SEBAGO LAKE ECOLOGY CENTER'S PERVIOUS PATHWAY

A LID DEMONSTRATION

Low Impact Development (LID) strategies are those that manage stormwater by keeping it on site. Rather than shedding water and adding sediments and pollutants to stormdrains, LIDs mimic nature's way of handling precipitation by infiltrating, filtering, storing, evaporating, and/or detaining runoff on the ground.

Typical land development involves clearing a site of vegetation, grading it, and then installing impervious surfaces such as roads, parking lots, utilities, rooftops and sidewalks. Heavy equipment compacts soils, rendering them useless for infiltration. Impervious surfaces shed large amounts of water, sending that water down stormdrains and then "away." Impervious surfaces shed up to 20 to 30 times more stormwater than undeveloped land!

FOR MORE INFORMATION:

Portland Water District:
www.pwd.org
Casco Bay Estuary Partnership:
www.cascobay.usm.maine.edu
Low Impact Development Center:
www.lowimpactdevelopment.org

Under natural conditions—before development—most of the rainfall seeps through the ground (infiltrates), evaporates, or is used by vegetation. LIDs work to restore an area's natural hydrology.

LID is a new set of tools to improve how we develop land and manage runoff in the Sebago Lake and Casco Bay watersheds.

In 2007, PWD received a grant from Casco Bay Estuary Project Low Impact Development Fund to install LID demonstrations at the Sebago Lake Ecology Center. Here, visitors can see for themselves how the various methods look "on the ground."

Casco Bay Estuary PARTNERSHIP

PORTLAND WATER DISTRICT
1 WHITE ROCK ROAD
STANDISH, ME 04084
1-207-774-5961

Sebago Lake Ecology Center's Pervious Pathway

A Low Impact Development Demonstration

PWD PHOTO

PRODUCED BY:
Portland Water District
Casco Bay Estuary Partnership

Sebago Lake Ecology Center's Pervious Pathway A Low Impact Development Demonstration

Welcome to the Ecology Center's new demonstration of LID methods. This brochure allows you to take a self-guided tour of the various installations. For more detailed information, please see any of the District Staff on site. We are happy to help you protect water quality!

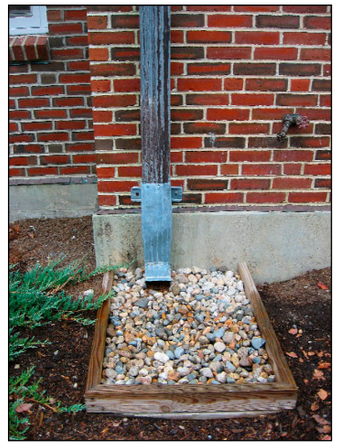
UPLAND/ ENTRANCE SIDE OF THE ECOLOGY CENTER BUILDING:

PERVIOUS GRASS PAVER PARKING AREA

To reduce pollution, hard-surfaced parking areas should be minimized. Certainly, paved areas promote runoff, but vehicle weights can compact unpaved areas until they, too, become impervious.

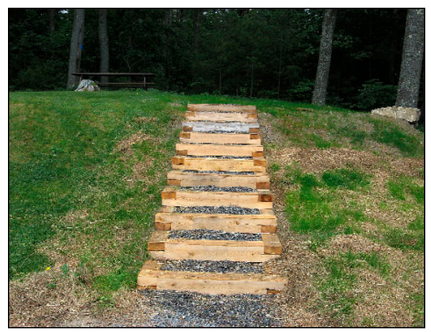
Grass pavers are an excellent new technology to create permeable pavements.

Grass pavers begin with a grid-like honeycomb structure. Once this grid is installed, gravel, sand, and topsoil are added-then grass is planted. The grid system protects the grass roots from compaction so that they collect and hold stormwater, reduce runoff, and keep a natural look to the area. The end product is a very durable, grass covered, pavement-like area that helps to protect water quality.



DRYWELLS

Consist of an excavated pit filled with small stone. Drywells effectively collect and infiltrate runoff at gutter downspouts. These systems help control erosive runoff on your property, and reduce wear on your house by minimizing back splash. Drywells work best in sand and gravelly soils that can quickly disperse a large volume of water.



INFILTRATION STEPS

are a good alternative to cement steps or compacted slopes. This system uses crushed stone to slow down and infiltrate runoff. They are effective on moderate slopes.

SEBAGO LAKE ECOLOGY CENTER'S PERVIOUS PATHWAY

A LOW IMPACT DEVELOPMENT DEMONSTRATION

EROSION CONTROL MIX

Erosion Control Mix (ECM) is a kind of mulch made of partially composted bark, sand, gravel, stone and wood fragments. It is much heavier than other types of mulch and its mixture of elongated fibers, gravel and soil lock together to protect the underlying soil from erosion. Like other mulches, it also retains moisture, controls weeds and improves the soil as it decomposes. It can be used on paths, slopes and between plantings. ECM is the most effective mulch for erosion control purposes.

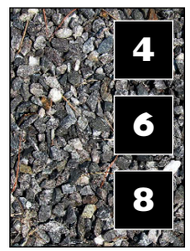
GRASS PAVERS

Grass pavers make excellent pathway materials. They allow infiltration, look natural, and can handle foot traffic easily.

