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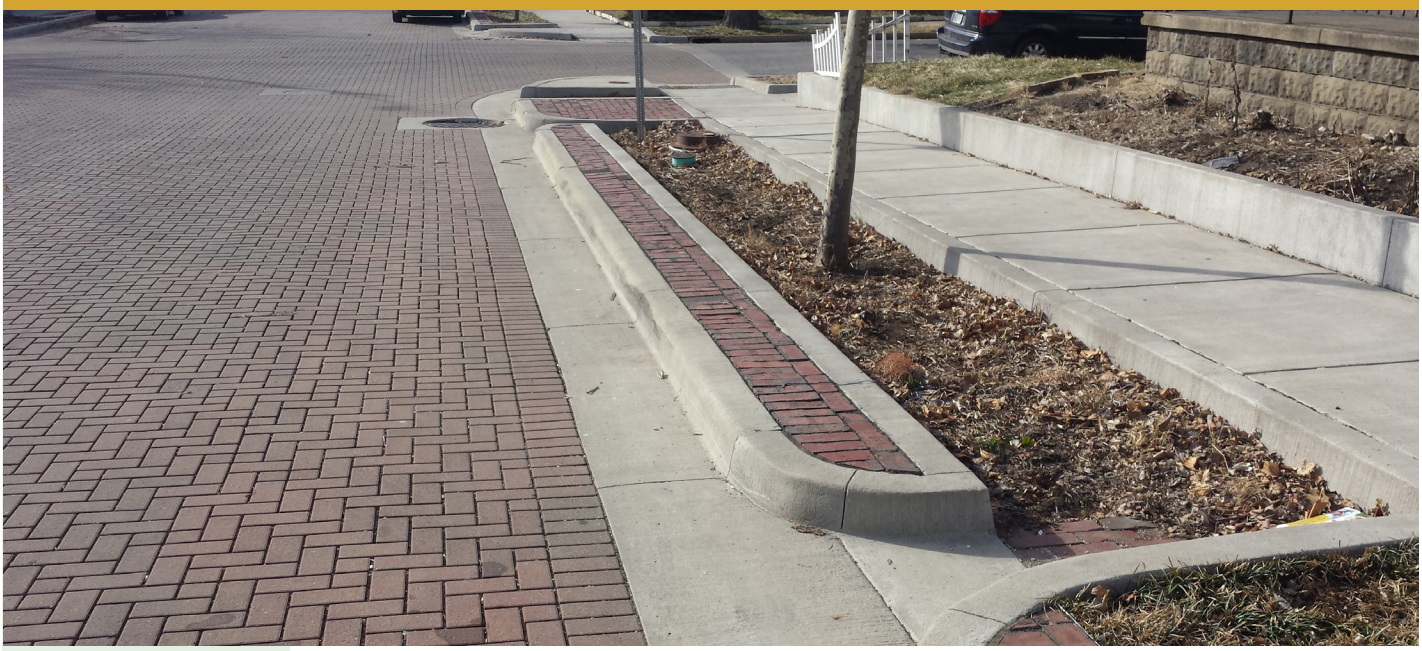
TIPPING POINT PLANNER
Supporting Sustainable Communities in Great Lakes States



Daniel Walker, Illinois-Indiana Sea Grant

AUTHORS
Ben Wegleitner
Daniel Walker
Lydia Utley
Kara Salazar

Tipping Point Planner Stormwater Definitions

Urban Best Managment & Low Impact Development Practices

Urban best management practices (BMPs) and low-impact development practices are forms of green infrastructure designed to protect water quality and quantity by reducing stormwater runoff or by storing and treating stormwater before it reaches surface waters. Low-impact development practices are intended to mimic natural infiltration processes. The following practices are used in the Long-Term Hydrologic Impact Assessment (L-THIA) model and the Tipping Point Planner.

LOW-IMPACT DEVELOPMENT PRACTICES

Green Roof – A rooftop covered with a growing media and vegetation that enables rainfall infiltration and reduces runoff. Green roofs are best suited for large industrial or office buildings where stormwater management costs are likely to be high, and where structural support exists.

