Municipal Best Management Practices (BMPs)

▶ Collection Services Material Handling

OVERVIEW

Sediments and organic debris, particularly from street sweeping, catch basins and leaf/yard waste can contain pollutants such as phosphorus, nitrogen, heavy metals and fecal bacteria. When solid material accumulates along the roads, sidewalks and in catch basins, storm water runoff carries these pollutants to waterways, which can increase nutrient and fecal bacteria pollution in surface water. A build-up of larger debris and litter can also clog storm sewers, making them less effective and prone to flooding.

Photo Credit: Wisconsin DNR

Street sweeping, catch basins and leaf and yard waste material collection programs have historically been popular Best Management Practices (BMPs) for reducing storm water pollution.

Street sweepings, catch basin materials and yard waste are considered solid waste as defined in s. 289.01(33), Wis. Stats. and must be managed according to solid waste regulations.

Wisconsin law bans the disposal of yard waste in Wisconsin landfills. Yard waste includes grass clippings, leaves, yard and garden debris and brush under six inches in diameter. Therefore, municipalities often compost collected yard waste. Composting sites with more than 50 cubic yards on-site at any time are required to obtain a Wisconsin DNR-issued license. The license requires that BMPs are implemented to minimize contaminated storm water runoff. For more information on composting, please visit the Wisconsin DNR's website.

Street sweepings and catch basin materials can either be disposed of at a landfill or reused under a written approval from the Wisconsin DNR's Waste and Materials Management Program. Landfills typically won't accept street sweepings unless they have been dewatered. As a result, temporary staging to dewater material before disposal is common. When choosing a storage location and method, it's necessary to store materials in a way that minimizes contaminated storm water runoff.

If reusing collected material, municipalities must submit a request for an approval called a low hazard exemption from solid waste regulations. Standard conditions established in the approval include sampling and testing for heavy metals and polycyclic aromatic hydrocarbons (PAH), storage requirements and annual reporting. Visit the Wisconsin DNR's website to access the form for requesting an exemption and more general information on managing solid waste.

IMPLEMENTATION

If possible, bring the collected catch basin and street sweeping material to a licensed landfill immediately.

This eliminates the possibility of storm water contamination since material is buried in areas designed to contain, collect and safely dispose of leachates.

- Best practice since there is no risk of storm water runoff from stored materials.
- However, landfills may not accept waste until it has been dried. Check that local landfills accept waste directly without drying. For a list of licensed landfill facilities, visit the Waste and Materials Management Public Reports database and select "Municipal Solid Waste Landfill."

Photo Credit: Wisconsin DNR

- If the street sweepings are going to the landfill, but need to be stored for a while, review solid waste storage requirements in s. NR 502.05, Wis. Adm. Code. A facility is exempt from needing a solid waste storage license as long as it meets all noncontainerized storage criteria in s. NR 502.05(3)(j), Wis. Adm. Code or containerized storage criteria in s. NR 502.05(3)(k), Wis. Adm. Code.

Store Material In A Water-Tight Container

This also helps eliminate the possibility of storm water contamination.

- Need to consider how much weight the container can handle and how much material is collected.
- Need to consider how often material will be moved from storage for disposal.
- Requires some maintenance to clean out built-up debris over time.
- Open-top containers are exposed to weather and, therefore, can be counter-productive to the drying process. To avoid this, a tarp can be secured on top to prevent water from entering.

Store Materials Under A Covered Area

This protects materials from rain, snow and wind, which limits the amount of material removed and lost to storm water runoff. Covers can be a more permanent structure or a tarp/plastic cover.

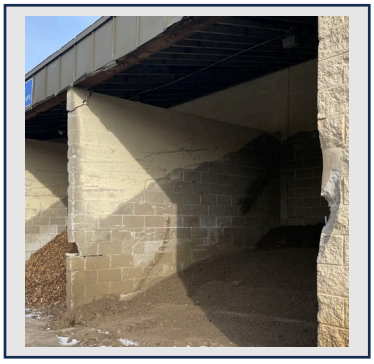

Photo Credit: Wisconsin DNR

- Need to ensure there are no holes or tears in the structure or tarp/plastic cover.
- Materials should be contained in the covered area and not spilling out of the containment area.
- Ensure that the tarp/plastic cover is weighed down to withstand harsh weather conditions.

