



Green Roof Loan Program

The Green Roof Loan Program, a joint initiative between the City of Cincinnati's Office of Environmental Quality (OEQ), the Metropolitan Sewer District of Greater Cincinnati (MSD) and the Ohio EPA provides, local property owners with access to low-interest loans for green roofs and accompanying on-ground stormwater controls.

What is the Green Roof Loan Program?

The Green Roof Loan Program offers low-interest loans to property owners for the design and construction of green roofs with an option to incorporate on-ground stormwater controls. Acceptable on-ground systems include cisterns, bioswales, indoor grey water harvesting, rain gardens, rain barrels and/or pervious pavement.

The owners of new and existing residential, commercial and industrial buildings are eligible to apply.

What are Green Roofs and their Benefits?

A green roof is a roof of a building that is partially or completely covered by plants and soil over a waterproof membrane and drainage system.

Green roofs are appealing because of their positive environmental and economic benefits, such as:

Stormwater Management

Green roof projects help reduce stormwater runoff in two ways: (1) Green roofs use rainwater before it reaches the ground and flows to sewers, and (2) green roofs delay the runoff process, allowing water to enter the sewer system after a wet weather event has passed.

In addition to reducing sewer overflows, the runoff from green roofs is filtered through the vegetation, thus, reducing pollutants that would be carried to local waterways.

Green roofs can benefit MSD by reducing the amount of stormwater runoff that enters sewer systems, a major cause of sewer overflows. When it rains, sewer pipes can fill beyond capacity, sometimes resulting in sewer overflows into local rivers and streams or basement backups.

Temperature and Air Quality Improvements

Because green space is limited in many urban areas, cities are experiencing a phenomenon known as the "Heat Island Effect," which causes temperatures to be significantly higher at night than in nearby rural areas. Green roof vegetation counteracts this effect by removing heat and moisture in the air. The roof vegetation also filters pollutants and greenhouse gases from the air.

Energy Use Reductions

Since green roofs store and use heat that would normally be absorbed by a conventional roof, a building with a green roof uses less energy from its indoor cooling system. During winter months, a green roof helps insulate the building and prevent heat loss.

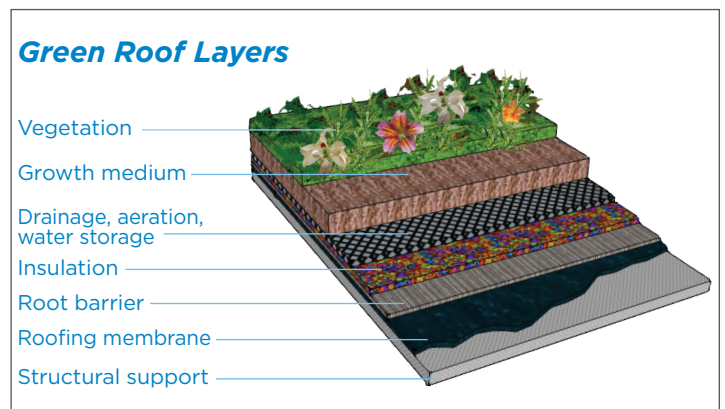
How to Apply to the Green Roof Loan Program

Interested property owners need to complete an application for OEQ along with additional project information to ensure compliance with the program's criteria. The application is available by calling (513) 352-5340. This additional information includes:

- A thorough description of the green roof design.
- Construction drawings.
- Maintenance plans for the green roof.
- A structural report from a licensed, independent, third-party professional that shows the building can support a green roof.
- Stormwater runoff calculations.
- Proof that the property is owned by the applicant and is within the MSD service area.
- Plans for an on-ground stormwater control (if being included).
- Verification that the roof will be constructed and maintained by a trained and experienced person.
- Verification that the project complies with all applicable laws, regulations and codes.

Accepted applicants will be issued a Certificate of Qualification that is then submitted to a participating lending institution to begin the bank's loan screening process.

Applications that are not accepted will be returned with comments regarding which areas did not meet the criteria.



While green roofs can differ in design, the diagram above shows common green roof components.

What Costs are Covered Under the Green Roof Loan Program?

Most costs associated with installing the green roof and on-ground stormwater controls are covered through the loan. These costs include:

- The design and installation of the green roof and on-ground stormwater control system.
- Building and roof upgrades needed to support increased weight of roof.
- All materials needed for a green roof system.
- Maintenance contract or operation and maintenance for up to five years.
- Roof accessibility for maintenance.
- Permitting costs related to installation.
- Warranty costs for green roofs.
- Roof repairs that are not covered under warranty if roof failure is not the result lack of maintenance.
- Permanent educational signage on site.

Loans will not cover:

- Construction or repair of non-roof building components.
- Construction or repair not related to on-ground stormwater controls.
- Retention or detention basins.

What are the Minimum Design Standards for the Green Roof Loan Program?

The following design standards must be adhered to for the program:

- Project must comply with Historic Preservation guidelines (if applicable).
- Within two years, the system must decrease net rainwater runoff and capture 80% of one inch of rain.
- The green roof must have continuous growth that measures at least 500 square feet or 50% of the ground floor area.
- The green roof should include a mix of vegetation with a sustainable growing medium that replenishes nutrients and retains moisture. If applicant proposes using just one vegetation type, documentation of its sustainability and appropriateness must be included.
- Vegetation must be appropriate for roof conditions and Cincinnati's climate.
- Maintenance and irrigation guidelines for vibrant plant health must be provided by the green roof manufacturer or installer.

What are the Terms and Conditions of the Program?

Applicants must comply with the following terms and conditions as part of the program, such as:

- Any necessary building permits must be applied for by the applicant.
- All building code requirements must be followed, including codes for structure, access, plumbing and safety.
- A maintenance plan must be in place, and the owner must agree that the green roof will exist for its predicted life span.
- Property owners must be provided with at least a 20-year warranty for waterproofing and green roof components.
- Property owners must be provided at least a three-year warranty for plant life & health and establishment & coverage (80% in three years).
- Documentation of energy costs (bills from energy provider) must be provided by property owner to MSD for five years after green roof installation.

How is the Green Roof Loan Program Funded?

The Ohio EPA Division of Environmental and Financial Assistance has made funding available for stormwater best management practices and has partnered with participating lending institutions to make the funding available through the Linked Deposit Loan Program.



Taft Information Technology High School: A 32,000-square foot shallow vegetative roof was installed on the roof of the Taft Information Technology High School.

Need More Information?

For more information contact:

Ms. Robin Henderson, OEQ at (513) 352-5340
or email Robin.Henderson@cincinnati-oh.gov