

EROSION CONTROL FOR HOMEBUILDERS

February 2006

Controlling Erosion is Easy...But Important Because.....

Eroding construction sites are a leading cause of water quality problems in Illinois. For every acre under construction, about a dump truck and a half of soil washes into nearby lakes or streams.

Problems caused by this sediment include:

Increased Flooding—Sediment build-up lowers the flow capacity of channels causing more frequent flooding in areas that rarely or never flooded in the past.

Water Quality Impairment - Sediment-laden runoff transfers nutrients and other pollutants to downstream lakes and rivers degrading aquatic habitats and increasing costs for water treatment.

Financial burden to taxpayers - Sediment that finds its way into streets, storm sewers, and ditches results in additional maintenance costs for local, state, and federal governments.



Photo: Courtesy of USDA-NRCS—Plainfield

Erosion control is important even for home sites of an acre or less. The materials needed are easy to find and relatively inexpensive - straw, silt fence, stakes, gravel, plastic tubes, and grass seed. Putting these materials to use is a straightforward process. Only a few controls are needed on most sites:

Simple ... but Effective Controls Include

Preserving existing trees and grass where possible;

Silt fence to trap sediment on the down slope sides of the lot and soil piles;

Soil piles located away from any roads or waterways;

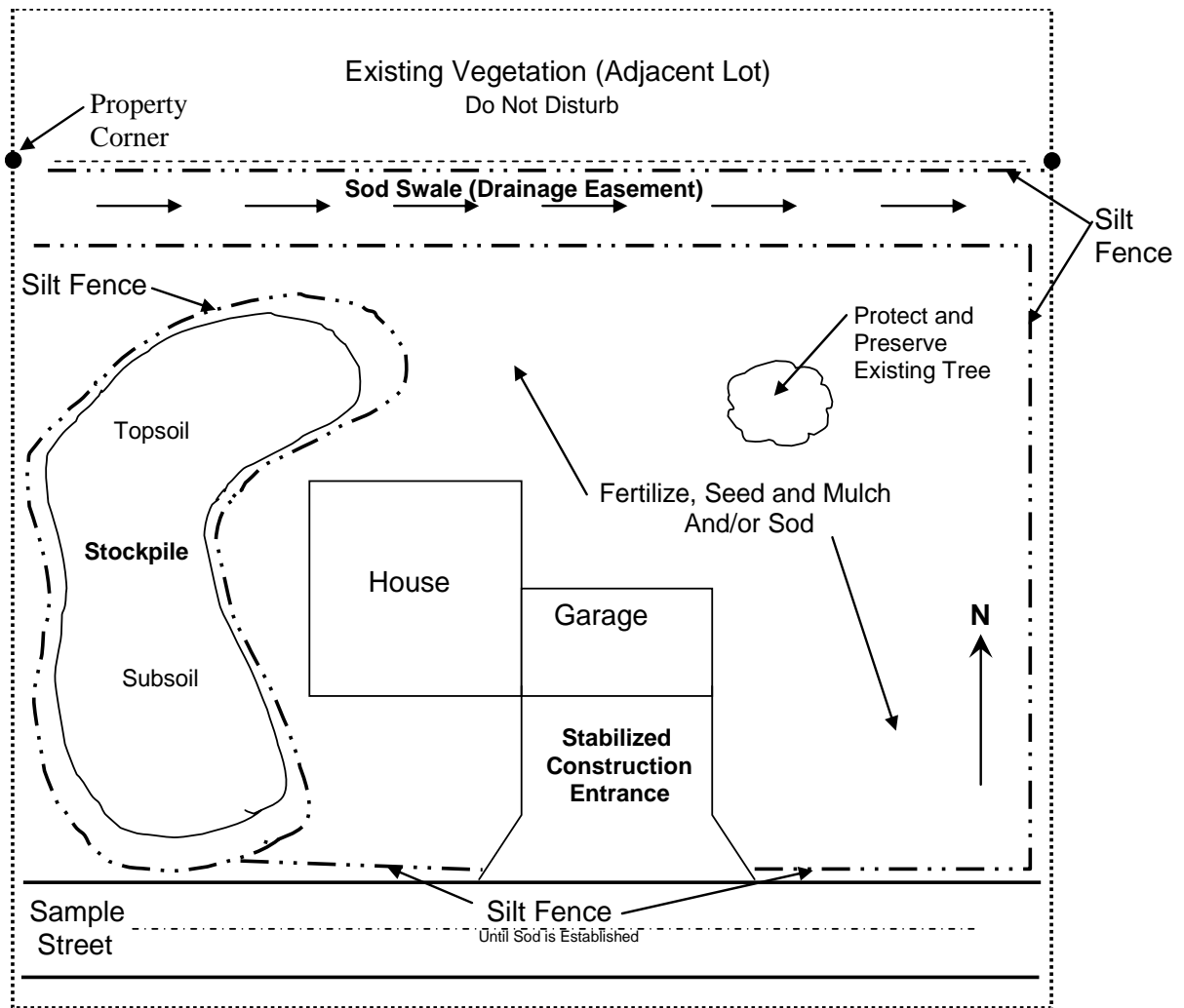
Gravel drive used by all vehicles to limit tracking of mud onto streets;

Cleanup of sediment carried offsite by vehicles or storms;

Downspout extenders to prevent erosion from roof runoff; and

Re-vegetating the site as soon as possible.

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WARNING- Extra measures may be needed if your site:

Is within 300 feet of a stream or wetland
 Is within 1000 feet of a lake
 Has a waterway or ditch

Is steep (slopes of 12% or more)
 Received runoff from 10,000 sq. ft. or more of adjacent land
 Has more than an acre of disturbed ground

This fact sheet includes the diagrams and step-by-step instructions needed by builders on most home sites. Additional controls may be needed for sites that have steep slopes are adjacent to lakes and streams, receive a lot of runoff from adjacent land, or are larger than an acre.

