



Clean Water is Everyone's Business

A commercial & industrial property owner's guide
to improving the health of our rivers, streams,
lakes and ponds

Northern Middlesex
STORMWATER
COLLABORATIVE

this guide provides information about what you can do
to install best management practices
on commercial and industrial
properties to help prevent
stormwater runoff
from polluting our
waterways.

Courtesy of the Tahoe Regional Planning Agency

We would like to thank the Tahoe Regional Planning Agency, who provided both the template and inspiration for this brochure.



what is stormwater runoff?

In an undisturbed watershed, the majority of rain and snow melt is absorbed and filtered through the soil.

When a watershed is disturbed and covered with roads, parking lots and rooftops, precipitation can no longer be absorbed. Instead, it “runs off” the impervious surfaces, becoming stormwater runoff.

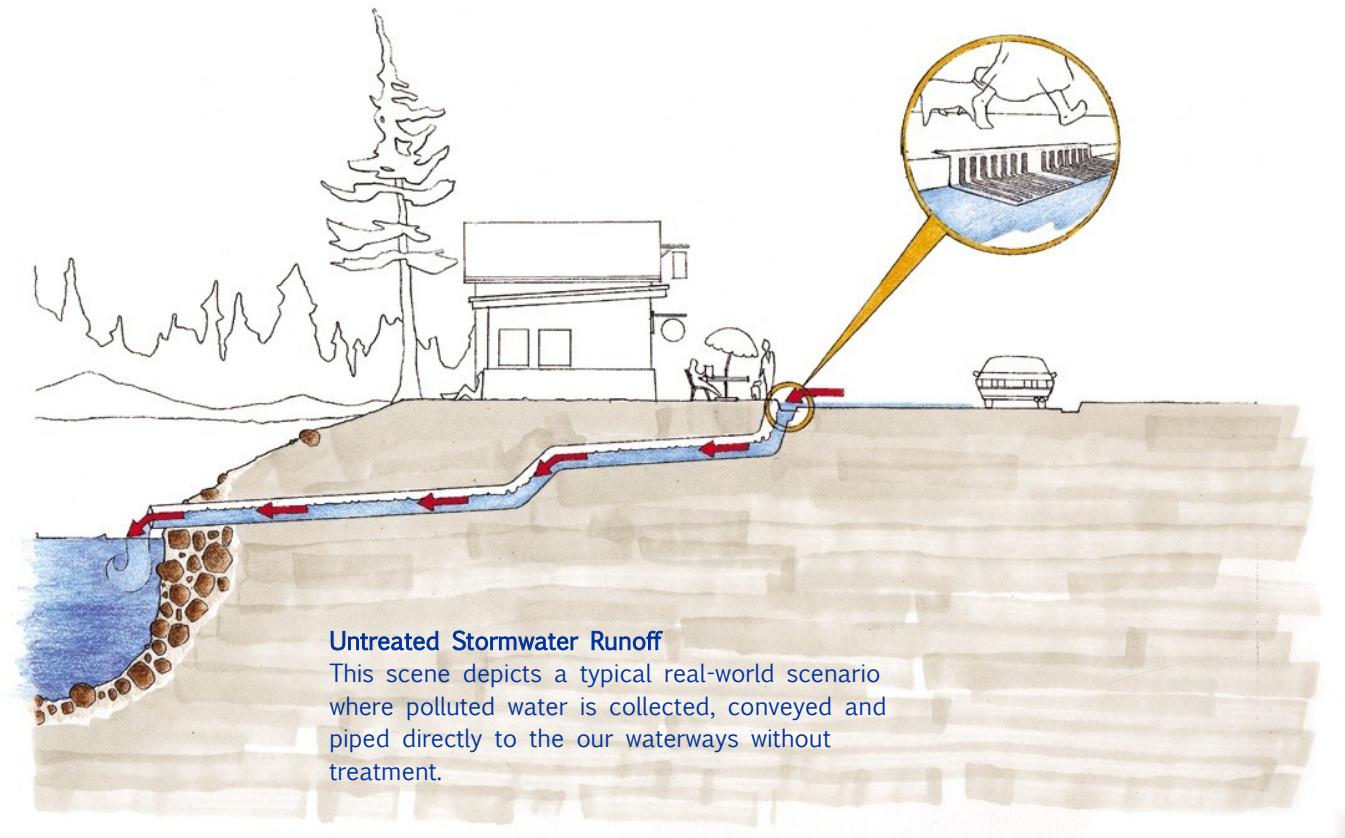


how does stormwater runoff become polluted?