Additional benefits: aesthetic value, pollinator habitat, urban heat island effect reduction

LOW-IMPACT DEVELOPMENT PRACTICES (CONTINUED)

Permeable Pavement – Pavements that allow rainfall to infiltrate through it rather than simply run off of it. Permeable pavements can be made of pervious concrete, porous asphalt, or permeable interlocking pavers.

Additional benefits: groundwater recharge

Rain Barrel – An aboveground container that captures and stores stormwater runoff from homes and small buildings for use between rain events. Stored water can be used to water gardens, lawns, or simply drained slowly to increase infiltration.

Additional benefits: groundwater recharge

Bioretention System – A landscaped basin where stormwater is filtered through the soil before flowing downstream or infiltrating completely into the soil. Vegetation in the soil planting bed provides uptake of pollutants and runoff, while soil properties allow for infiltration and drainage. Rain gardens are considered one type of bioretention system, absorbing runoff from rooftops, sidewalks, and streets.

Additional benefits: groundwater recharge, aesthetic value, pollinator habitat

Figure 1. Green roof at the Indiana Pacers' practice facility (credit: Christopher Cason)

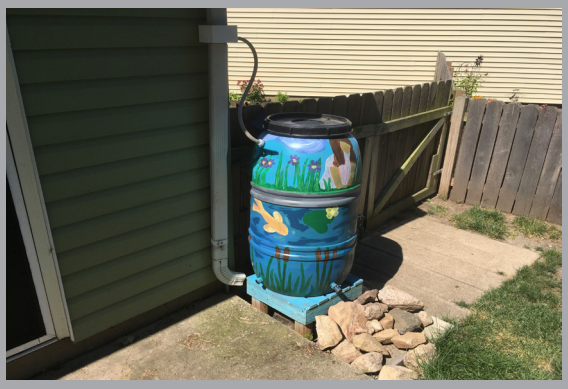


Figure 3. Rain barrel connected to a residential gutter system (credit: Ethan Chitty)

Figure 2. Permeable pavement (credit: Purdue University College of Agriculture)

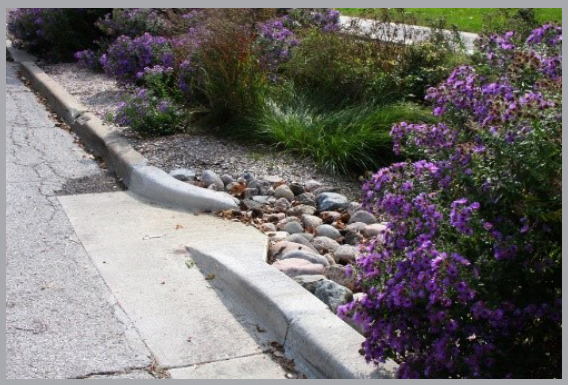


Figure 4. Bioretention/rain garden draining a parking lot

Figure 5: Retention pond in a subdivison (credit: Minnesota Stormwater Manual)

Figure 6: Wetland basin (credit: Minnesota Stormwater Manual)

URBAN BEST MANAGEMENT PRACTICES

Grass Strip (or buffer strip) – an area with permanent vegetation built to treat stormwater runoff from an upstream area before it reaches a street or water body.

Additional benefits: ecosystem services, groundwater recharge

Grassed Swale (bioswale or vegetated swale) – An engineered landscape feature to direct stormwater within a shallow vegetated channel, allowing for infiltration along its path, to a retention pond or detention basin.

Additional benefits: ecosystem services, erosion prevention, groundwater recharge

Retention Pond – An constructed lake or pond used to store stormwater runoff that retains a permanent pool of water. Retention ponds can be vegetated or unvegetated around the perimeter.

Additional benefits: ecosystem services, wildlife habitat, aesthetic value, recreational opportunities

Wetland Basin– An area filled with water (permenantly or periodically) and covered with wetland vegetation to assist with stormwater runoff during rainfall events. Wetlands can be natural or constructed.

Additional benefits: wildlife habitat, ecosystem services, groundwater recharge, aesthetic value, recreational opportunities, pollinator habitat

Detention Basin – A dry, vegetated storage basin or excavated area that fills during rain events to provide flow control or temporary storage of stormwater runoff. Basins may allow for infiltration or divert to local storm sewer systems.

