Green Roof Park in the City of Minneapolis

By MIKE KELLY
Glenn Rehbein Companies

Some of you have possibly seen this job develop. As you drive west or northwest out of Minneapolis on I94, to the right is the new Bookman Stacks glass building (located at 526 4th Street). The plaza to the east of the building is actually a green roof over a parking garage. It is street level on the south and one story high on the north. Glenn Rehbein Companies installed this roof system. It will be a very attractive addition to the area. It's approximately 9,000 sq. ft. of sloping turf and native vegetation. Outdoor Environment installed the native plants and the perimeter landscaping around the building.

In order to maintain an optimum use of the plaza, the turf profile had to be maintained at the correct air and moisture level. Green roofs like the Minneapolis Library are "intensive" approx. 4" deep and are generally covered with sedum and low growing plants. This system had to be "extensive" in order to take the abuse. Rehbein's engineers and turf professionals proposed a combination of materials to provide a solution to this situation. The irrigation system is a subsurface irrigation and drainage system that maintains an appropriate water level in all the cells on the roof. A subsurface cell is created on the roof whenever a 1.5"

(Continued on Page 11)

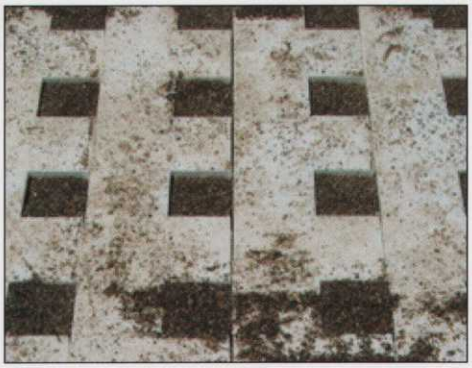
1. Roof membrane and insulation.

2. ECS Membrane for green roof.

3. Layout of ECS Chambers.

4. Installation of light weight rock.

5. Overview.



6. Muellner geofoam.

7. Layout of geofoam

8. Installation of Netlon mesh layer.

9. Installation of finishing sand layer.

Green Roof Park –

(Continued from Page 10)

elevation change occurs (www.ecsgreen.com). An appropriate root zone material was selected with the inclusion of Netlon Mesh to stop compaction. They developed an appropriate foam system to displace weight and increase the height of the profile. Washed bluegrass turf was installed on the surface.

Of course, growing was extremely difficult. The downtown area has high winds, reflected sunlight from the glass buildings and others around the area. Roof temperatures, during construction, reached 135° F. There are some major things Rehbein has learned for the next project.

Why do a Green Roof?

1) Reduce storm water assessment fees.
2) It is attractive.
3) It delays storm water surges in the public storm system.
4) It cleans the air of pollutants.
5) Its temperature on warm days is 30-35 degrees Fahrenheit lower than asphalt.
6) The sub-surface irrigation saves a great amount of water without concern about water staining buildings or wind affecting irrigation spray distribution.
7) Increase the value of the development.
8) Noise reduction.
9) Expand usable space.
10) Improve building performance, heat & roof life.

This is an example of how turf and our profession can make a positive difference in the metro living style.

10. Sod installation.

11. Sod finished.

12. Landscaped.

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