Pollutants such as sediment, grease, oil, and heavy metals from vehicles accumulate on impervious surfaces such as roads and parking lots. When a storm hits, the stormwater runoff “washes” the surfaces it flows over, picking up the accumulated pollutants and carrying them to the nearest storm drain, ditch, or stream and eventually to our rivers and waterways.

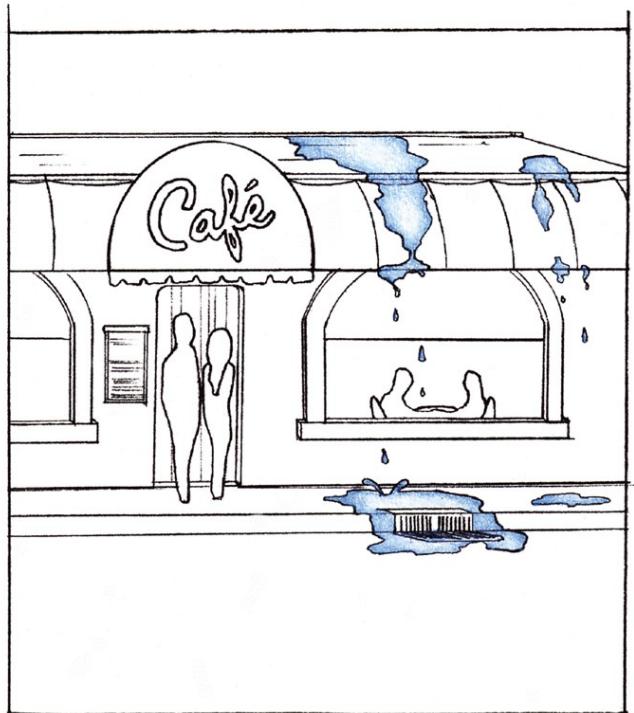
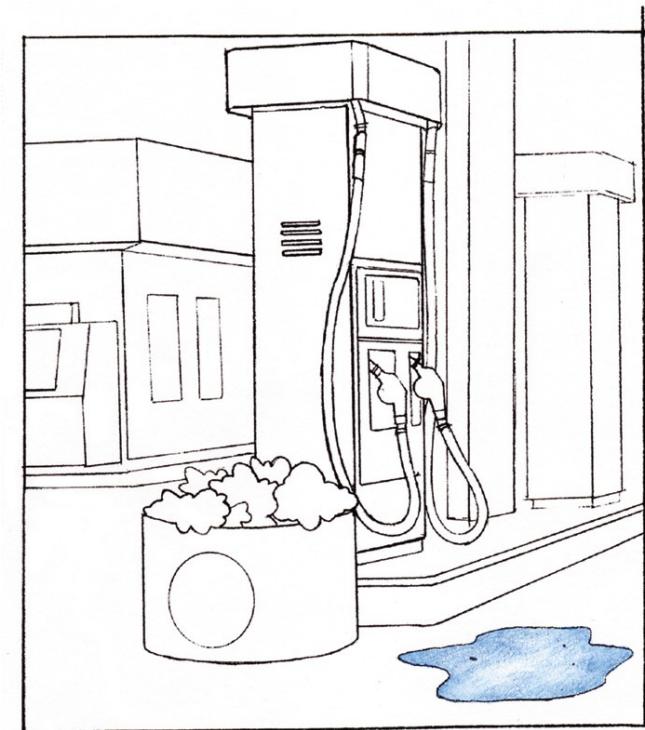
where do storm drains take stormwater runoff?

Many people mistakenly think that storm drains lead to a sanitary sewer system, where the stormwater runoff is treated. While this occurs in some communities, this is not true in the Greater Lowell Region. All storm drains eventually lead to our rivers.



what can be done to prevent stormwater runoff from polluting the our streams and waterways?

Luckily, there are measures that can be implemented to prevent stormwater runoff from damaging the environment. These measures are called Best Management Practices, or BMPs. This brochure focuses on BMPs that are appropriate for commercial and industrial properties, which include retail stores, gas stations, manufacturing plants, warehouses, office buildings, restaurants, maintenance yards, and many other types of businesses.