Additional benefits: temporary habitat, ecosystem services, groundwater recharge

ABOUT THE TIPPING POINT PLANNER

This document was created for use with the Tipping Point Planner program. Through Tipping Point Planner, communities in Great Lakes states can plan for a sustainable future by directly linking data to the local decision-making process. With help from trained facilitators, the Tipping Point Planner program enables professional and citizen participation in the land use planning and management process. To learn more, visit www.tippingpointplanner.org.

ACKNOWLEDGEMENTS

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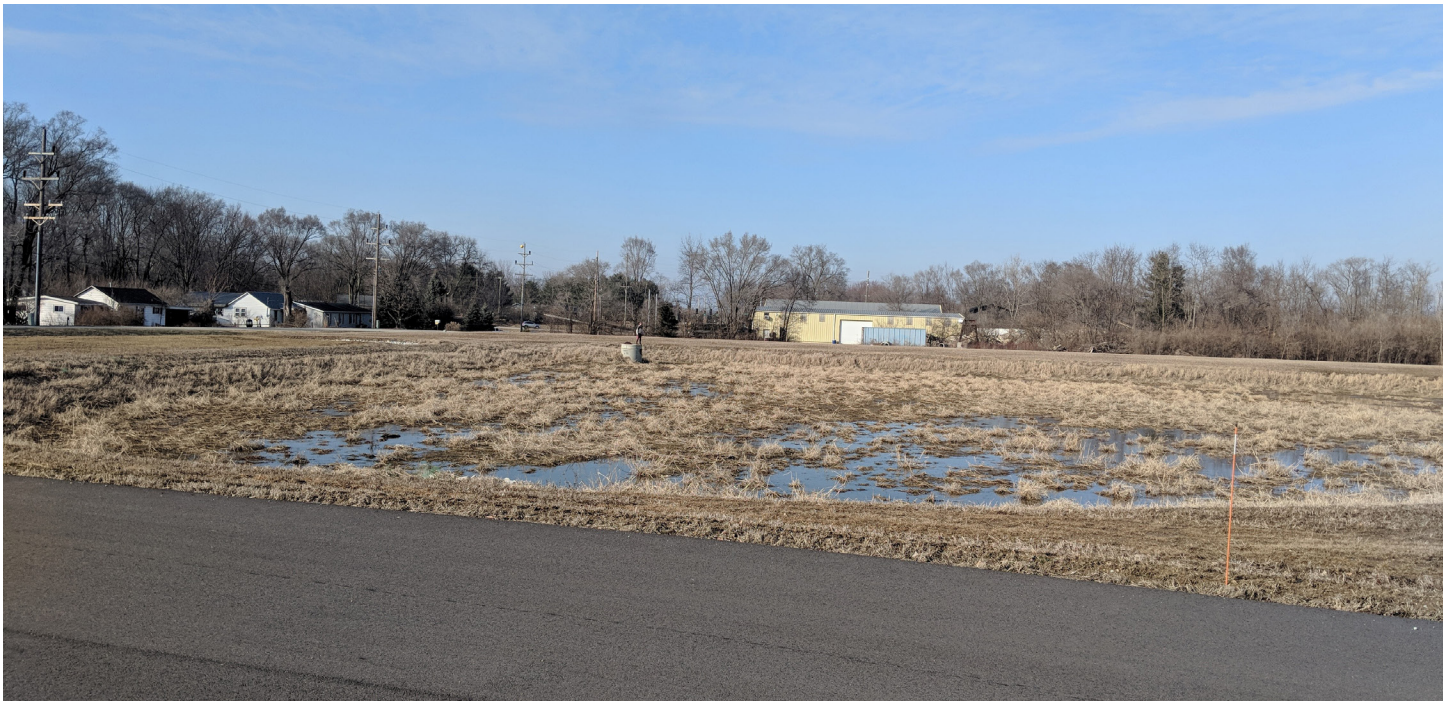

Figure 7: Detention basin draining runoff from a large parking lot

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