

General Description:

- **Location:**
South Bend, Indiana
- **Profile:**
256,000 sq. ft. facility
- **Project:**
StructureScan Survey

Services Provided:

- StructureScan Survey
- Short-term recommendations

Challenge:

- Very short timeline because construction needed to start
- CPE membrane on roof
- Weak anomalies

Solution:

- Prompt responsiveness and necessary crews
- Used a highly sensitive camera
- Experienced thermographer interpreted results of infrared

South Bend Community Schools *Washington High School*

South Bend Community Schools (SBCS), a growing school district in North-western Indiana with over 30 buildings, was experiencing leakage conditions at Washington High School. This

faced was with the timeline. Because SBCS needed to have all work completed during the summer break, the results of the StructureScan were needed so repair work could begin. StructureTec was able

to promptly respond, utilizing the necessary manpower to complete the job quickly. The next challenge StructureTec faced was with the CPE (chlorinated poly-ethylene) roof membrane. This type of membrane utilizes a "white" surface



Overview of a field of roof

school building, a large, one-story structure built in the 1950's, was undergoing some renovations and required roof repairs. Because of budget limitations, the school district wanted to simply extend the life of their existing roof. StructureTec was contracted to perform an infrared StructureScan survey. This process would allow the school district to know the specific areas of wet insulation, making localized repairs possible. The first challenge StructureTec

color which promotes the reflectance of ultraviolet light, thus reducing the amount of daytime solar loading. Solar loading is a critical factor with



Areas of the roof with wet insulation were later repaired to extend the roof service life.



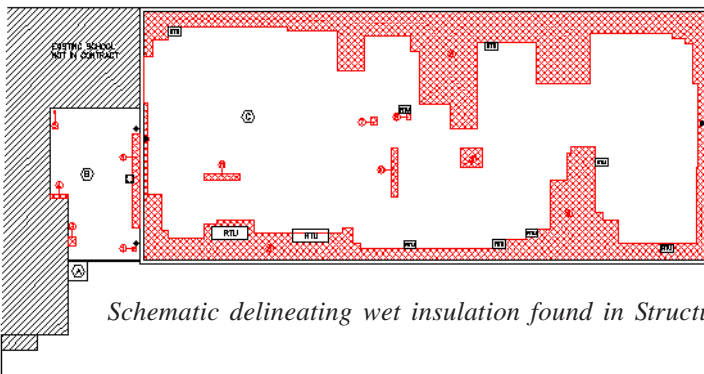
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infrared roof surveys in that the more heat energy which is drawn through the roof membrane and stored within any wet insulating components will be easier to identify during evening hours when the roof membrane cools and the stored energy is released into the atmosphere. StructureTec met these challenges by using extremely sensitive "shortwave" infrared equipment, operated by an experienced, certified thermographer. Later, test cuts revealed that the original BUR roof had been retrofitted with a foam-glass insulation and the CPE



Splits and fractures in the membrane had been repaired previously without removing wet insulation beneath.



Schematic delineating wet insulation found in StructureScan.

FEATURES

- Determines the exact extent of wet, saturated insulation
- High level of accuracy as opposed to guesswork
- Scientific approach to problem-solving
- Ascertained the extent of substrata degradation where maintenance is not viable

BENEFITS

- Save dollars by eliminating unnecessary roof replacement
- Precise repairs to eliminate leakage conditions
- Addressed the cause of the problem, not just the effect
- Properly invested dollars in the areas that absolutely required replacement

membrane. Foam-glass insulation has a closed cell structure which is supposed to be water-resistant. However, the in-place materials had broken down over time and water was able to enter the insulation. The overall roof configuration, however, was the reason for the weakness of the anomalies. Proper understanding of all of these factors allowed a very accurate analysis of the wet substrata. Detailed outlines were painted on the roof, depicting the apparent areas of wet. Once the analysis was complete, SBCS was able to implement the proper repairs. In conclusion, SBCS was able to extend the life span of their roof by addressing the specific areas of concern and the causes of the problems, allowing for the maximum return on investment. ■

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