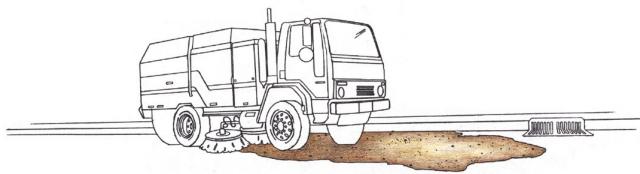
what kind of BMPs do commercial & industrial properties need?

BMPs are measures that prevent stormwater runoff from damaging the environment. However, BMPs need to be specifically tailored to each individual property depending on site characteristics such as soil type, slope, and land use. For example, it is reasonable to expect that BMPs required for a gas station where there is a potential for hazardous spills would differ greatly from BMPs required for an office building. This is why a site specific BMP plan is so important.

The three crucial steps that you can take to prevent pollution are listed here:

1. Keep Your Site Clean:

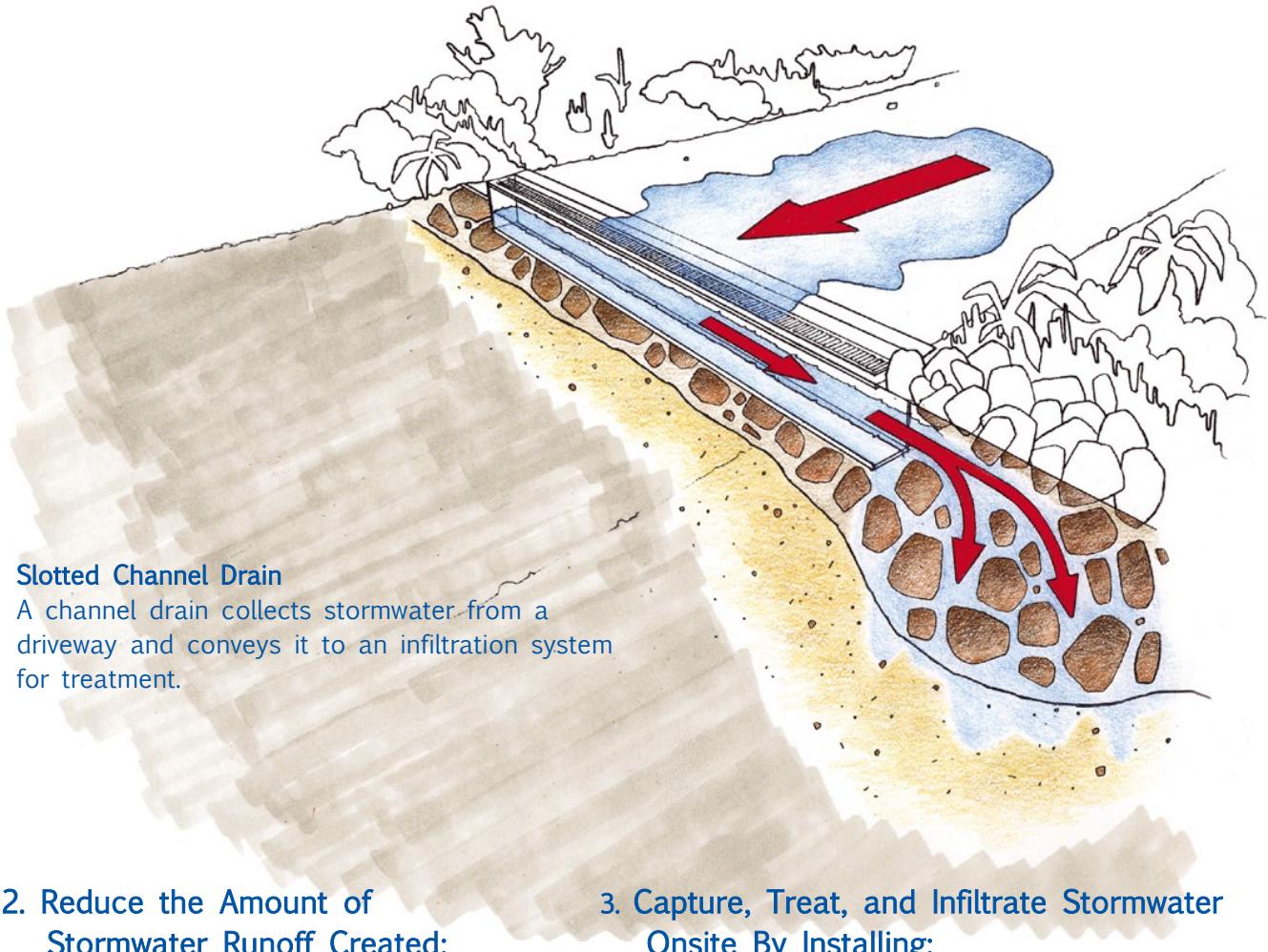
- Sweep parking areas and walkways instead of washing with a hose.
- Clean litter and debris from drainage inlets to prevent flooding.
- Plan sand and salt operations to prevent over application.
- Store snow on flat, well-vegetated areas or upslope of infiltration systems.
- Create a spill prevention and response plan.
- Train employees how to prevent spills and how to respond to a spill.
- Report bigger spills to appropriate agencies for proper clean up.
- Keep dumpster lids closed and trash collection areas clean.
- Perform vehicle maintenance and wash only where water flows into a sand/oil separator.
- Store hazardous materials in covered, protected areas.



