

Appendix E Draft Agricultural Mitigation Plan

This page intentionally left blank.

**MINNESOTA ENERGY RESOURCES
CORPORATION**

**ROCHESTER NATURAL GAS PIPELINE PROJECT,
OLMSTED COUNTY, MINNESOTA**

**DRAFT AGRICULTURAL MITIGATION
PLAN**

Prepared For:

**Minnesota Energy Resources Corporation
1995 Rahncliff Court, Suite 200
Eagan, MN 55122-3401**

Prepared By:



**701 Xenia Avenue South
Minneapolis, MN 55416**

September 2015

Contents

Purpose and Applicability.....	1
General Provisions	1
Mitigation Measures	3
1. Right-of-Way Width.....	3
2. Pipeline Depth of Cover	3
3. Winter Construction	4
4. Temporary Erosion and Sediment Control.....	5
5. Topsoil Stripping, Trenching, Soil Storage, and Replacement.....	5
6. Repair of Damaged and Adversely Affected Tile.....	7
7. Agricultural Drainage Ditches	8
8. Rock Removal.....	8
9. Removal of Construction Debris	9
10. Compaction, Rutting, and Soil Restoration	9
11. Fertilization and Liming.....	10
12. Land Leveling	10
13. Prevention of Soil Erosion.....	10
14. Repair of Damaged Soil Conservation Practices.....	10
15. Interference with Irrigation Systems.....	10
16. Ingress and Egress.....	10
17. Temporary Roads.....	10
18. Weed Control.....	11
19. Pumping of Water from Open Trenches	11
20. Construction in Wet Conditions.....	11
21. Procedures for Determining Construction-Related Damages	12
22. Advance Notice of Access to Private Property.....	12
23. Indemnification.....	12
24. Tile Repair Following Pipeline Installation.....	12

APPENDICES

Appendix A	Mitigation Measures for Organic Agricultural Land
------------	---

Definitions

Agricultural Land	Land that is actively managed for agricultural purposes, including: cropland, hayland, or pasture; silvicultural activities (i.e., tree farms); and land in government set-aside programs such as Conservation Reserve Program and Conservation Reserve Enhancement Program. Agricultural Land may also include land that is otherwise fallow but would likely be cultivated within 5 years of Project completion.
Agricultural Monitor	On-site third-party monitor retained and funded by MERC, but providing direct reports to the Minnesota Department of Agriculture and/or Trade, and Consumer Protection and responsible for auditing MERC's compliance with provisions of this Plan.
ATWS	Additional Temporary Workspace.
BMP	Best Management Practices.
CFR	Code of Federal Regulations
Commission	Minnesota Public Utilities Commission
Cropland	Land actively managed for growing row crops, small grains, or hay.
Easement	The agreement(s) and/or interest in privately owned Agricultural Land held by MERC by virtue of which it has the right to construct and operate the Project together with such other rights and obligations as may be set forth in such agreement.
Environmental Inspector	On-site inspector retained by MERC to verify compliance with requirements of this Plan and other environmental requirements during construction of the Project.
Final Cleanup	Pipeline construction activity that occurs after backfill but before restoration of fences and required reseeding. Final Cleanup activities include: replacing Topsoil, removal of construction debris, removal of excess rock, decompaction of soil as required, final grading, and installation of permanent erosion control structures.
Landowner	Person(s) holding legal title to Agricultural Land on the Project route from whom MERC is seeking, or has obtained, a temporary or permanent Easement. The term Landowner shall include any person(s) authorized in writing by the actual Landowner to make decisions regarding the mitigation or restoration of agricultural impacts to such Landowner's property.

MDA	Minnesota Department of Agriculture
MERC	Minnesota Energy Resources Company
Non-Agricultural Land	Any land that is not Agricultural Land as defined above.
Person	An individual or entity, including any partnership, corporation, association, joint stock company, trust, joint venture, limited liability company, unincorporated organization, or governmental entity (or any department, agency, or political subdivision thereof).
Plan	Agricultural Mitigation Plan
Planned Tile	Locations where the proposed Tile installation is made known in writing to MERC by the Landowner either: 1) within 60 days after the signing of an Easement; or 2) before the issuance of a Route Permit to MERC; whichever is sooner.
Right-of-way	The land included in permanent and temporary Easements that MERC possess for the purpose of constructing and operating the Project.
Route Permit	Route permit issued by the Commission.
Spoil Storage Side	Non-working side of the construction Right-of-way where ditch spoil and temporary Topsoil are stored (as needed).
Tenant	Any person, other than the Landowner, lawfully residing on or in possession or control of the land that makes up the right-of-way as defined in this Plan.
Tile	Subsurface drainage systems and their aboveground appurtenances.
Topsoil	The uppermost horizon (layer) of the soil, typically with the darkest color and highest content of organic matter and nutrients.
Trench Crown	The placement of subsoil and Topsoil in the trench to a finished elevation somewhat above the surrounding ground surface to account for post-construction settling of soil returned to the trench.
TWS	Temporary Workspace
USC	United States Code
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation

Purpose and Applicability

This Agricultural Mitigation Plan (Plan) was developed by Minnesota Energy Resources Company (MERC) and is based on a recent agricultural mitigation plan template provided by the Minnesota Department of Agriculture (MDA). MERC has applied for a Pipeline Route Permit (PRP) from the Minnesota Public Utilities Commission (Commission) for the Project, and has included this Plan as supplemental information supporting the application. Through the Commission public notice and review processes associated with the applications, other agencies (including the MDA), local authorities, Landowners, Tenants, and other stakeholders are able to review and provide comments on the Plan. This Plan will be incorporated by reference into the Route Permit issued by the Commission for the Project. Once finalized, this Plan may also be incorporated by reference into other federal, state, and local permits issued for the Project.

The objective of the Plan is to identify measures that MERC will implement to avoid, mitigate, or provide compensation for negative agricultural impacts that may result from pipeline construction. The construction standards described in this document apply only to construction activities occurring partially or wholly on privately owned Agricultural Land.

General Provisions

All mitigation measures are subject to change by Landowners, provided such changes are negotiated in advance of construction and acceptable to MERC. If any provision of this Plan is held to be unenforceable, no other provision will be affected by that holding, and the remainder of the Plan will be interpreted as if it did not contain the unenforceable provision.

MERC will consider any federal, state, and local permit, including a Route Permit, issued for the Project to be the controlling authority. To the extent a mitigation measure contemplated by this Plan is determined to be unenforceable in the future due to requirements of other permits issued for the Project, MERC will inform the MDA and the regulatory authority that issued the permit that made a mitigation measure unenforceable of the conflict and will develop reasonable alternative measures. MERC will implement the mitigation measures and Best Management Practices (BMPs) described in this Plan to the extent they do not conflict with the requirements of federal and state rules and regulations, and permits and approvals obtained by MERC. Certain provisions of this Plan require MERC to consult and/or reach agreement with the Landowner of a property. MERC will engage in a good faith effort to secure the agreement. Tenants will not be consulted except where a Landowner has designated in writing that a Tenant has decision making authority on their behalf.

MERC will retain qualified contractors to implement mitigation measures; however, MERC may negotiate with Landowners to implement the mitigation measures that Landowners wish to perform themselves.

MERC will employ an Environmental Inspector whose role is to verify compliance with the requirements of this Plan and other environmental requirements during construction of the pipeline. The Environmental Inspector will be employed by and report to MERC, and will be a part of MERC's environmental inspection team.

The Environmental Inspector will:

- Be a full-time member of MERC's environmental inspection team

- Provide construction personnel with training on provisions of this Plan before construction begins;
- Provide construction personnel with field training on specific topics, such as protocols for Topsoil stripping;
- Observe construction activities on Agricultural Land on a continual basis;
- Be responsible for verifying MERC's compliance with provisions of this Plan and other environmental requirements during construction;
- Work collaboratively with MERC inspectors, right-of-way agents, and the Agricultural Monitor in achieving compliance with this Plan;
- Document instances of noncompliance and work with construction personnel to identify and implement appropriate corrective actions as needed; and
- Have the authority to stop construction activities that are determined to be out of compliance with the provisions of this Plan.

In addition to the Environmental Inspector, an Agricultural Monitor will also inspect construction work on Agricultural Lands. The Agricultural Monitor will be retained and funded by MERC, but will function as an independent third-party inspector providing direct reports to the MDA, and will be responsible for auditing MERC's compliance with the provisions of this Plan. MERC will provide resumes of candidates who meet the qualifications of an Agricultural Monitor for review and final selection by the MDA.

The Agricultural Monitor will not be a member of MERC's environmental inspection team. The Agricultural Monitor will not have the authority to direct construction activities or manage MERC employees or contractors. The Agricultural Monitor will work through MERC's Environmental Inspector and MDA if compliance issues are identified. The Agricultural Monitor will have full access to Agricultural Land crossed by the Project and will have the option to attend meetings where construction on Agricultural Land is discussed. Specific duties of the Agricultural Monitor will include:

- Participate in preconstruction training activities sponsored by MERC;
- Monitor construction and restoration activities on Agricultural Land for compliance with provisions of this Plan;
- Report instances of noncompliance to MERC's Environmental Inspector;
- Prepare regular compliance reports and submit them to the MDA;
- Act as a liaison between Landowners and the MDA when necessary and requested by the Landowner;
- Serve as a resource to investigate complaints at the direction of the MDA and to explain any proposed changes to this Plan during construction; and
- Maintain a written log of communications from Landowners regarding compliance with this Plan as well as report Landowner complaints to MERC's Environmental Inspector or right-of-way representative.

