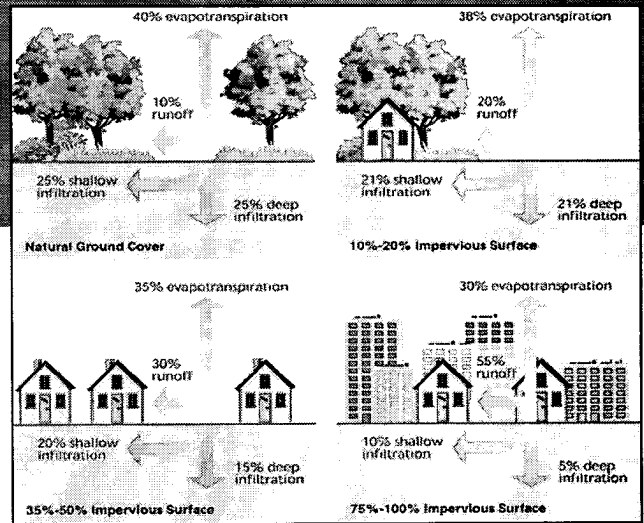


STORMWATER AND FLOODPLAINS

What is Stormwater?

Stormwater is defined as the flow of water that results from precipitation and which occurs immediately following rainfall or as a result of snowmelt. When a rainfall event occurs, several things can happen to the precipitation. Some of the precipitation infiltrates or soaks into the soil, some is taken up by plants for added growth, and some is evaporated into the atmosphere. Stormwater is the rest of the precipitation that runs off land surfaces and impervious (paved) areas.



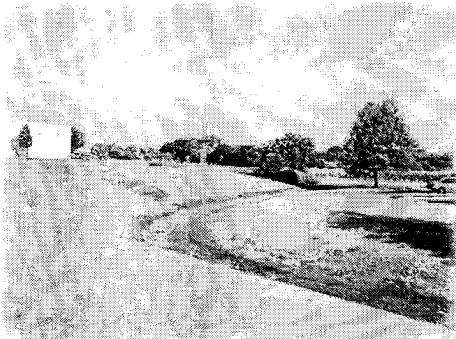
The Water Balance Before & After Development

Stormwater is typically generated by precipitation that runs off paved land areas; like buildings, rooftops, sidewalks, driveways and other hard surfaces. These hardened surfaces are called 'impervious surfaces' and they do not allow rainfall to infiltrate into the soil like natural vegetation, so more of the rainfall becomes stormwater runoff.

Stormwater runoff may be carried through natural or manmade drainage ways or conveyance systems. In some cases stormwater runoff leaves a site and then spreads out over a large dispersed area as "sheet flow." It may also be conveyed through ditches, swales, and natural drainage features. In most developed and urbanized areas, stormwater is conveyed through a system of catch basins, drainage basins, or storm drains.



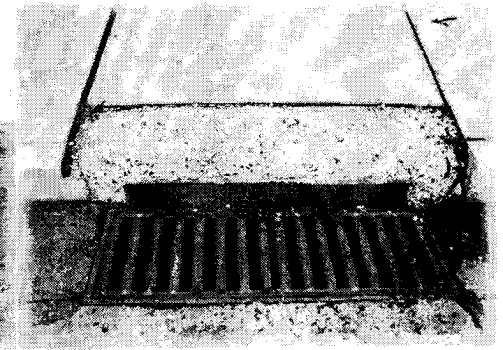
Wetland areas allow stormwater runoff to soak into the ground



Vegetated stormwater swale



Stormwater detention basin

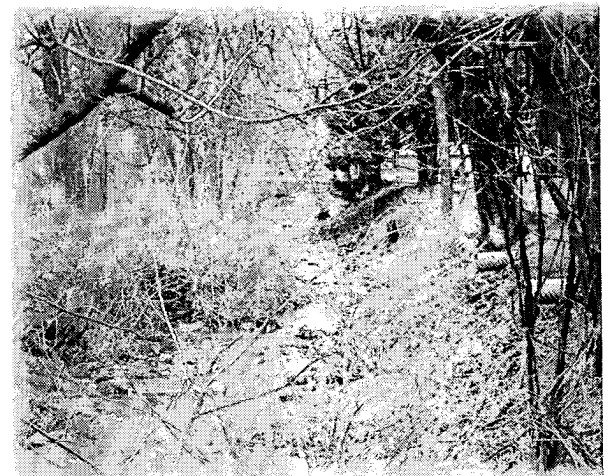


Storm drains are the common stormwater conveyance system in urban areas

We often forget stormwater runoff collects everything on the surface of roadways, sidewalks, parking lots, constructions sites, business parks, rooftops, etc. and carries it to storm drains or ditches which often empty to our local rivers and streams. As it flows, stormwater runoff collects and transports soil, pet waste, road salt, pesticides, fertilizers, oil, debris, and other potential pollutants. The quality is affected by a variety of factors and depends on the season, local weather, geography, and activities throughout the watershed.



Stormwater runoff carrying sediment & other pollutants



Stormwater pipes discharging directly to a stream

FACTS EVERY SEPTIC SYSTEM OWNER SHOULD KNOW BEFORE INSTALLING YOUR SYSTEM

- Rope off the area of your system and protect it from vehicles.
- Caution your builder to avoid system area during home construction.
- Do not allow stripping of top soil or grading in the area of the system.
- Make sure your well is upslope from system and *at least* 100 feet away.
- Do not allow system installation in wet or frozen soil conditions. Soil must be *loose, dry, unsmearred, and uncompacted*.
- Keep downspout and footer drains out of your septic system.
- Seed your system area as soon as weather permits.
- Divert all surface water from system area.