Large Scale Maintenance & Upkeep
Keeping paved surfaces clean is an important BMP to keep soil out of the River.



Small Scale Maintenance & Upkeep
Removing soil and debris prevents it from entering surface waters.



Slotted Channel Drain

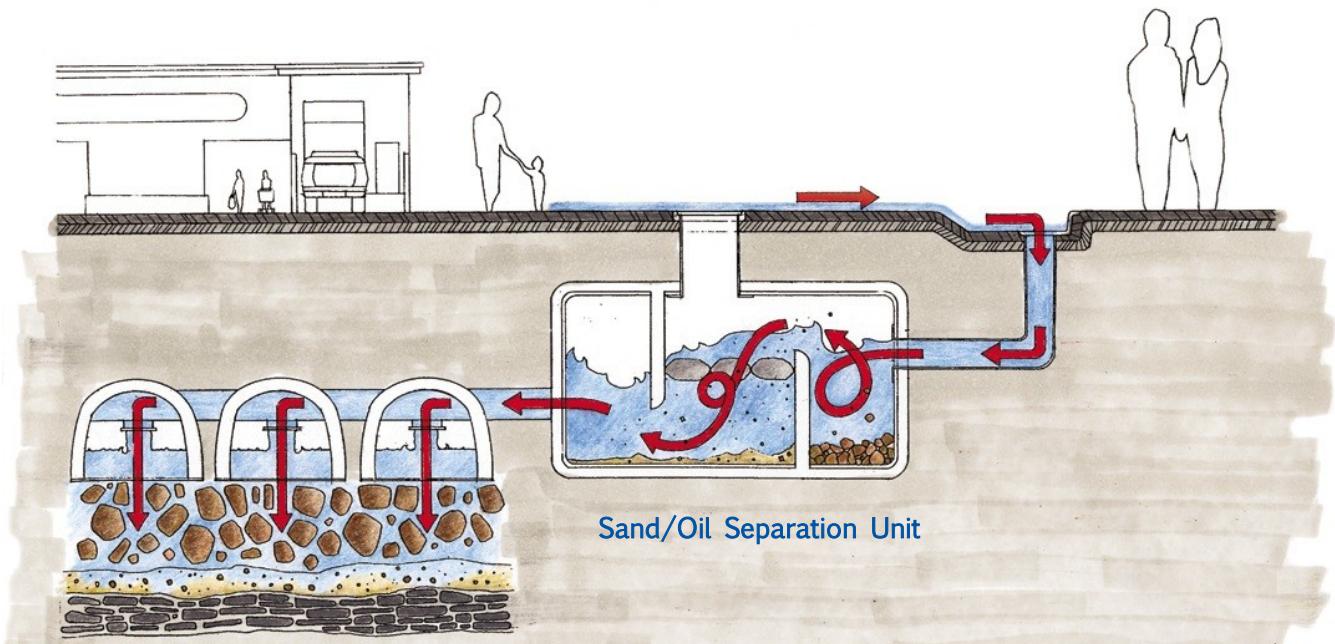
A channel drain collects stormwater from a driveway and conveys it to an infiltration system for treatment.

2. Reduce the Amount of Stormwater Runoff Created:

- Remove unneeded pavement and restore the area for infiltration.
- Plant native vegetation on all disturbed bare areas.

3. Capture, Treat, and Infiltrate Stormwater Onsite By Installing:

- Slotted channel drains.
- Sand/oil separation units.
- Subsurface infiltration systems.
- Detention basins.
- Drop inlets or grates.
- Oil absorption pillows.

