CHAPTER 69-05.2-18
PERFORMANCE STANDARDS - DISPOSAL OF EXCESS SPOIL

Section
69-05.2-18-01 Performance Standards - Disposal of Excess Spoil - Requirements

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In addition to satisfying subsection 19 of North Dakota Century Code section 38-14.1-24, the operator shall:

1. Place excess spoil from the initial pit and excess spoil not needed to meet the grading requirements of section 69-05.2-21-02 in approved designated disposal areas within a permit area. The spoil must be placed in a controlled manner to ensure:

   a. That leachate and surface runoff from the disposal area will not degrade surface or ground waters or exceed effluent limitations.

   b. Stability of the disposal area.

   c. That the land mass designated as the disposal area is suitable for reclamation and revegetation compatible with the natural surroundings.

2. Design the fill and appurtenant structures using current, prudent engineering practices and meet any design criteria established by the commission. A qualified registered professional engineer experienced in the design of earth and rock fills shall certify the design of the fill and appurtenant structure.

3. Clear all vegetative and organic materials from the disposal area and handle suitable plant growth material according to chapter 69-05.2-15. If approved by the commission, organic material may be used as mulch or included in the suitable plant growth material to control erosion, promote growth of vegetation, or increase soil moisture retention.

4. Divert surface water runoff from the area above the disposal area into stabilized diversion channels designed to meet the requirements of sections 69-05.2-16-06 and 69-05.2-16-07.

5. Transport and place excess spoil in a controlled manner in horizontal lifts not exceeding four feet [1.22 meters] thick; concurrently compact to ensure mass stability and prevent mass movement during and after construction; grade so that surface and subsurface drainage is compatible with natural surroundings; and cover with suitable plant growth material. The commission may approve a design which employs other than four-foot [1.22-meter] lifts of excess spoil if it is demonstrated by the operator and certified by a qualified registered professional engineer that the design will ensure stability of the fill and meet all other applicable requirements.

6. Provide slope protection to minimize surface erosion at the site. Diversion design must meet the requirements of section 69-05.2-16-06. All disturbed areas, including diversion ditches that are not riprapped, must be vegetated upon completion of construction.

7. Not direct drainage over the outslope of the disposal area without commission approval.

8. Locate the disposal area on the most naturally stable area available as approved by the commission. Where possible, fill materials suitable for disposal must be placed upon or above a natural terrace, bench, or berm if the placement provides additional stability.

9. Construct the disposal area to ensure a long-term static safety factor of 1.5.

10. Not allow depressions or impoundments on the completed disposal area.

11. Utilize terraces to control erosion and enhance stability if approved by the commission and consistent with section 69-05.2-21-02.

12. Inspect the disposal area as follows:

    a. Each disposal area must be inspected for stability by a registered professional engineer at least quarterly throughout construction and during critical construction periods. Critical construction periods include: foundation preparation including removal of all organic material and suitable plant growth material, placement of underdrainage systems, installation of surface drainage systems, placement and compaction of fill materials, and the final graded and revegetated fill. The registered professional engineer shall provide a certified report to the commission within two weeks after each inspection that the disposal area has been constructed as specified in the design approved by the commission. The report must include appearances of instability, structural weakness, and other hazardous conditions.

    b. The certified report on the drainage system and protective filters must include color photographs taken during and after construction but before the underdrains are covered with excess spoil. If the underdrain system is constructed in phases, each phase must be certified separately.

    c. Where excess durable rock spoil is placed in single or multiple lifts such that the underdrain system is constructed simultaneously with the excess spoil placement by the natural segregation of dumped materials, color photographs must be taken of the underdrain as the underdrain system is being formed.

    d. The photographs accompanying each certified report must be taken in adequate size and number with enough terrain or other physical features of the site shown to provide a relative scale to the photographs and to specifically and clearly identify the site.

    e. A copy of the report must be retained at the minesite.

13. Provide an underdrain system, if required by subsection 19 of North Dakota Century Code section 38-14.1-24, that is protected by an adequate filter and designed and constructed using standard geotechnical engineering methods. Underdrains must consist of nondegradable, non-toxic-forming rock such as natural sand and gravel, sandstone, limestone, or other durable rock that will not slake in water and will be free of coal, clay, or shale.

14. Ensure the foundation and abutments of the disposal area are stable under all conditions of construction and operation. Sufficient foundation investigation and laboratory testing must be performed to determine the design requirements for stability of the foundation. Where the slope of the disposal area exceeds 1v:5h (twenty percent), the existing ground must be plowed, stepped, or keyed in a manner which increases the stability of the disposal area.

15. Construct the outslope of the disposal area to not exceed 1v:2h (fifty percent) or a lesser slope required by the commission.

History: Effective August 1, 1980; amended effective May 1, 1990; May 1,1992.
General Authority: NDCC 38-14.1-03
Law Implemented: NDCC 38-14.1-24