrared Survey, Water Testing, High-Voltage Electronic Leak Detection, and Exploratory Openings

