

**199—9.5(479,479B) Restoration of agricultural lands.****9.5(1) *Topsoil survey.***

*a.* Prior to the removal of any topsoil, the pipeline company shall direct that a topsoil survey be performed under the supervision of a certified professional soil scientist across the full extent of the easement for any pipeline that requires a commission permit. A minimum of three soil depths shall be physically measured in the field at each cross section as follows: (1) one on the left edge of the easement; (2) one at 15 feet of the centerline of the pipeline on the working side of the right-of-way; and (3) one on the right edge of the working easement. Cross sections shall be taken a minimum of every 500 linear feet for the full extent of the easement. Each parcel of land shall have a minimum of two cross sections.

*b.* The pipeline company shall provide the results of the topsoil survey to the county board of supervisors, county inspector, county engineer, and affected persons at least six weeks prior to commencing construction.

**9.5(2) *Topsoil separation and replacement.***

*a. Removal.* Topsoil removal and replacement in accordance with this rule is required for any open excavation associated with pipeline construction unless otherwise provided in these rules. The actual depth of the topsoil, as determined by a topsoil survey, shall be stripped from the full extent of the easement. Topsoil shall also be removed and replaced in accordance with these rules at any location where land slope or contour is significantly altered to facilitate construction. Topsoil removal shall not occur during wet conditions.

*b. Soil storage.* The topsoil and subsoil shall be segregated, stockpiled, and preserved separately during subsequent construction operations. The stored topsoil and subsoil shall have sufficient separation to prevent mixing during the storage period. Topsoil shall not be used to construct field entrances or drives, or be otherwise removed from the property, without the written consent of the landowner. Topsoil shall not be stored or stockpiled at locations that will be used as a traveled way by construction equipment without the written consent of the landowner.

*c. Stockpile stabilization.* Topsoil stockpiles shall be stabilized with seeding and mulch within 14 calendar days of stockpiling. Between October 15 and March 15, soil tackifier shall be used in place of seeding and mulch.

*d. Topsoil removal not required.* Topsoil removal is not required where the pipeline is installed by plowing, jacking, boring, or other methods that do not require the opening of a trench. If provided for in a written agreement between the pipeline company and the landowner, topsoil removal is not required if the pipeline can be installed in a trench with a top width of 18 inches or less.

*e. Backfill.* The topsoil and subsoil shall be replaced in the reverse order in which they were excavated from the trench. The depth of the replaced topsoil shall conform as near as possible to the depth of topsoil that was removed. Where excavations are made for road, stream, drainage ditch, or other crossings, the original depth of topsoil shall be replaced as near as possible.

**9.5(3) *Pumping of water from open trenches.***

*a.* In the event it becomes necessary to pump water from open trenches, the pipeline company shall pump the water in a manner that avoids damaging adjacent agricultural land. Damages from pumping water from trenches include, but are not limited to, inundation of crops and depositing of sediment in fields, pastures, and surface drains.

*b.* If water-related damages result from pumping water from trenches, the pipeline company shall either compensate the landowner for the damages or restore the land, pasture, surface drains, or similar land, to their preconstruction condition, at the landowner's discretion.

*c.* Written permission from the landowner is required before the pipeline company can pump water from trenches onto land outside of the pipeline company's easement.

*d.* All pumping of water shall comply with existing state drainage laws, local ordinances, and federal statutes.

**9.5(4) *Temporary and permanent repair of drain tile.***

*a. Pipeline clearance from drain tile.* Where underground drain tile is encountered, the pipeline shall be installed in such a manner that the permanent tile repair can be installed with at least 12 inches of clearance from the pipeline.

*b. Temporary repair.* The following standards shall be used to determine if temporary repair of agricultural drainage tile lines encountered during pipeline construction is required.

(1) Any underground drain tile damaged, cut, or removed and found to be flowing or which subsequently begins to flow shall be temporarily repaired as soon as practicable, and the repair shall be maintained as necessary to allow for its proper function during construction of the pipeline. The temporary repairs shall be maintained in good condition until permanent repairs are made.

(2) Any underground drain tile damaged, cut, or removed and found to not be flowing shall have the upstream exposed tile line screened or otherwise protected to prevent the entry of foreign material and small animals into the tile system. The downstream tile line entrance shall be capped or filtered to prevent entry of mud or foreign material into the line if water level rises in the trench.

*c. Marking.* Any underground drain tile damaged, cut, or removed shall be marked by placing a highly visible flag in the trench spoil bank directly over or opposite such tile. This marker shall not be removed until the tile has been permanently repaired and the repairs have been approved and accepted by the county inspector. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

*d. Permanent repairs.* Tile disturbed or damaged by pipeline construction shall be repaired to its original or better condition. Permanent repairs shall be completed within 14 days after the pipeline is installed in the trench and prior to backfilling of the trench over the tile line. The county inspector shall inspect each permanent repair for compliance with this chapter. If proper notice is given, construction shall not be delayed due to a county inspector's failure to be present on site. Permanent repair and replacement of damaged drain tile shall be performed in accordance with the following requirements:

(1) All damaged, broken, or cracked tile shall be removed.