CONSERVE WATER

- Water conservation prolongs your system life, saves you money, and need *not* be a personal inconvenience.
- Install low flow showerheads, faucet aerators, and install toilet bottle kits or tank displacement devices (if new construction, purchase low flow commodes). These devices can save a family of four over 100 gallons per day. Cost for these devices is only about \$20-\$70 and will save \$100-\$300 each year.
- See your local plumbing supplier and most major department stores.
- Purchase a front loading washer, they use 1/3 less water than top loaders.
- Take showers, they use less water than baths.
- Promptly repair leaky faucets.
- Use the clothes washer and dishwasher only when you have full loads.
- Contact you local DEP office for more information.

PUMP YOUR SEPTIC TANK

- Septic tanks *must* be pumped regularly (at least 2-3 years)
- Tank pumping helps prevent more expensive system problems. Waiting for evidence of system problems (spongy lawn or sluggish toilet) may be too late for pumping to help.
- Pump your tank through the large central manhole, not the small baffle opening.
- Be sure tank pumper agitates tank contents before pumping. Solids and floating scum must be mixed before removal.
- Carefully mark the location of your septic tank.
- Sewage grinders and garbage disposals increase solids build-up in your tank. More frequent pumping should occur.
- ***NEVER ENTER A SEPTIC TANK.***
- Information on septic system maintenance can be obtained from the local DEP office.

HELPFUL HINTS

- Place a copy of your sewage permit and yellow application in a safe place. This information will be important for future use.
- No septic tank additives have been proven beneficial for septic tank operation. Some may even be harmful. Regular tank pumping is the best advise to prolong your system=s life.
- Before repairing or replacing your system (even a new septic tank), a new sewage permit from the municipal sewage enforcement officer will be needed.

**FOR HELP OR INFORMATION CALL
YOUR MUNICIPAL SEWAGE ENFORCEMENT OFFICER OR THE LOCAL DEP OFFICE.**

Winter Time Pollution Prevention

Water pollution and conservation are important issues during the spring and summer months; however, there are many things that we can do during the winter months that will help reduce water pollution and help conserve water. Below are three tips on how to make a difference this winter:

1. Too Much Salt !

When the snow and ice melt after a winter storm, the water flow will take with it anything that it collects on the ground and wash it down storm drains. This means that melting ice will carry the deicer materials that we use to clear our driveways and walkways down storm drains and into local waterways. The chlorides that make up the deicers can harm aquatic wildlife, affect nearby plant growth in your yard, and can remain trapped in your soils. Luckily there are alternatives to conventional rock salt deicers that are easy to purchase and will also help in keeping our pathways safe! Here are some helpful tips that will keep your pavements clear and local streams cleaner!

- Removing freshly fallen snow before it has a chance to freeze and harden into ice is one of the more effective ways of keeping your pavements clear. Deicers work better when there is only a thin layer of ice or snow.
- If you are using traditional rock salt, the recommended application is a *handful for one square yard*. Using more salt than this will not make the ice melt faster; it will only end up costing you more money and the salt will be washed away by the stormwater!
- Mixing sand in with the deicer will also aid in melting the snow and ice and allow you to cut back on the amount of rock salt that is being used. Sand and regular brand kitty litter will also add traction to the surface as well. But remember, if there is left over sand and kitty litter on your walkway or driveway, then use a broom to clean it up. Using a hose to wash the sand and kitty litter away will push the material into nearby storm drains and potentially cause a clog or back-up of the drains, so put that broom to work!

2. Loosing Water

Bursting pipes in the winter time can cause a strain on water supply levels and also on a homeowner's wallet. By preventing pipe bursts and water loss now, you can help conserve water and money!

- If you have outside spigots, turn them off during the winter months to prevent them from bursting due to the cold temperatures.
- You may be able to turn the spigots off by an inside valve, and then drain the remaining water from the pipes.
- Make sure that your water pipes are insulated properly and check for leaky pipes now before freezing temperatures arrive.

3. Household Hazardous Waste

It is important to dispose and use our cleaning products appropriately. The water that goes down your sink drain also carries residues from your home, and many harsh household chemicals are not removed by sewage-treatment or septic systems. Here are a few things that will help reduce these problems with household chemicals:

- Read your labels and know what is in the product before using it.

- Consider using products that are “environmentally friendly.” These products will advertise that they do not contain phosphates, chlorine, ammonia, etc. (all of which contribute to water pollution)
- Store household chemicals in a dry area with the lids secured tightly.
- Use only the recommended amount of the product.
- Never dispose of chemicals in storm drains (they lead directly to nearby rivers).
- When disposing of household chemicals, check to see if there are special instructions and/or collection sites for your convenience. In Berks County, the Berks County Solid Waste Authority hosts annual Household Hazardous Waste Collections in the Spring and Fall to help homeowners dispose of Household chemicals. For times and types of waste collected please visit the Berks County Solid Waste Authority website at: www.co.berks.pa.us/dept/swa or call 610-478-6362.