



Topsoil Sampling Policy and Procedure

Revision #	
Implementation Date	3/9/2023
Last Reviewed/Update Date	3/9/2023
Resolution #	31241

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1. Purpose

An adequate amount of topsoil is important for sustained vegetation growth without the need for excess irrigation or fertilizer. Healthy topsoil also infiltrates water faster and produces less stormwater runoff than the glacial till clays often found below topsoil in Marion. It takes several decades to form an inch of topsoil, so if topsoil is permanently stripped from a building site, the site may not reestablish its previous soil conditions for hundreds of years.

The City of Marion has adopted Statewide Urban Design and Specifications (SUDAS), which calls for a minimum topsoil depth of six inches. Enforcement of compliance on this rule has been challenging in recent years. The purpose of this policy is to establish a consistent and standardized way to test for topsoil compliance with SUDAS on building sites within the City.

2. Scope

This policy will be applied to all sites that are required to obtain an erosion control permit – either minor or major. In cases where a common plan of development applies for a major erosion control permit, this procedure will apply to all individual building sites within the common plan of development covered by the major erosion control permit.

3. Responsibilities

Marion's Stormwater Coordinator or Environmental Specialist will be responsible for testing for topsoil and communicating the test results to the site contact.

If a waiver for topsoil depth is requested, the site contact or owner of the common plan of development will be responsible for providing the materials necessary for a waiver. See *Policy and Procedure* section for further details.

4. Policy and Procedure

Topsoil testing

Building sites and construction projects that have their erosion control permits (minor or major) approved after 5/1/23 will be subject to the testing and enforcement actions outlined below. Individual lots within a common plan of development will not be subject to enforcement unless the major erosion control permit for the common plan of development was approved after 5/1/2023.

When a topsoil inspection is requested for a building site as part of the building inspection process, the inspector will take soil probe cores to a depth of eight inches at four random locations on the site. For sites with an area larger than ¼ acre, more cores may be taken. Cores will not be taken within drainage easements. The site contact may request to be present when the soil cores are taken. If sod has already been laid on the site, the upper inch of the core will not be counted towards the topsoil depth.



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If more than ½ of the cores taken have less than six inches of topsoil or the mean depth of topsoil in the cores is less than five inches, the inspection will be failed, and the site contact will be notified.

If an inspection is failed, the site contact will have two options:

- 1) Add topsoil or compost to meet the topsoil depth requirement of six inches. In accordance with SUDAS, one inch of compost from an approved source will qualify as three inches of topsoil. If adding topsoil or compost on top of sod, the sod must be aerated to allow the topsoil or compost to reach the subsurface. Once the topsoil or compost is added, a reinspection must be requested.
- 2) Request an appeal of the failed inspection. If an appeal is made, soil on the site will be tested for compliance with the percent organic matter standard set by SUDAS. For this step, the inspector will take new cores in the vicinity of the original cores to a depth of six inches. The site contact may request to be present when the soil cores are taken. The collected cores will be sent to a lab as a composite sample to be tested for percent organic matter. If the composite sample's organic matter exceeds three percent, the result of the inspection will be changed to a pass. If lab results show less than three percent organic matter in the sample, more topsoil or compost will have to be added to the site and the site will need to be reinspected.

The site contact will be responsible for the cost of the soil organic matter test, set by the City of Marion's schedule of fees. The site contact will be refunded if the test shows that the topsoil exceeds three percent organic matter.

Enforcement

The final occupancy permit for a building will not be issued until the topsoil inspection is passed; however, the results of the topsoil inspection will not impact the issuance of temporary occupancy permits.

Residential Cost-Sharing Program rebate funds for stormwater best management practices cannot be utilized for sites with erosion control permits approved after 5/1/23 unless the topsoil inspection has been passed.

Waiver for topsoil depth

In cases where individual lots within a common plan of development are required to meet topsoil requirements, the owner of the larger plan of development may have topsoil depth requirements for all individual lots waived by showing that less than six inches of topsoil were on the larger plan of development to begin with. If the waiver is granted, topsoil requirements for the site will be waived.

Acceptable ways to show preexisting soil depths on the site are as follows:

1. A soil report for the development's pre-grading soil conditions.



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- Calculating the volume of the topsoil stockpile using surveying equipment immediately after grading is completed in the development and before any topsoil is taken off site.
- Any other method approved by the inspector.

Information provided for a waiver must be prepared and approved by a licensed surveyor, engineer, or other professional approved by the inspector.

If the owner of the common plan of development of a site does not provide evidence that less than six inches of topsoil were initially present on the site, all individual lots within the site will be required to meet the six-inch topsoil depth requirement.

Individual building sites may also use the same process to obtain a topsoil depth waiver if they are not a part of a common plan of development or if the topsoil on the site was not disturbed by the grading of the original common plan of development.

5. Definitions

Core: A soil column collected by a manual push soil probe.

Inspector: Marion’s Stormwater Coordinator or Environmental Specialist.

Site contact: Person whose contact information is included in a site’s minor/major erosion control permit application or person designated by this individual to handle activity on a job site.

SUDAS: The Iowa Statewide Urban Design and Specifications

Topsoil: The definition for off-site topsoil from the SUDAS Standard Specifications is used to define topsoil and is included below:

Contains at least 3% organic matter, according to ASTM D 2974, has a high degree of fertility, is free of herbicides that prohibit plant growth, has a pH level between 6.0 and 8.0, and meets the following mechanical analysis requirements:

Sieve	Percent passing
1"	100
½"	95 to 97
¼"	40 to 60
No. 100	40 to 60
No. 200	10 to 30

6. Contact

For questions or comments regarding this policy, please contact the engineering department at 319-743-6340.