Roofing - Institutional

Lawrence Technological University
Buell Management Building
Green Roof Technology

General Description:
- **Location:** Southfield, MI
- **Profile:** University
- **Project:** Design Document Review, Consulting Services
- **Architect:** HarleyEllis

Services Provided:
- Design Document Review
- Consulting Services
- **Green Roof Technology**

Challenge:
- Green Roof
- Tie-in with existing building
- Coordination with architectural firm

Solution:
- Extensive research and development on green roofing application
- Extreme attention to detail
- Open communication plan including regular status meetings

Overview of green roof

Lawrence Technological University (LTU) is a leading edge school that specializes in engineering architecture and technical studies. When the time came to add on to their management building, the craftsmanship had to display the same high level of design and engineering that it taught to its students. The University chose a green roof for the building. Green roofs are organic roofing systems that involve plants growing on top of the roofing system. This cutting edge technology was exactly what LTU wanted to show the world.

StructureTec was asked to be a part of this dynamic project team in conjunction with the architect to ensure that the green roofing system preformed and protected the building from the elements. The firm's expertise was needed in reviewing the design documents and general structural engineering consulting throughout the entire project.

The new building addition involved very detailed and technical documents to specify exactly what was required to maintain esthetics and also provide long term watertight integrity. StructureTec reviewed all the architect's drawings and specifications to ensure the building would be weatherproof and sound. StructureTec developed specification sections and provided construction details. Special attention was paid to the "tie-in" detail with the existing roof. The metal roof was then changed to an EPDM roof was designed to allow for the proper tie-in detailing.

During this project, it was most important that StructureTec

Web: www.structuretec.com
Email: geninfo@structuretec.com

StructureTec® Project Profile

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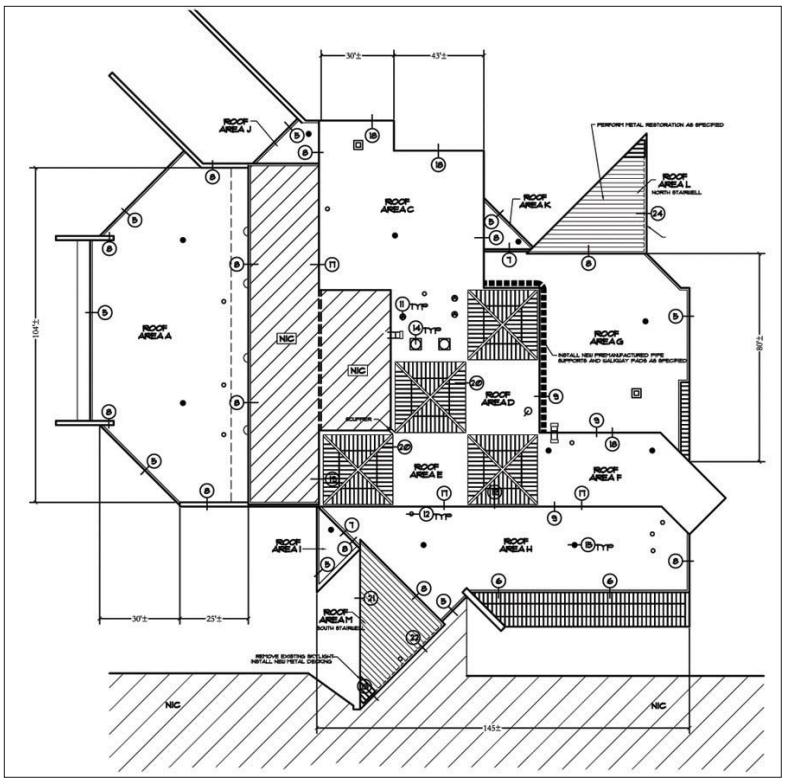

Schematic of Green Roof

maintained an open and collaborative line of communication with both LTU and the architectural firm. The three entities met on a regular basis to discuss project status, technical questions, and any applicable project changes. These frequent meetings alleviated confusions and mistakes because all pieces of the project were fully discussed before implementing to ensure the highest quality and achieve results.

The details and specifics of LTU's roof replacement required special attention because of the complexity of a green roofing system. StructureTec reviewed all design documents for detailing, proper engineering of the roofing system, and proper weatherproofing integrity. Because this involved a new addition attached to an existing building the two roofing systems had to be compatible and well integrated with one another. Seams and edges required special flashing detail so that no moisture could seep into the building. Provision was also made to accommodate and allow for movement (expansion and contraction between the multiple structures).

Because of open communications and a good attention to detail, the StructureTec team was able to complete a successful project for the University. A strong professional partnership with the architectural firm and commitment to giving LTU its greatest return on investment drove the StructureTec team to do its very best. The ability to execute tasks on time and within budget also contributed to the project's success. Overall, StructureTec's strong persistence for excellence helped LTU achieve its goals.

FEATURES	BENEFITS
Green Roofing System	Environmentally friendly system
Tie-in detail with existing roof	The two systems are well secured and will accommodate long-term watertight integrity
"Green" Technology	Aesthetically Pleasing
LEED Certification	Good citizenship and energy efficient

StructureTec® Project Profile