RAIN GARDENS

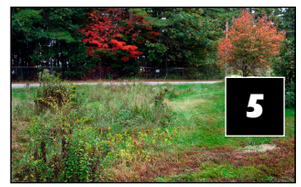
Rain gardens are attractive and functional landscaped areas that are designed to capture and filter stormwater from roofs, driveways, and other hard surfaces. They collect water in bowl-shaped vegetated areas, and allow it to slowly soak into the ground. This reduces the potential for erosion and minimizes the amount of pollutants flowing from your lawn into a storm drain, and eventually into our streams and lakes.

CRUSHED STONE AND GRAVEL



Crushed stone and/or Gravel can provide attractive pathway materials to prevent runoff and erosion. The many spaces between stones will hold water, allowing slower percolation into the ground. Crushed stone comes in a variety of sizes, and can even be tumbled smooth to form more decorative pea-stone

NO MOW ZONE



A "no-mow" zone, allows grasses, shrubs and local naturally seeding plants to grow, providing food for birds and other critters. Along a lake, stream, or wetland, create a buffer by simply not mowing along the shoreline. Turf grasses will grow 12-24 inches tall before going to seed. Creating a curving edge that separates the buffer from your lawn and any pathways to the water will also give your property a pleasing, natural appearance. Over time, shrubs and trees will naturally fill in and provide a more diverse plant cover.

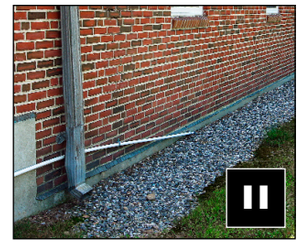
OPEN TOP CULVERT

An open-top culvert intercepts water traveling down driveways, footpaths, trails and other areas and diverts it into stable vegetated areas where it can be absorbed.

SUPERHUMUS

Superhumus is a finer grade of Erosion Control Mix that works well in a more landscaped setting. Some people choose to top-dress the chunky ECM with a few inches of Superhumus' for a more finished appearance.

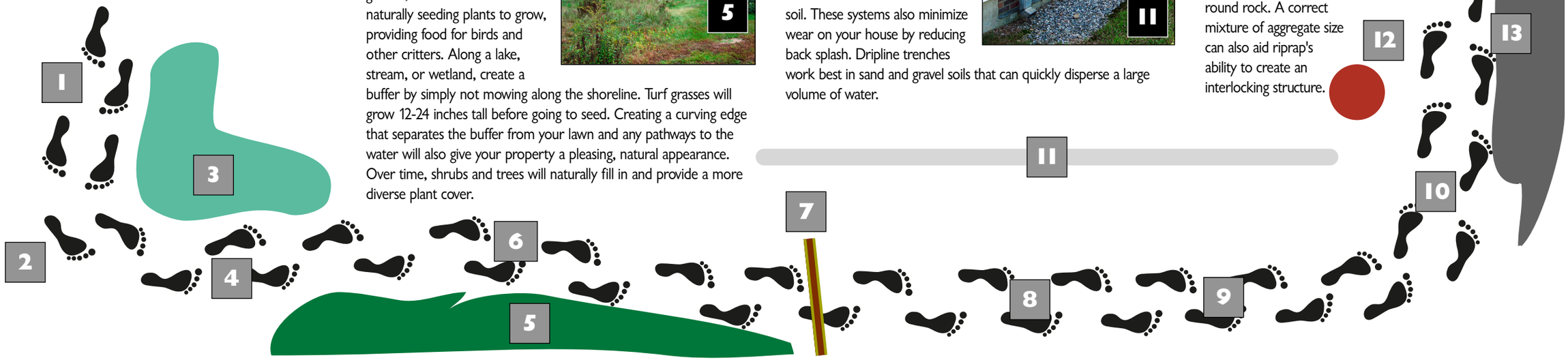
DRIPLINE TRENCHES



Dripline trenches collect and infiltrate stormwater, and control erosive runoff from the rooftop. The trenches collect roof runoff and store it until it soaks into the soil. These systems also minimize wear on your house by reducing back splash. Dripline trenches work best in sand and gravel soils that can quickly disperse a large volume of water.

RAIN BARRELS

A typical (20 x 50) roof sheds 600 gallons of water during a 1" rainstorm! Rain barrels provide an attractive way to capture that rainwater and store it for later use. Water collected from rain barrels can be used to water lawns, gardens, and indoor plants. This water would otherwise run off your roof or through downspouts and become stormwater, picking up pollutants on its way to a storm drain, stream, or lake. You can lower your water bill, conserve well water in the dry season, and reduce polluted stormwater runoff.

RIPRAP

Riprap is an engineered solution that uses rock used to armor shorelines or stream banks against water erosion. Riprap reduces water erosion by absorbing or redirecting the energy of flowing water or waves. The shape of rock is important. Coarse, angular rock, usually made by crushing or blasting, is more effective at slope reinforcement than round rock. A correct mixture of aggregate size can also aid riprap's ability to create an interlocking structure.