

Michigan's capital area boasts a diversity of green stormwater infrastructure (GSI),

much of which is accessible or visible by bicycle! Follow this guide to see permeable pavers, rain gardens, urban canopy and more! We encourage you to respect all safety and traffic laws while enjoying this tour.

Parking is available at Harrison Meadows Park, Roxburgh Ave, East Lansing

Greater Lansing Stormwater Stops

1 Sanderson Drain



Harrison Meadows Park/Northern Tier

The Sanderson Drain is an intercounty drain that conveys stormwater north and discharges to the Looking Glass River.

2 Towar Gardens



Towar Neighborhood/Towar Ave & Biber St, East Lansing

This neighborhood developed without an organized drainage system for the conveyance of stormwater, resulting in widespread flooding. The solution? Underdrained roadside ditches and rain gardens were installed and planted with native vegetation to infiltrate stormwater and filter pollution from run-off.

3 MSU Swamp Oaks



Mary Mayo Hall, 361 Delta Ct, East Lansing

These swamp white oaks (*Quercus bicolor*) pre-date Michigan State University's campus and are believed to be between 200-250 years old. The canopies of large deciduous trees can intercept and evaporate 700 to 1,000 gallons of water annually, and a mature oak can absorb and transpire over 40,000 gallons of water a year.

4 Beal Botanical Gardens Riparian Buffer



W Circle Drive, East Lansing

Along the north edge of the Red Cedar River, water flows from surrounding areas into the vegetated buffer. Riparian buffers act to intercept and reduce sediment, nutrients, pesticides, metals, and other pollutants in surface runoff. The buffers are also key in providing streambank stabilization.

5 I.M Sports West Porous Asphalt



393 Chestnut Rd, East Lansing

The universally accessible parking spaces located to the northeast of I.M. Sports West utilize porous asphalt as a way to manage stormwater run-off near the Red Cedar River. Pore spaces in porous asphalt allow water to infiltrate while still providing the strength to hold vehicles. As water drains through the porous asphalt, particles are filtered out before entering the soil below.

6 Wells Hall Green Roof



619 Red Cedar Rd, East Lansing

Take the stairs to the 2nd floor of Wells Hall to view the Green Roof. Plants and soil media on rooftops absorb water and can filter pollutants that would otherwise enter the Red Cedar River. Green roofs have additional benefits such as cooling the building, prolonging the life of the roof, and adding ecological diversity to an area.

7 Erickson Hall Rain Garden



620 Farm Ln, East Lansing

Water comes off the roof of Erickson Hall and drains into the rain garden. This water either infiltrates into the ground or is slowly released through the stormwater system before entering the Red Cedar River. Plant roots help this infiltration process by creating channels for the water to enter. Thus, the amount of water reaching the Red Cedar River is reduced. This also benefits the river by lessening bank erosion.

8 Plant and Soil Sciences Building Rain Garden



1066 Bogue St, East Lansing

Water coming from the roof of the Plant & Soil Sciences building runs over pavement and drains into two rain gardens. Plants absorb water, hold pollutants, and release oxygen and moisture into the air through transpiration. The soil media acts as a filter to help break down stormwater pollutants and cleanse the water before it enters the groundwater and/or waterways.

9 Farm Lane Bioretention



Farm Ln & Service Rd, East Lansing

The Farm Lane Bioretention Basin serves as a facility to treat stormwater run-off from adjacent impervious roadways of Service and Farm Lane. Water that would normally flood the underpass beneath the rail road tracks is pumped up into the bioretention basin where common pollutants are removed during infiltration to allow clean water to leave the site. This site is also used as a research facility to enhance the use of bioretention as a stormwater management practice.

10 MSU Recycling Center



468 Green Way, East Lansing

The recycling center contains several systems to manage stormwater on site. Runoff from the building rooftop is drained into an internal cistern system which treats the water for other uses. Porous asphalt, and rain gardens infiltrate and cleanse stormwater from the parking lot.

11 Crego Park Urban Canopy



1600 Fidelity Road, Lansing

The 220 acre Crego Park and surrounding park land provide a home for many trees in an otherwise heavily urbanized area. These trees not only act as an umbrella, capturing and evaporating rainfall in its canopy, they absorb and transpire would-be run-off through their roots.

12 Confluence of the Sycamore Creek



Lansing River Trail at Potter Park

The Sycamore Creek is a 26.5 mile tributary of the Red Cedar River. Its watershed drains 106 square miles.

13 Confluence of the Red Cedar



River Point Park

Beginning at Cedar Lake in Livingston County, the Red Cedar River flows for 51 miles before emptying into the Grand River in Lansing. Its watershed drains 461 square miles, and it is a thriving ecosystem and supports a variety of wildlife, including over 30 species of fish!

