

ARTICLE B: STANDARDS

Sec. 16-1-11 Standards

All nonmetallic mining sites subject to this chapter shall be reclaimed in conformance with the standards contained below.

(a) **General Standards.**

1. **REFUSE AND OTHER SOLID WASTES.** Nonmetallic mining refuse shall be reused in accordance with a reclamation plan. Other solid wastes shall be disposed of in accordance with applicable rules of the Wisconsin Department of Natural Resources adopted pursuant to chs. 289 and 291, Stats.
2. **AREA DISTURBED AND CONTEMPORANEOUS RECLAMATION.** Nonmetallic mining reclamation shall be conducted, to the extent practicable, to minimize the area disturbed by nonmetallic mining and to provide for nonmetallic mining reclamation of portions of the nonmetallic mining site while nonmetallic mining continues on other portions of the nonmetallic mining site.
3. **PUBLIC HEALTH, SAFETY AND WELFARE.** All nonmetallic mining sites shall be reclaimed in a manner so as to comply with federal, state and local regulations governing public health, safety and welfare.
4. **HABITAT RESTORATION.** When the land use required by the reclamation plan approved pursuant to this chapter requires plant, fish or wildlife habitat, it shall be restored, to the extent practicable, to a condition at least as suitable as that which existed before the lands were affected by nonmetallic mining operations.
5. **COMPLIANCE WITH ENVIRONMENTAL REGULATIONS.** Reclamation of nonmetallic mining sites shall comply with any other applicable federal, state and local laws including those related to environmental protection, zoning and land use control.

Note: Other applicable environmental, zoning or land use regulations may include Chapters NR 103, 115, 116, 117, 205, 216, 269, 105, 106, 140, 150, 151, 340, 500-590, and 812, Wisconsin Administrative Code, chs. 30 and 91, Stats., and Section 404 of the Clean Water Act (33 USC s. 1344), which may be applicable to all or part of either an existing or proposed nonmetallic mining project, so long as they do not require or

directly regulate the reclamation of nonmetallic mining sites as addressed under Subchapter I of Chapter 295, Stats .

- (b) **Surface Water and Wetlands Protection.** Nonmetallic mining reclamation shall be conducted and completed in a manner that assures compliance with the Wisconsin Department of Natural Resources' water quality standards for surface waters and wetlands contained in Chapters NR 102 to NR 105, Wisconsin Administrative Code. Before disturbing the surface of a nonmetallic mining site and removing topsoil, all necessary measures for diversion and drainage of runoff from the site to prevent pollution of waters of the state shall be installed in accordance with the reclamation plans approved pursuant to this chapter. Diverted or channelized runoff resulting from reclamation may not adversely affect neighboring properties.
- (c) **Groundwater Protection.**
1. **GROUNDWATER QUANTITY.** A nonmetallic mining site shall be reclaimed in a manner that does not cause a permanent lowering of the water table that result in adverse effects on surface waters or a significant reduction in the quantity of groundwater reasonably available for future users of groundwater.
 2. **GROUNDWATER QUALITY.** Nonmetallic mining reclamation shall be conducted in a manner which does not cause groundwater quality standards in Chapter NR 140, Wisconsin Administrative Code to be exceeded at a point of standards application defined in that chapter.
- (d) **Topsoil Management.**
1. **REMOVAL.** Topsoil and topsoil substitute material shall be provided as specified in the reclamation plan approved pursuant to this chapter in order to achieve reclamation to the approved post-mining land use. Removal of on-site topsoil and topsoil substitute material removal, when specified in the reclamation plan, shall be performed, prior to any mining activity associated with any specific phase of the mining operation.
 2. **VOLUME.** The operator shall obtain the volume of soil required to perform final reclamation by removal of on-site topsoil or topsoil substitute material or by obtaining topsoil or substitute material as needed to make up the volume of topsoil as specified in the reclamation plan approved pursuant to this chapter.

Note: Existing resources that may be used to identify the soil present on a site include the County Soil Surveys and information obtained from a soil scientist or the University of Wisconsin Soil Science Extension Agent or other available resources. Topsoil or topsoil substitute material shall be removed from areas to be affected by mining operations to the depth indicated in the reclamation plan or as determined in the field by a soil scientist, project engineer or other qualified professional.