- May be difficult to cover high piles under a tarp/plastic cover, therefore need to ensure piles are at a manageable height.
- It is a best management practice to store collected materials on impervious surfaces so that liquid generated from these waste piles cannot infiltrate into groundwater. However, collected materials should be stored in a way that considers the flow path of storm water. For example, consider placing materials away from storm drains and surface water.

If the material collected is organic (e.g., leaf piles, yard waste, brush), storing it on pervious surfaces away from wetlands and waterways could be a better management option than on impervious surfaces.

Consider The Flow Path Of Storm Water

Proper placement of collected materials is important to prevent contaminated storm water runoff from entering nearby storm drains, surface waters and wetlands. Consideration should also be given to the flow path of storm water runoff to structural BMPs such as detention ponds or bioretention systems that can help provide treatment.

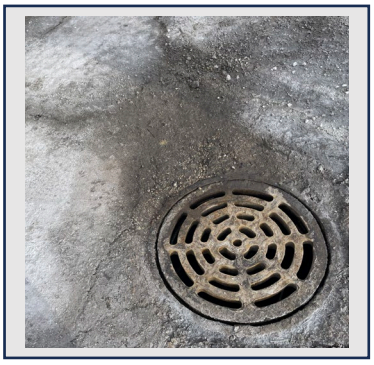

Photo Credit: Wisconsin DNR

- If runoff discharges to a structural BMP, it is important that the structural BMP is not over-inundated with polluted storm water runoff. Excessive pollutant loading can compromise the treatment capacity of the BMP. To prevent this, consider additional maintenance or implementing a series of treatments, such as a series of ponds or a vegetated swale leading to a pond, so all storm water doesn't inundate a single BMP.
- If site constraints prevent the use of structural BMPs, alternative pollution prevention methods need to be explored. Covering the material or watertight containment may

be more appropriate in these cases. Containment strategies ensure that storm water runoff remains isolated from the material.

- May not be possible depending on the landscape and whether there are any structural BMPs in place. If it's not possible to find an area that is far from surface water or allows for directed flow into structural BMPs, will need to consider other BMPs such as enclosing materials in a watertight container, tarp, etc.

Store Catch Basin And Street Sweeping Material In Areas Connected To Sanitary Sewer

This diverts material leachate to the sanitary sewer where it is treated at the local Wastewater Treatment Facility (WWTF).

- Storm water is treated so there is no risk of polluted storm water entering surface water.

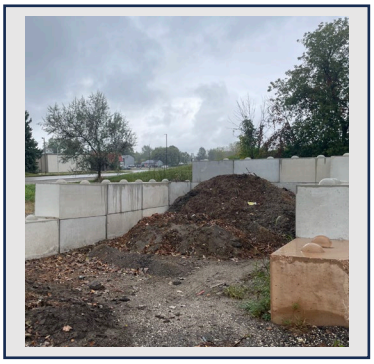

Photo Credit: Wisconsin DNR

- Should work with the local WWTF to determine if a Notice of Intent to connect is needed.

Temporarily Store Material In A Semi-Enclosed Area

Semi-enclosed areas such as three-sided bays limit storm water contamination since the enclosed space helps block the flow of storm water runoff.

- Doesn't prevent erosion from rainwater unless the three-sided bay is under a canopy or tarp.
- Need to ensure there are no cracks in the structure.
- Materials should be contained in the three-sided area so that they are not spilling out of the containment area. Quickly removing material before significant leachate is produced or piles become too large to manage helps limit the amount of contaminated storm water runoff.

Temporary staging should be temporary: Dispose of materials as soon as possible.

Quickly removing material before significant leachate is produced, or piles become too large to manage, helps limit the amount of contaminated storm water runoff.

ADDITIONAL RESOURCES

General information:

- Considerations To Make When Choosing A Storage Container – Waste Today Magazine
- Planted Drying Beds | SSWM

Composting:

- Composting In Wisconsin | Wisconsin DNR
- Composting Rules And Regulations In Wisconsin | Wisconsin DNR

Hazardous Wastes:

- Hazardous Waste Resources | Wisconsin DNR

Landfills:

- Solid Waste Tip Fees And Landfill Tonnage Reports | Wisconsin DNR

Low Hazard Waste Exemption:

- Solid Waste Management In Wisconsin | Wisconsin DNR
- Exempting Low-Hazard Wastes From Solid Waste Regulations

SOURCES

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