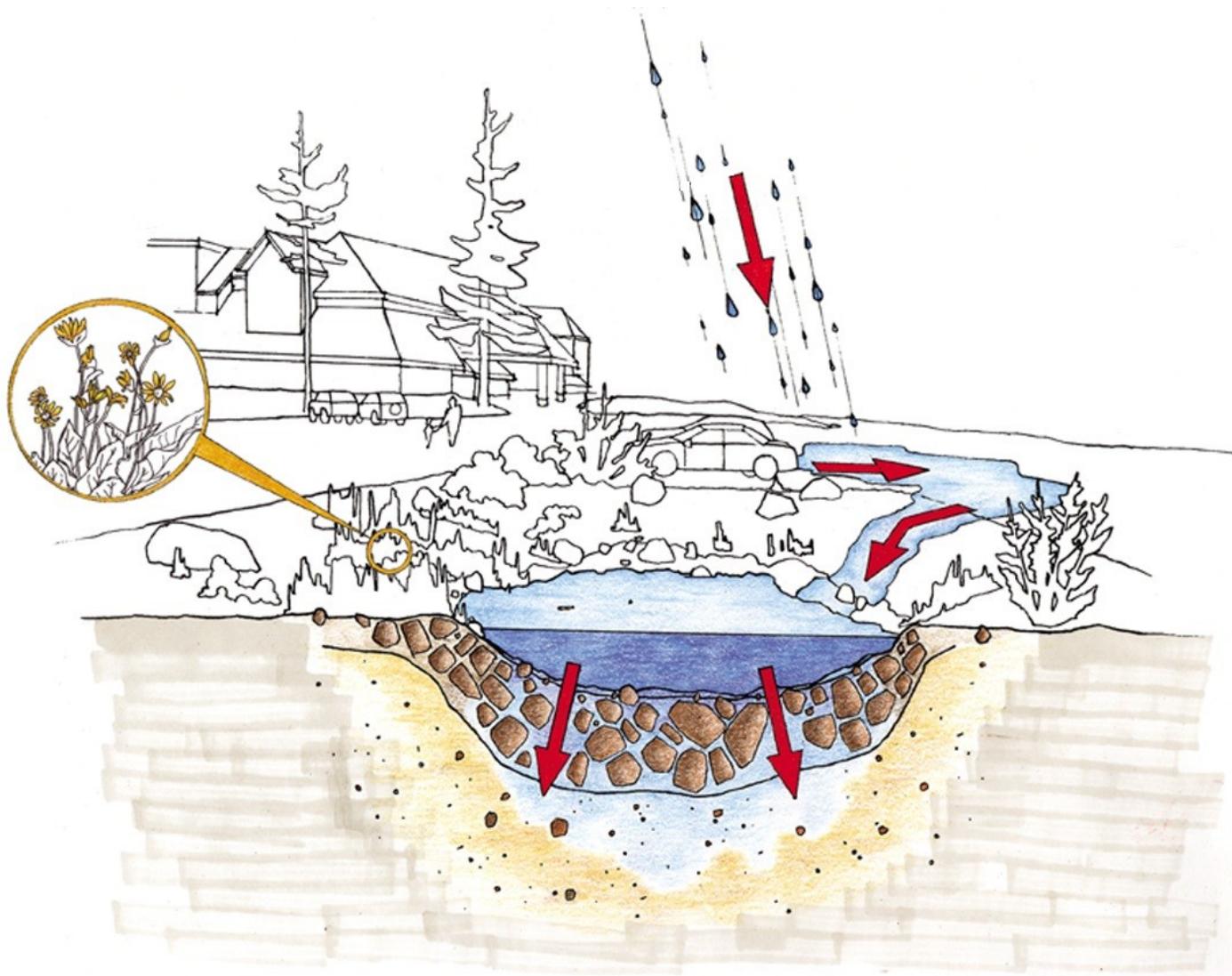


Subsurface Infiltration Gallery

A subsurface mechanical treatment system collects runoff and conveys it through a sand/oil separator to remove pollutants prior to discharging to an infiltration gallery for final treatment.

Typical Commercial Parking Lot

Runoff from a parking lot is conveyed to a vegetated detention basin. Plants help uptake nutrients and treated stormwater slowly filters through the soil.



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We're working with your town
to reduce stormwater pollution.



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