14 Moores Park Urban Tree Canopy



Moores Park

These trees not only act as an umbrella, capturing and evaporating rainfall in its canopy, they absorb and transpire would-be run-off through their roots.

Total Distance: 27 Miles

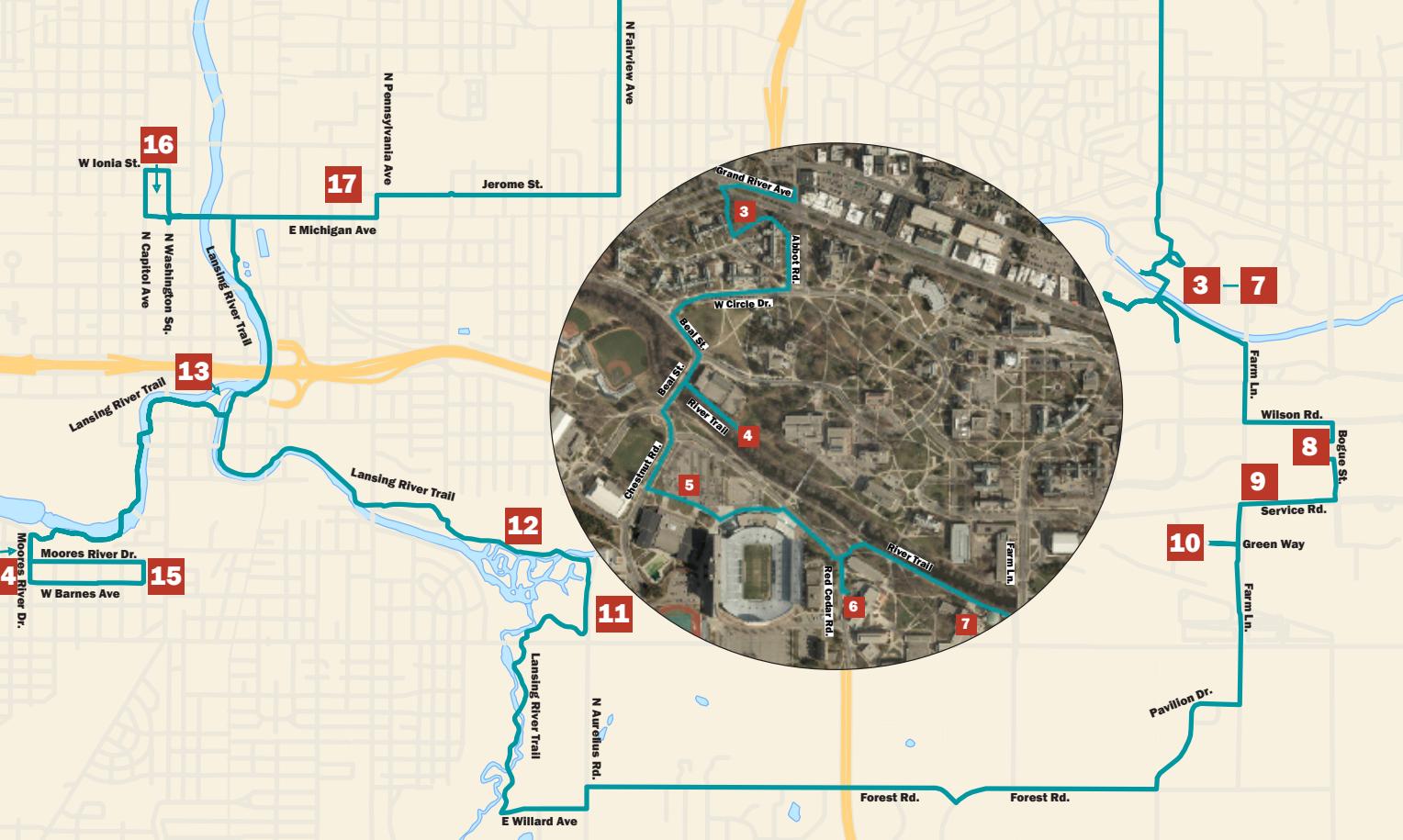


Duration: 3-4 hours

KEY

Suggested bike route

Stormwater stop



15 Barnes Ave Permeable Pavement



Barnes Ave between Todd Ave and Bradley Ave

Permeable pavers line the parking lane of Barnes Avenue and the median is depressed in areas to store and infiltrate runoff. Permeable pavement reduces run-off volume by trapping and slowly releasing precipitation into the ground rather than allowing it to enter storm drains and waterbodies.

16 Washington Ave Bioretention



Washington Ave between Ottawa St and Ionia St

These 12 rain gardens on Washington Avenue can store 8,300 cft of stormwater, capturing and treating 90% of the annual rainfall. This 2 acre area was previously 100% impervious.