If you need help developing an erosion control plan, assistance is available from your local Soil and Water Conservation District office and the U.S.D.A. Natural Resources Conservation Service staff.

Kankakee County SWCD 815-937-8940 x 3

SILT FENCES

Put up before any other work is done. Install on down slope enough to allow water to pond behind fence. Excavate a 6 inches wide by 6 inches deep trench along the contour of the slope. An additional 6 inches of fabric should extend along the bottom of the trench in the upslope direction. Inspect and repair once a week and after every ½ inch rain. Remove sediment if deposits reach one third the fence height. Maintain until a lawn is established, then remove.

SOIL PILES

Locate away from any down slope street, driveway, stream, lake, wetland, ditch or drainage way. Place a silt fence around all stockpiles. Temporary seeding such as annual rye or winter wheat, is recommend for piles during fall construction season.

STABILIZED CONSTRUCTION ENTRANCE

Install a single access “gravel drive” using 2-3 inch aggregate. Lay stone 6 inches deep, at least as wide as the ingress and egress (14 ft. minimum, and extend from the foundation to the street (30 ft. minimum). Use to prevent tracking mud onto the road by all vehicles. Maintain throughout construction.

SEDIMENT CLEANUP

By the end of each work day, sweep or scrape up soil tracked onto the road. By the end of the next work day after a storm clean up the soil washed off-site.

DOWNSPOUT EXTENDERS

Not required, but highly recommended. Install as soon as gutters and downspouts are complete to prevent erosion from roof runoff. Use plastic drainage pipe to route water to a grassed or paved area. Maintain until a lawn is established.

STORM SEWER INLET PROTECTION

Protect on-site storm sewer inlets with silt fences or equivalent measures. Inspect, repair and remove sediment deposits after every storm.

PRESERVE EXISTING VEGETATION

Wherever possible, preserve existing trees, shrubs and other vegetation. To prevent root damage, do not grade, place soil piles, or park vehicles near trees marked for preservation. Place plastic mesh or snow fence barriers around trees to protect the area below their branches.

SEEDING AND MULCHING

Spread 4-6 inches of topsoil. Fertilize and lime if needed according to soil test, or apply 25 lbs per 1000 square feet of 12-12-12- fertilizer. Seed with an appropriate mix for the site (see table on back page). Rake lightly to cover seed with ¼ inch of soil - roll lightly. Mulch with straw (90 lbs per 1000 sq. ft.)

Anchor mulch by punching into the soil, watering or by using netting or other measures on steep slopes. Water gently every day or two to keep soil moist. Less watering is needed once grass is 2 inches tall. Add maintenance fertilizer annually in split application as needed for seeding.

SODDING

Spread 4 to 6 inches of topsoil. Fertilize and lime if needed according to soil test (or apply 10 lb./1000 sq. ft. of 10-10-10- fertilizer). Lightly water the soil. Lay sod. Tamp or roll lightly. On slopes, lay sod starting at the bottom and work toward the top, laying in a brickwork pattern. Peg each piece down in several places. Initial watering should wet soil 4 inches deep below sod (or until water stands 1 inch deep in a straight-sided container). Then water lightly every day or two to keep soil moist but not saturated for 2 weeks. Generally, the best times to sod or seed are early spring (April 1-May 15) or fall (Aug. 1-Sept. 15). Add maintenance fertilizer annually in split application as needed for sod.

If construction is completed after September 15, final seeding should be delayed. Sod may be laid until November 15. Temporary seed (such as rye or winter wheat) may be planted until October 15. Mulch or matting may be applied after October 15, if weather permits. Silt fences must be maintained until final seeding or sodding is completed in spring. (by June 1)

COMMONLY USED EROSION CONTROLS TEMPORARY AND PERMANENT SEEDING

The following chart is intended to provide general information on establishing temporary vegetative cover and permanent lawns

Temporary Seeding Chart

Permanent Seeding Chart

Species	Rate/1000 sq ft.		Species	Rate/1000 sq. ft.
Cereal (annual ryegrass)	2 lbs (90 lbs/acre)		Kentucky Blue Grass Blend Min. 3 varieties	2-3 lbs
Oats	2 lbs. (90 lbs./acre)		Kentucky Blue Grass Perennial Ryegrass mix 2:1	3-4 lbs
Wheat	2 lbs. (90 lbs/acre)		Kentucky Bluegrass Fine Fescue mix 2.5:1 Shade	3-5 lbs
Perennial Ryegrass	0.6 lbs (25 lbs/acre)		Tall Fescue Blend High Traffic Areas or Hot Dry sites	5-6 lbs.

MULCHING — Used to provide temporary erosion protection

Shape and grade as required, while removing all rocks, clods and debris. Spread mulch uniformly at a rate of 90 lbs. per 1000 square feet of bare ground. No more than 25% of ground should be visible.

Anchor mulch immediately, using one of the following ways:

Staple degradable plastic, polyester or paper netting over mulch, with a 4-6 inch overlap at edges, installed according to manufacturer's recommendations;

Crimp or punch mulch into soil 2-4 inches by using either a mulch anchoring tool or farm disk operating on the contour of the slope OR by cleating with dozer tracks operating up and down slopes (to prevent tracks forming gullies);

Apply synthetic tackifier, binder or soil stabilizer according to manufacturer's recommendations.

Maintain adequate coverage by checking after rain events and reapplying when needed. Continue inspections and maintenance until permanent vegetation is established.