

**General Description:**

- **Location:**  
Elgin, Illinois
- **Profile:**  
Seven Buildings
- **Project:**  
*StructureScan*® Survey &  
Roof Evaluation

**Services Provided:**

- Evaluation
- *StructureScan*®
- Development of Long-Range Program

**Challenges:**

- Needed to understand their roofing assets
- Had a very limited initial budget

**Solutions:**

- Scientific approach ensures accurate condition analysis
- Careful strategic prioritization to meet immediate concerns

**School District U-46***Chicago - A Tradition of Excellence*

With a school district consisting of more than fifty buildings, Chicago's School District U-46 needed an assessment of their roofing requirements. With

These services were performed to determine how much wet insulation was present and how much previous degradation had occurred. The Survey included performing a "state-of-the-art" infrared scan on the low slope roof areas. Results were recorded on a VHS tape for review. All deficient areas were marked on the roof surface and random test cuts were taken for verification. Schematics were developed for documentation and future contractor bidding. This process revealed that the majority of the roofs exhib-



*Overview of Central Alternative High School*

school buildings dating back to the late 1800's, School District U-46 faced many unique challenges. The buildings' roof systems, decks, and structural elements required special attention. Only minimum maintenance budgets had been implemented by the district for many years. Management realized that this was not a cost-effective approach to their facilities program. In order to prioritize their maintenance and replacement budgets, they chose seven of their schools with the worst leakage conditions to begin this process. StructureTec was contracted to perform a visual roof evaluation, as well as an infrared *StructureScan*® Survey.

ited retrofit roofing, whereby single-ply roofing was installed directly over the existing built-up roofing. In the retrofit process, the existing wet, saturated insulation and substrate had not been addressed. This was compounded by the fact that the retrofits were mechanically attached and therefore had been compro-

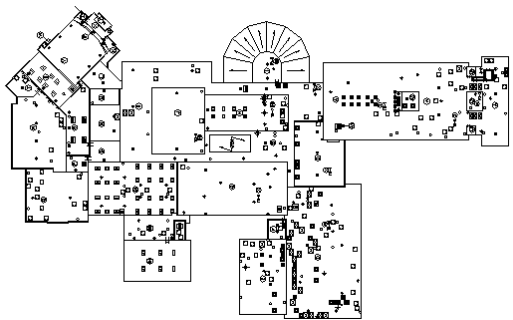


*Overview of mechanically attached single-ply membrane assembly.*



Web: [www.structuretec.com](http://www.structuretec.com)  
Email: [geninfo@structuretec.com](mailto:geninfo@structuretec.com)

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Detailed Schematic of Larkin High School

mised by the wet insulation from the time of installation. As a result, the majority of these retrofits were less than ten years old and had already experienced premature failure. Of the buildings surveyed, over 50% of the roofs required major remediation or replacement within the next five years. An additional challenge arose from the fact that the district had a very limited initial budget and lacked the funds to address all of the immediate areas of concern. Areas which could be restored through remedial repair and replacing wet insulation were delineated. The Survey's scientific approach and accuracy allowed School District U-46 to pinpoint and prioritize

### 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

Infrared shortwave capabilities as well as longwave

### 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 areas that absolutely required replacement

Able to scan various roof systems, including ballasted

the remedial work to be completed, thus eliminating guesswork. The areas which absolutely required replacement were strategically prioritized into a long-range plan. In conclusion, all of the information obtained was used to support the district in establishing a bond issue process fund. These efforts enable them to undertake all the necessary capital projects and achieve the greatest return on investment. ■



Test cuts revealed overall construction. Retrofitting had occurred and existing insulation appeared saturated.



Overview of wet insulation identified during the StructureScan® survey.

Total Building Envelope Management Solution<sup>SM</sup>

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(800) 745-7832