17 Michigan Ave Rain Gardens



Michigan Ave between Larch St and Pennsylvania Ave

In 2008, 30 rain gardens were installed along Michigan Avenue. These gardens absorb and filter stormwater, which increases the available capacity in the storm sewer system, keeps pollutants out of the Grand River, and provides a 75% decrease in average annual run-off volume.

18 Tollgate Wetlands



1101 N Fairview Ave, Lansing

The Tollgate Wetlands were created to manage stormwater runoff from the 234 acre Tollgate watershed. The area, which includes 550 residential homes, 10 commercial properties, and 1,000 apartments, was plagued by flooding and pollution issues. Traditional solutions, which included piping stormwater to the Looking Glass, Grand River, or Red Cedar rivers, would have cost over \$20 million. Instead, the Ingham County Drain Commission designed and built wetlands and ponds to manage stormwater on site. *bikes not allowed inside park



of Greater Lansing Bicycle Tour Infrastructure Green Stormwater



View the online map!

for additional information on Greater Lansing GSI, visit:

www.MyWatersheds.org/BikeTour

This map of Green Stormwater Infrastructure (GSI) is brought to you by the Greater Lansing Regional Committee for Stormwater Management (GLRC). The GLRC guides the implementation of the MS4 stormwater program for participating communities in the Red Cedar, Looking Glass, and Grand River Watersheds.

www.MyWatersheds.org



**GREATER LANSING
REGIONAL COMMITTEE
FOR STORMWATER MANAGEMENT**
www.mywatersheds.org

Green Stormwater Infrastructure

When it rains in an urban environment, water flows off of impervious surfaces like driveways, buildings, and roads. This run-off is called stormwater. Any pollutants on the ground, like pet waste, leaking motor oil, and litter can be swept up by stormwater run-off as it flows towards our waterways. This is the number one cause of water pollution in urban environments.

Green Stormwater Infrastructure (GSI) addresses this by mimicking the natural landscape to slow, absorb, and filter run-off. Using GSI to manage stormwater not only helps improve water quality, it's cost-effective, low maintenance, and beautifies our cities!

GSI you will see on this tour:



Rain Gardens

are depressed vegetated gardens that allow rain water to pool before being absorbed by soil and vegetation.



Rainwater Harvesting

systems collect and store rainfall for later use. When designed appropriately, they slow and reduce run-off and provide a source of water. A rain barrel collecting roof run-off is an example.



Riparian Buffers

are vegetated areas adjacent to a stream or river that preserve water quality by filtering sediments and pollutants from run-off before it enters the waterbody. It also protects banks from erosion and provides storage area for flood waters.



Permeable Pavement

consists of a permeable surface that allows stormwater to pass through it into storage reservoir below rather than become run-off.



Green Roofs

are rooftops that include a covering of vegetation that enables rainfall infiltration and evapotranspiration of stored water. They can aid in stormwater management by reducing runoff and improving water quality.



Bioretention

is a water quality practice that utilizes landscaping and soils to treat stormwater runoff by collecting it in shallow depressions before filtering through a fabricated planting soil media.



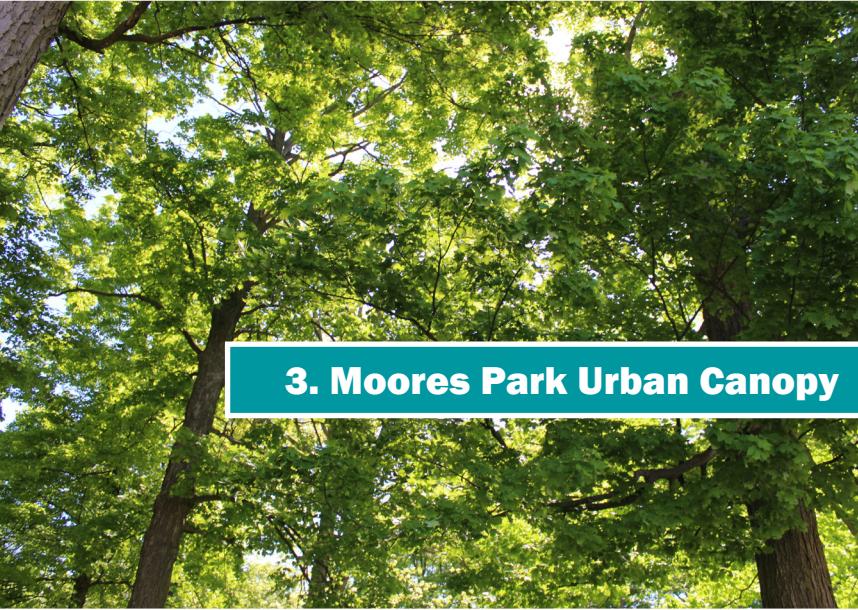
Waterway or Drain

indicates a river confluence or nearby county drain.

