

**General Description:**

- **Location:**  
Midland, MI
- **Profile:**  
Dow Building 2030,  
Executive Wing
- **Project:**  
Green Roof Technology  
Vegetated Roof System

**Services Provided:**

- Evaluation
- Roof replacement
- Design development

**Challenges:**

- Time constraints
- Existing roof components

**Solutions:**

- Extreme attention to detail
- Installed weatherproofing systems before winter
- Careful planning of roof layout



## The Dow Chemical Company Executive Wing Roof Replacement

The Dow Chemical Company is committed to addressing many of the world’s most challenging problems, such as the need for clean water, renewable energy, and increasing agricultural productivity.

Dow contacted StructureTec to design and install a green roof system for the Executive Wing in Building 2030. In some cases, “green roof technology” may refer to reflective materials or solar panels designed to manage UV exposure and reduce energy costs. In this case, the term refers to rooftop vegetation installed over a weatherproofing system. Dow was interested in a vegetated roof system because of its aesthetic appeal and focus on green technology.

Prior to the new systems being designed and installed, a preliminary roof evaluation needed to be completed to ensure that the existing roof system was adequately sloped, structurally sound, and watertight. Some leakage issues were found that needed to be addressed, which included repairs to the masonry.

Movement and general weathering produced openings which were direct leakage paths, causing the masonry to crack and deteriorate. Many joint sealants were replaced, and a clear, water-repellent sealer was applied.

One challenge that StructureTec faced was time constraints. This project commenced just before winter,



Overview of Dow 2030 Building



and the weatherproofing membrane had to be installed before the cold, ice and snow interfered. StructureTec was able to meet the deadline, and then worked with Dow to solidify the design, planting samples, and installation plans for the vegetated roof during the winter. This planning process enabled the project to move quickly and smoothly once spring arrived.

StructureTec designed the green roof system to fit Dow's building so that it would be easily accessible, aesthetically appealing, and watertight. By working closely with the client, StructureTec was able to deliver a quality project that was exactly what the client wanted.

Dow now has a very attractive Executive Building. This well-executed design will provide long-term sustainability, creating maximum return on investment. ■

| <u>FEATURES</u>                        | <u>BENEFITS</u>  |
|--|--|
| Scientific approach to problem solving | Eliminated the cause of the problem, not just the effect |
| Green roofing system                   | Environmentally friendly system                          |
| Tie-in detail with existing roof       | Long-term watertight integrity                           |
| "Green" technology                     | Aesthetically appealing                                  |



*Stone walkway installed before vegetated component*



*Overview of finished green roof*