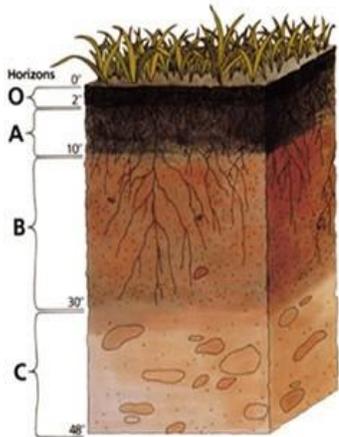




GENERAL PERMIT NO. 2 TOPSOIL REQUIREMENTS

What is Topsoil?

Topsoil is the uppermost, fertile layer of soil that is dark, loose and is free of rocks and debris. It is typically high in organic matter (at least 3%) and low in clay content (less than 25%). Topsoil is not sticky and will not ribbon more than an inch if rolled between fingers.



Topsoil is the uppermost soil layer. (NRCS)



Dark and loose topsoil.



Rain water oozing under recently planted turf due to poor topsoil quality and compaction.



Storm sewer outlet to a local stream.

Why Preserve Topsoil?

Uncompacted topsoil is like a sponge and has the greatest capacity of any soil layer to absorb and infiltrate rainfall into the ground. Greater infiltration of rainwater reduces the amount of runoff that discharges to the storm sewer system and eventually to local streams and lakes. Reduced runoff minimizes flashy flows to local streams that results in eroded streambanks and unstable channels. It also reduces the amount of chemical and physical pollutants from impervious surfaces that are carried along with runoff into the storm sewer system. The organic matter in topsoil provides the nutrients and available water to sustain a lawn and plants resulting in less irrigation and fewer fertilizers. The more topsoil the better.

What's Required by Law in General Permit No. 2?

Iowa DNR's General Permit No. 2, states that the permittee shall "minimize soil compaction and unless infeasible, preserve topsoil."

"Infeasible" shall mean not technologically possible, or not economically practicable and achievable in light of the best industry practices. "Unless infeasible, preserve topsoil" shall mean that, unless infeasible, topsoil from any areas of the site where the surface of the ground for the permitted construction activities is disturbed shall remain within the area covered by the applicable General Permit No. 2 authorization.

Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted.

Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed.

The topsoil preservation requirements described above must be met no later than at the time the lot or lots have reached final stabilization.



Erosion control blankets used for stockpile protection. (bluebook.com)



Spaders work great for decompacting soils.



Penetrometer used to measure soil compaction.



Compost added as topsoil amendment.

What are SUDAS Requirements?

Any development plans submitted to the City shall comply with Statewide Urban Design and Specifications (SUDAS). A minimum of 8 inches of topsoil shall be placed over the disturbed area prior to final stabilization with permanent seeding (minimum of 6 inches for sodding) (SUDAS Design Manual Chapter 7 Section 7E-24 & Section 7E-25). On-site topsoil shall be used unless compost-amended or off-site topsoil is specified. Off-site topsoil may be allowed upon approval of the city engineer. The topsoil may be moved directly to an area where it is to be used, or may be stockpiled for future use (SUDAS Specifications Manual Division 2 Part 2.01 & Part 3.02).

Provide Stockpile Protection

Stockpiles need to be protected throughout the construction project to minimize erosion. Straw mulch, hydromulch, erosion control blankets, and tarps can be used to provide protection. Per City's code, Sec 24-306 c. 2, stockpiles should also have sediment controls (silt fence, wattles, etc).

Decompact Soils First

Decompact subsurface soils before adding topsoil. A soil ripper (used in agricultural fields), soil spader or tilling equipment can be used to decompact soils. Then respread topsoil at a depth specified by local requirements. Care should be taken when respreading topsoil to provide a good bed that is decompact as well. There is final finishing equipment that can be used for this. A soil penetrometer can be used to monitor soil compaction. Recommendations are to have readings less than 200 psi in the top 8 inches to ensure that grasses and plants will thrive.

What if More Topsoil is Needed?

Compost can be used in place of topsoil. One inch of compost is equal to three inches of topsoil as indicated in Iowa SUDAS. The Iowa Stormwater Management Manual, Design Guidelines, Chapter 5, Section 6 on Soil Quality Management and Restoration provides guidance on additional soil quality restoration methods to achieve 8 inches of a healthy topsoil. Additional guidance is provided for amending to create other soil textures.

More Information

Contact your local stormwater coordinator or visit www.IowaStormwater.org for more information on topsoil regulations. Learn More, Do More!



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