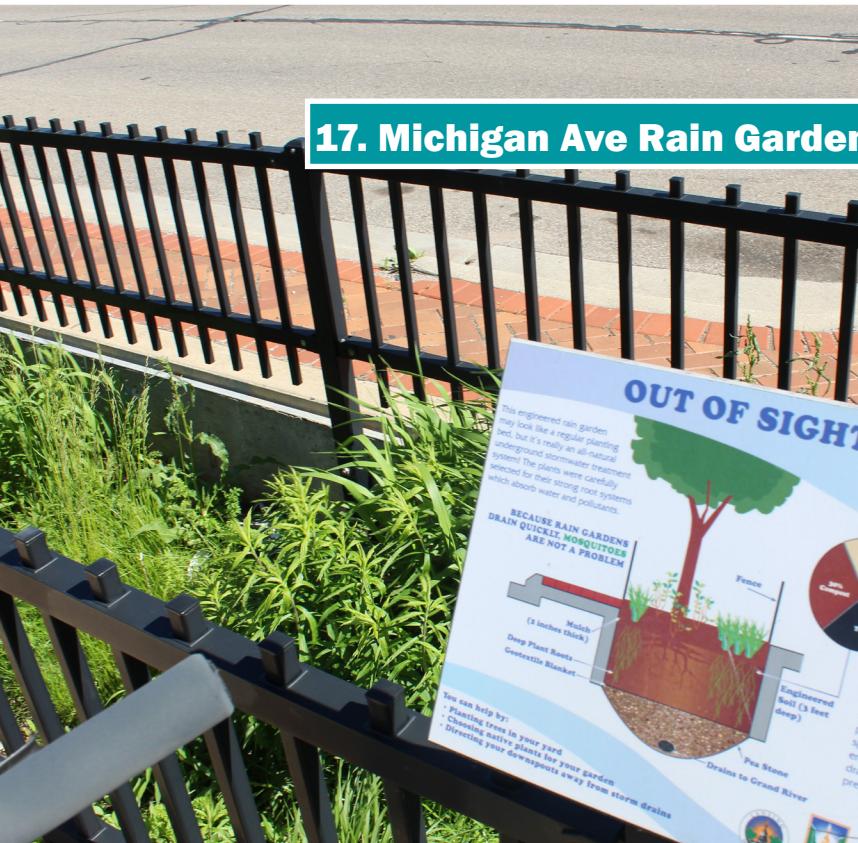


Stormwater Trees and Urban Canopy

are trees in urban settings that intercept and absorb rainfall, reducing flow volumes. Their leaf canopies help reduce erosion caused by falling rain and provide surface area where rain lands and evaporates.



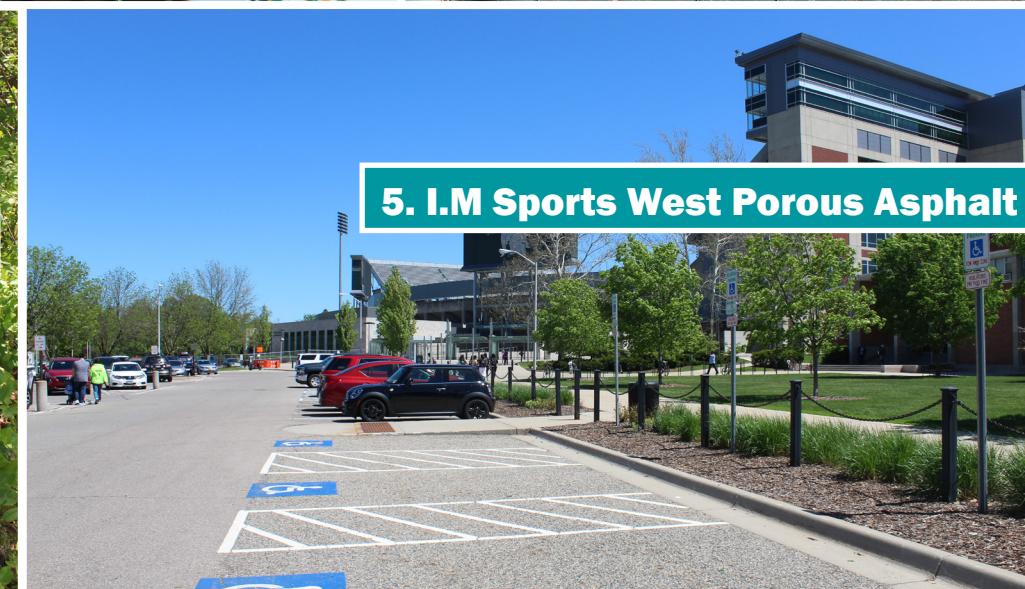
3. Moores Park Urban Canopy



17. Michigan Ave Rain Gardens



4. Beal Gardens Riparian Buffer



5. I.M Sports West Porous Asphalt



2. Towar Rain Gardens



15. Barnes Ave Permeable Pavement