(2) Only unobstructed tile shall be used for replacement.

(3) The tile furnished for replacement purposes shall be of a quality, size, and flow capacity at least equal to that of the tile being replaced.

(4) Tile shall be replaced using a laser transit, or similar instrument or method, to ensure that the tile's proper gradient and alignment are restored, except where relocation or rerouting is required for angled crossings. Tile lines at a sharp angle to the trench shall be repaired in the manner shown on Drawing No. IUC PL-1 at the end of this chapter.

(5) The replaced tile shall be firmly supported to prevent loss of gradient or alignment due to soil settlement. The method used shall be comparable to that shown on Drawing No. IUC PL-1 at the end of this chapter.

(6) Before completing permanent tile repairs, all tile lines shall be examined visually by televising on both sides of the trench over the full extent of the working easement to check for tile that might have been damaged or misaligned by construction equipment. If tile lines are found to be damaged, they must be repaired to operate as well after construction as before construction.

*e. Inspection.* Prior to backfilling of the applicable trench area, each permanent tile repair shall be inspected for compliance by the county inspector. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on site prior to backfilling.

*f. Backfilling.* The backfill surrounding the permanently repaired drain tile shall be completed at the time of the repair and in a manner that ensures that any further backfilling will not damage or misalign the repaired section of the tile line. The county inspector shall inspect that backfill for compliance with this chapter. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

*g. Subsurface drainage.* Subsequent to pipeline construction and permanent repair, if it becomes apparent the tile line in the area disturbed by construction is not functioning correctly or that the land adjacent to the pipeline is not draining properly, which can reasonably be attributed to the pipeline construction, the pipeline company shall make further repairs or install additional tile as necessary to restore subsurface drainage.

**9.5(5) Removal of rocks and debris from the easement.**

*a. Removal.* The topsoil, when backfilled, and the easement area shall be free of all rock larger than three inches in average diameter not native to the topsoil prior to excavation. Where rocks over three inches

in size are present, their size and frequency shall be similar to adjacent soil not disturbed by construction. The top 24 inches of the trench backfill shall not contain rocks in any greater concentration or size than exist in the adjacent natural soils. Consolidated rock removed by blasting or mechanical means shall not be placed in the backfill above the natural bedrock profile or above the frost line. In addition, the pipeline company shall examine areas adjacent to the easement and along access roads and shall remove any large rocks or debris that may have rolled or blown from the right-of-way or fallen from vehicles.

*b. Disposal.* Rock that cannot remain in or be used as backfill shall be disposed of at locations and in a manner mutually satisfactory to the company and the landowner. Soil from which excess rock has been removed may be used for backfill. All debris attributable to the pipeline construction and related activities shall be removed and disposed of properly. For the purposes of this rule, debris shall include spilled oil, grease, fuel, or other petroleum or chemical products. Such products and any contaminated soil shall be removed for proper disposal or treated by appropriate in situ remediation.

**9.5(6)** *Restoration after soil compaction and rutting.*

*a. Agricultural restoration.* Agricultural land, including off right-of-way access roads traversed by heavy construction equipment that will be removed, shall be deep tilled to alleviate soil compaction upon completion of construction on the property. If the topsoil was removed from the area to be tilled, the tillage shall precede replacement of the topsoil. At least three passes with the deep tillage equipment shall be made. Tillage shall be at least 18 inches deep in land used for crop production and 12 inches deep on other lands and shall be performed under soil moisture conditions that result in a maximum standard penetration test (SPT) reading of 300 psi pursuant to ASTM D1586-11 performed by a qualified person. Decompaction shall not occur in wet conditions. Upon agreement, this tillage may be performed by the landowners or tenants using their own equipment.

*b. Rutted land restoration.* Rutted land shall be graded and tilled until restored as near as practical to its preconstruction condition. Rutting shall be remedied before any topsoil that was removed is replaced.

**9.5(7)** *Restoration of terraces, waterways, and other erosion control structures.* Existing soil conservation practices and structures damaged by the construction of a pipeline shall be restored to the elevation and grade existing prior to the time of pipeline construction. Any drain tiles or flow diversion devices impacted by pipeline construction shall be repaired or modified as needed. Soil used to repair embankments intended to retain water shall be well compacted. Disturbed vegetation shall be reestablished, including a cover crop when appropriate. Restoration of terraces shall be in accordance with Drawing No. IUC PL-2 at the end of this chapter. The county inspector shall inspect restoration of terraces, waterways, and other erosion control structures for compliance with this chapter. If proper notice is given, construction shall not be delayed due to an inspector's failure to be present on the site.

