

EROSION CONTROL FOR HOME BUILDERS

SOIL EROSION IS A SERIOUS AND EXPENSIVE PROBLEM IN MADISON COUNTY

Soil erosion and sedimentation go hand-in-hand. Both are serious problems to lot owners and the community in general. Erosion removes topsoil and creates gullies greatly increasing the cost of establishing grass.

Sediment that leaves a construction site clogs roads, fills culverts, storm sewers, road ditches and chokes vegetation. Sediment also pollutes streams, rivers and lakes. It spoils wildlife and fish habitat. Sediment is expensive to remove once it has settled in the bottom of a lake.

HOW MUCH SOIL EROSION OCCURS FROM A BUILDING LOT?

The following information provides some low cost, practical methods that a lot owner can use to minimize the erosion and resulting sedimentation that results from the development of a parcel of land.

In our area, a moderately sloping lot that has been stripped of vegetation and left bare from March through October while building is going on, can expect to lose about 5 to 15 tons of soil due to erosion. The soils we have in Madison County are high in clay and silt content. They erode very easily. When soils erode, the silt portion of the soil settles out in roads, ditches, ponds and lakes. The clay particles stay in suspension and can cause a body of water to appear brown and muddy. This valuable top soil, when in place is the foundation for the lawn and other plantings. When eroded this sediment is now a serious pollutant.

The first rule of erosion control is to keep the time the lot is void of vegetation to a minimum. Insist that your builder only disturb the least amount of area as possible at any given time.

The area that is being disturbed should also be kept as small as possible.

Lot owners can have a significant effect on the water quality of our community

It is not uncommon for building lots to experience over 15 tons of soil loss to erosion during the home building phase.

TEMPORARY SEEDING AND MULCHING

Vegetative methods of erosion control are the least expensive and usually the most effective. Establishing grass protects the soil from the impact of falling rain and holds the soil in place. Temporary seeding and mulch provide a quick cover to control erosion before the final grading and landscaping has occurred.

SEEDING

An adequate seed bed should be prepared first by raking or roto-tiling. Here are some good mixtures to establish a temporary seeding.

Species	Rate per 1000 sq. ft.	Seeding Dates
Oats	3 pounds	Early Spring – July 1
Cereal Rye	3 pounds	Early Spring - Oct. 15
Wheat	3 pounds	Early Spring – Oct. 15
Perennial Ryegrass	6 pounds	Early Spring – Oct. 15

MULCHING

The seed should also be applied with an adequate cover of mulch. The mulch acts as an **Immediate** barrier to protect the soil as the grass is getting established. **It is the single most important measure a lot owner should do to control erosion.**

Straw is the most widely used mulch. It should be applied at a rate of about 90 pounds per 1000 square feet. Straw can be applied by hand or applied mechanically by use of a straw blower.

The straw must be anchored by one of the following methods:

- ◆ Mulch anchoring tool such as a crimper or disc
- ◆ Plastic mulch netting, properly stapled in place.
- ◆ Liquid mulch binder
- ◆ As an alternative to these, water can be applied to keep the mulch in place

Another type of mulch are **erosion control blankets**. These are prefabricated rolls of natural or synthetic fiber material that is sandwiched between permanent or degradable netting. Strips of the blanket are rolled down the hill and anchored to the soil with degradable staples.

The most cost effective method to control erosion is to quickly establish a temporary seeding with an adequate mulch.

Mulch provides immediate erosion control and should be applied any time during the year.

SEDIMENT CONTROL BY USE OF SILT FENCE

Silt fences are a type of sediment trap. They are installed around the perimeter of a construction site. Their purpose is to catch sediment in the runoff water. By holding the runoff temporarily, they allow some of the silt to settle out. When installed properly they can remove about 40% of the silt from the water. Silt fences are a barrier to runoff and should be installed across the slope of the land.

Here are some of the factors that go into a successful installation:

- The lower end of the mesh fiber should be trenched into the ground about 9-12 inches.
- Wooden stakes should support the fence and should be installed every 5 feet on the downhill side of the fence.
- They should not be used where water will concentrate into a gully.
- Silt fence should be installed prior to soil disturbance.
- They should not be used around the inlet to storm sewers.
- Silt fence will need to be reset/replaced when it is about 1/3 full of silt.
- The maximum area draining into a silt fence should not exceed 0.5 acres.

Silt fences can be effective as a sediment retention device.

**STRAW BALES— BEST
ADVICE- DON'T USE
THEM!!!**

STRAW BALES SHOULD NOT BE USED AS AN EROSION OR SEDIMENT CONTROL PRACTICE. THEY CATCH VERY LITTLE SEDIMENT. WATER USUALLY RUNS UNDER OR AROUND THE BALES. BALES ONCENTRATE THE FLOW OF WATER. GULLY EROSION IS USUALLY WORSE WITH THE USE OF STRAW BALES.

DRAINAGE AROUND HOMES

- Most wetness problems are caused by homes built on soil with a *seasonally* high water table. (Not a spring)
- Foundation drains installed at or below the basement floor level are effective if outletted to a ditch or pipe that is lower and will drain by *gravity*.
- Sump pumps should be outletted to a storm sewer or natural drainage ditch
- Foundation drains that bring water back into the sump pump only provide temporary help. The water is simply recycled.

**MADISON COUNTY SOIL
AND WATER
CONSERVATION DISTRICT**

**7205 Marine Road
Edwardsville, IL. 62025**

**Phone: 618-656-7300
extension 3
Fax 618-656-9144**

DOWNSPOUT EXTENDERS

As soon as gutters and downspouts are in place, extensions of the downspouts should be installed. These should extend to a grass or paved area in order to minimize erosion. They can be removed once the lawn is established.

WHERE TO GET HELP

Minimizing soil erosion is much more cost effective than catching sediment as the soil washes off of a building site.

Keeping soil on construction sites is vastly cheaper than cleaning up the sediment caused by soil erosion. When sediment is allowed to run off construction sites the community bears the burden of cleaning up the choked streams, culverts, ditches, lakes and ponds.

The methods covered here have proved to be effective in many communities throughout Illinois.

For more information about erosion control methods and sediment pollution control methods for building sites contact::

Controlling soil erosion is one of the most positive environmental actions a homeowner can do.

The Madison County Soil and Water Conservation District
7205 Marine Road
Edwardsville, IL. 62025

phone 656-7300 ext. 3
Fax 656-9144