



# Green Roofs in Michigan

Updated 08/25/2013

Green roofs, also called 'vegetative', 'living', or 'eco-roofs', are living plants installed on top of conventional roofs. There are two types of green roof designs, extensive and intensive. Extensive roofs typically use sedum as the plant cover, are shallow and minimize additional roof weight. Intensive green roofs can support small trees and need up to 2 foot of soil or growth medium. This design does require a reinforced roof structure. Properly designed, all green roofs are stable, living ecosystems that can keep buildings cooler, save energy, extend the useful life of the roof, and add beauty and useable space.

## Why Green Roofs?

Green Roofs offer a multitude of advantages to their buildings. According to LiveRoof™, they can offer these benefits:

- **Urban Heat Island Effect:** Green Roofs help reduce the Urban Heat Island Effect, a phenomenon where cities have higher temperatures due to the unnatural insulating properties of conventional roofing materials and other urban surfaces, such as roads and highways. Higher temperatures can lead to air currents, a poorer quality of life, higher ozone amounts, and even unpredictable weather changes. Because Green roofs are covered with natural flora, they usually don't have a higher temperature than rural areas, and can mitigate these negative urban effects.
- **Energy Consumption:** Green Roofs are energy efficient; they help preserve and insulate heat in winter and naturally cool in summer months, thus reducing fuel consumption.
- **Carbon Footprint:** Because Plants use Carbon Dioxide in their metabolism, green roofs can help with the carbon footprint of cities. Considering the high levels of carbon dioxide from car emissions, this is a much needed benefit.
- **Noise Reduction:** Green roofs aid in reducing noise. Noise pollution is a major problem in large cities, and according to recent studies, green roofs can reduce the overall noise of an area by up to 40 decibels.
- **Flammability:** Though some might consider flammability to be a major drawback to green roofs, if succulent plants and rainwater collection systems are used, green roofs resist fires remarkably well.
- **Habitat Restoration:** Green roofs may function as sites of habitat restoration, either containing native plants, or being a place where small insects (like butterflies and bees) or songbirds can reside.

- **Water Consumption:** Green Roofs are often retrofitted with rainwater collecting systems that can seriously reduce irrigation or water consumption costs. As a result they can lower the operating cost of buildings.
- **Aesthetics:** Green roofs improve the aesthetic quality of a building, as well as function as a place where, if accessible, one can relax and possibly exercise in an otherwise densely populated area.
- **LEED Points:** If constructed correctly, green roofs help significantly towards LEED (Leadership in Energy and Environmental Design) certification, perhaps contributing as many as 20 points towards certification.

### Notable Green Roofs in Michigan:

- [Ford Rouge Plant in Dearborn:](#) This plant used to be the world's largest green roof when it was built in 2002, and even today it remains in the top 10. Sizing up at 10 acres, it aids in water preservation and also doubles up as an energy producer with Solar Panels installed.
- [The Blue Cross Blue Shield](#) Parking Garage in Detroit is Michigan's second largest green roof, and is one of the first LEED certified parking garage. Covering 52,000 sq. feet, this large roof structure is connected to a 120,000 gallon water tank, and has solar panels to help power nearby buildings.
- [The Metro Health Hospital](#) in Wyoming holds another green roof that stands tall among Michigan's green structures. Using hardy sedum plants that are drought and fire resistant, while flowering in the summer, they provide an aesthetic value that is hard to find on a building's roof.

### Green Roof Providers

Some of major Green Roof Providers are

- **Xeroflor:** one of the most common Green Roof designers, Xeroflor has been commissioned to do many of the more complicated green roof projects. Known for using only parts and materials from the United States, as well as locally grown plants. Notable Examples are the Blue Cross Blue Shield Parking Garage and the Dearborn Ford Rouge Plant.
- **LiveRoof:** Another designer of many Green Roofs in Michigan, LiveRoof specializes in producing free-flowing natural green roofs and exceptional soil quality. An example of its work is the [Haworth Corp Headquarters](#) in Holland.
- **BioRoof,** though not as famous of a green roof designer, takes a unique scientific approach to its green roof designs. For an example of its work, see [Erving Elementary School](#) in Woodhaven MI.
- **Roofmeadow,** formerly known as Roofscapes, has designed several Michigan green roofs, for example designing the [Ann Arbor Mallet Creek District Library](#).

If other green roofs or additional data should be added to this list, please call the Environmental Assistance Center at 1-800-662-9278.

*“The MDEQ supports and recognizes the contributions of the companies listed above to the conservation and wise use of natural resources. However, the State of Michigan does not endorse the use or purchase of any particular product or service mentioned herein.”*