**9.5(8)** *Revegetation of untilled land.*

*a. Crop production.* Agricultural land not in row crop or small grain production at the time of construction, including hay ground and land in conservation or set-aside programs, shall be reseeded, including use of a cover crop when appropriate, following completion of deep tillage and replacement of the topsoil. The seed mix used shall restore the original or a comparable ground cover unless otherwise requested by the landowner. If the land is to be placed in crop production the following year, paragraph 9.5(9) "b" shall apply.

*b. Delayed crop production.* Agricultural land used for row crop or small grain production which will not be planted in that calendar year due to the pipeline construction shall be seeded with an appropriate cover crop following replacement of the topsoil and completion of deep tillage. However, cover crop seeding may be delayed if construction is completed too late in the year for a cover crop to become established and in such instances is not required if the landowner or tenant proposes to till the land the following year. The landowner may request ground cover where the construction is completed too late in the year for a cover crop to become established to prevent soil erosion.

*c. Weed control.* On any easement, including, but not limited to, construction easements and easements relating to valve sites, metering stations, and compression stations, the pipeline company shall provide for weed control in a manner that prevents the spread of weeds onto adjacent lands used for agricultural purposes. Spraying shall be done by a pesticide applicator that is appropriately licensed for spraying of pesticide in Iowa. If the pipeline company fails to control weeds within 45 days after receiving

written notice from the landowner, the pipeline company shall be responsible for reimbursing all reasonable costs of weed control incurred by owners of adjacent land.

**9.5(9)** *Future installation of drain tile or soil conservation practices and structures.*

*a. Future drain tile.* The pipeline company shall consult with affected persons regarding plans for future drain tile installation. Where an affected person provides the pipeline company with written plans prepared by a qualified tile technician for future drain tile improvements before an easement is secured, the pipeline shall be installed at a depth which will allow proper clearance between the pipeline and the proposed future tile installation.

*b. Future practices and structures.* The pipeline company shall consult with any affected person's plans for future use or installation of soil conservation practices or structures. Where an affected person provides the pipeline company with a design for such practice or structure prepared by a qualified technician before an easement is secured, the pipeline shall be installed at a depth that will allow for future installation of the planned soil conservation practice or structure and that will retain the integrity of the pipeline.

**9.5(10)** *Restoration of land slope and contour.* Upon completion of construction, the slope, contour, grade, and drainage pattern of the disturbed area shall be restored as near as possible to its preconstruction condition. However, the trench may be crowned to allow for anticipated settlement of the backfill. Excessive or insufficient settlement of the trench area, which visibly affects land contour or undesirably alters surface drainage, shall be remediated by the pipeline company by means such as regrading and, if necessary, import of appropriate fill material. Disturbed areas in which erosion causes formation of rills or channels, or areas of heavy sediment deposition, shall be regraded as needed. On steep slopes, methods such as sediment barriers, slope breakers, or mulching shall be used as necessary to control erosion until vegetation can be reestablished. The county inspector shall inspect restoration of land slope and contour for compliance with this chapter.

**9.5(11)** *Restoration of areas used for field entrances or temporary roads.* Upon completion of construction and land restoration, field entrances or temporary roads built as part of the construction project shall be removed and the land made suitable for return to its previous use. Areas affected shall be regraded as required by subrule 9.5(10) and deep tilled as required by subrule 9.5(6). If by agreement, or at landowner request, and subject to any necessary approval by local public road authorities, a field entrance or road is to be left in place, it shall be left in a graded and serviceable condition. The county inspector shall inspect restoration of areas used for field entrances or temporary roads for compliance with this chapter.

**9.5(12)** *Construction in wet conditions.* The county inspector, in consultation with the pipeline company and the landowner or person in possession of the land pursuant to a lease, if present, shall determine when construction should not proceed in a given area due to wet conditions. The county inspector shall have the sole authority to determine whether construction should be halted due to wet conditions. Construction in wet soil conditions shall not commence or continue at times when or locations where the passage of heavy construction equipment may cause rutting to the extent that the topsoil and subsoil are mixed or underground drainage structures may be damaged. To facilitate construction in wet soils, the pipeline company may elect to remove and stockpile the topsoil from the traveled way, install mats or padding, or use other methods acceptable to the county inspector. Topsoil removal, storage, and replacement shall comply with subrule 9.5(2).

**9.5(13)** *Access to land.* Nothing in this rule shall prohibit a landowner or person in possession of the land pursuant to a lease from having access to the property. A landowner or person in possession of the land pursuant to a lease shall not disrupt ongoing construction and shall not compromise the safety considerations of the construction. A landowner or person in possession of the land pursuant to a lease shall abide by any and all safety instructions established by the pipeline company during construction.

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