3. **STORAGE.** Once removed, topsoil or topsoil substitute material shall, as required by the reclamation plan approved pursuant to this chapter, either be used in contemporaneous reclamation or stored in an environmentally acceptable manner. The location of stockpiled topsoil or topsoil substitute material shall be chosen to protect the material from erosion or further disturbance or contamination. Runoff water shall be diverted around all locations in which topsoil or topsoil substitute material is stockpiled.
- (e) **Final grading and slopes.**
1. All areas affected by mining shall be addressed in the approved reclamation plan, pursuant to sec. 16-1-13 to provide that a stable and safe condition consistent with the post-mining land use is achieved. The reclamation plan may designate highwalls or other unmined and undisturbed natural solid bedrock as stable and safe and not in need of reclamation or designate other areas affected by mining including slopes comprised of unconsolidated materials that exceed a 3:1 slope, whether or not graded, as stable and safe. For slopes designated as stable under this subsection, the regulatory authority may require that either: a site-specific engineering analysis be performed by a registered professional engineer to demonstrate that an acceptable slope stability factor is attainable at a steeper slope, or the operator perform a field test plot demonstration to demonstrate that a stable and safe condition will be achieved and that the post-mining land use specified in the reclamation plan will not be adversely affected.
 2. Final reclaimed slopes covered by topsoil or topsoil substitute material may not be steeper than a 3:1 horizontal to vertical incline, unless found acceptable through one or more of the following: alternative requirements are approved under sec. 16-1-18; steeper slopes are shown to be stable through a field plot demonstration approved as part of an approved reclamation plan; or stable slopes can be demonstrated based on site-specific engineering analysis performed by a registered professional engineer. All areas in the nonmetallic mine site where topsoil or topsoil substitute material is to be reapplied shall be graded or otherwise prepared prior to topsoil or topsoil substitute material redistribution to

provide the optimum adherence between the topsoil or topsoil substitute material and the underlying material.

3. When the approved post-mining land use includes a body of water, the approved final grade at the edge of a body of water shall extend vertically 6 feet below the lowest seasonal water level. A slope no steeper than 3:1 shall be created at a designated location or locations, depending on the size of the water body to allow for a safe exit.
- (f) **Topsoil Redistribution for Reclamation.** Topsoil or topsoil substitute material shall be redistributed in accordance with the reclamation plan approved pursuant to this chapter in a manner which minimizes compaction and prevents erosion. Topsoil or topsoil substitute material shall be uniformly redistributed except where uniform redistribution is undesirable or impractical. Topsoil or topsoil substitute material redistribution may not be performed during or immediately after a precipitation event until the soils have sufficiently dried.
- (g) **Revegetation and Site Stabilization.** Except for permanent roads or similar surfaces identified in the reclamation plan approved pursuant to this chapter, all surfaces affected by nonmetallic mining shall be reclaimed and stabilized by revegetation or other means. Revegetation and site stabilization shall be in accordance with the approved reclamation plan and shall be performed as soon as practicable after mining activity has permanently ceased in any part of the mine site.

Note: Field test plot demonstrations are highly recommended to ensure that reclamation success standards are met and financial assurance is released as quickly as possible. When field test plots are employed they should be approved as part of the reclamation plan under sec. 16-1-13.

- (h) **Assessing Completion of Successful Reclamation.**
1. The criteria for assessing when reclamation is complete and, therefore, when the financial assurance may be released shall be specified in the reclamation plan approved pursuant to this chapter. Criteria to evaluate reclamation success shall be quantifiable.
 2. Compliance with the revegetation success standards in the approved reclamation plan shall be determined by:
 - a. On-site inspections by Bayfield County or its agent;
 - b. Reports presenting results obtained during reclamation evaluations including summarized data on revegetation, photo-documentation or

other evidence that the criteria approved in the reclamation plan to ascertain success have been met; or

- c. A combination of inspections and reports.
3. In those cases where the post mining land use specified in the reclamation plan requires a return of the mining site to a pre-mining condition, the operator shall obtain baseline data on the existing plant community for use in the evaluation of reclamation success pursuant to this section.
 4. Revegetation success may be determined by:
 - a. Comparison to an appropriate reference area;
 - b. Comparison to baseline data acquired at the mining site prior to its being affected by mining; or
 - c. Comparison to an approved alternate technical standard.
 5. Revegetation using a variety of plants indigenous to the area is favored.
- (i) **Intermittent Mining.** Intermittent mining may be conducted provided that the possibility of intermittent cessation of operations is addressed in an operator's reclamation permit, no environmental pollution or erosion of sediments is occurring, and financial assurance for reclamation pursuant to sec. 16-1-14 is maintained covering all remaining portions of the site that have been affected by nonmetallic mining and that have not been reclaimed.
 - (j) **Maintenance.** During the period of the site reclamation, after the operator has stated that reclamation is complete but prior to release of financial assurance, the operator shall perform any maintenance necessary to prevent erosion, sedimentation or environmental pollution, comply with the standards of this subchapter, or to meet the goals specified in the reclamation plan approved pursuant to this chapter.