Both the Environmental Inspector and Agricultural Monitor will have a bachelor's degree in agronomy, soil science, natural resources, or equivalent work experience. In addition, the

Environmental Inspector and Agricultural Monitor will have demonstrated practical experience with pipeline construction and restoration on Agricultural Land.

MERC will provide each Landowner with a telephone number and address that can be used to contact MERC, during and following construction, regarding the agricultural mitigation work that is performed on their property or other construction-related matters. If the contact information changes following construction, MERC will provide the Landowner with updated contact information. MERC will respond to Landowner telephone calls and correspondence within a reasonable time.

Mitigation measures identified by MERC pursuant to this Plan, unless otherwise specified in this Plan or in an Easement or other agreement with an individual Landowner, will be initiated within forty-five (45) days following completion of Final Cleanup on an affected property, weather permitting or unless otherwise delayed at the request of the Landowner. If implementation of mitigation measures requires additional time, MERC will make temporary repairs, as needed, to minimize the risk of additional property damage or interference with the Landowner's access to or use of the property.

Mitigation Measures

1. Right-of-Way Width

Prior to construction, MERC will establish the right-of-way width for construction and temporary workspace (TWS) on Agricultural Lands based on prior project experience, engineering and construction requirements or best practices, and safety needs. The construction limits will be shown on alignment sheet drawings provided to the construction contractor, Environmental Inspector, Agricultural Monitor, and regulatory authorities.

- A. The typical construction workspace will be governed by the Route Permit and other Project permits, but will typically consist of a 100-foot-temporary construction right-of-way which would include 50 feet of permanent right-of-way and 50 feet of temporary workspace. The TWS will be used during construction for soil storage and operation of equipment and vehicles along the entire length of the pipeline. At certain areas where the pipeline crosses natural geographic or larger man-made features such as roads, railroads, streams, or wetland crossings, where horizontal directional drilling may be necessary, a defined area of additional temporary workspace (ATWS) will be required on each side of the feature.
- B. The construction boundaries of ATWS will be staked prior to the work at each location.
- C. If the area of the ATWS is not sufficient to perform the work and implement BMPs, MERC will refrain from construction in that area until an adequate work area is available and approved. MERC will discuss the need for ATWS with the construction contractor, construction inspection team, Environmental Inspector, Agricultural Monitor, and the Landowner, and will not use any additional workspace until approved by the Landowner, Agricultural Monitor, and regulatory authorities, as applicable.

2. Pipeline Depth of Cover

- A. Except for aboveground facilities, such as valves, and except as otherwise stated in this Plan, the pipeline will be buried with the following depths of cover on Agricultural Land:

- 1) The pipeline will be constructed at a depth of at least 4.5 (54 inches) feet below the surface in accordance with the Olmsted County Zoning ordinance. This also meets the minimum depth of cover of 30 inches as required by U.S. Department of Transportation (DOT) regulations in 49 CFR Part 195.248. Section 216G.07 of the Minnesota Statutes further requires a minimum depth of cover of 54 inches unless waived by the Landowner. However, MERC will ask Landowners to waive the 54-inch-deep minimum cover requirement, as allowed by Minn. Stat. § 216G.07.
 - 2) Where existing or planned Tile systems are present, the pipeline will be installed at a depth that will achieve at least a 12-inch-wide separation between the pipeline and overlying Tiles as described in Section 2.C. of this Plan.
- B. MERC will construct the pipeline under existing non-abandoned Tile and Planned Tile within six (6) feet of the surface, unless the Landowner determines otherwise in writing. MERC may install the pipeline over Tile buried deeper than six (6) feet. If the Landowner plans to install a new Tile system, the Landowner must provide to MERC plans drawn by a qualified professional with experience in Tile design and installation. In determining the proper depth of the pipeline, MERC will accommodate the depth and grade needed for both existing and Planned Tile to function properly. MERC will not change the grade of existing Tile to accommodate the pipeline without the Landowner's advance written consent.
- C. A minimum of twelve (12) inches of separation will be maintained between the pipeline and Tile unless the Landowner agrees in writing to a lesser separation. If unforeseen physical conditions are discovered during construction that prevents minimum separation, the Landowner will be informed of the situation prior to the installation of the pipeline over the Tile. If a good faith effort is made and the Landowner is unavailable, the Agricultural Monitor will be informed and construction will continue.
3. Winter Construction
- MERC intends on avoiding construction in Agricultural Lands in the winter season. However, to protect the productivity of Agricultural Lands in the event that winter construction is unavoidable as a result of weather, permit acquisition, or any other unforeseen delays, the following mitigation measures are proposed:
- A. *Minimize Topsoil Stripping in frozen conditions.* Frozen conditions can preclude effective Topsoil stripping. When soil is frozen to a depth greater than the depth of the Topsoil, Topsoil cannot be efficiently stripped from the subsoil. If Topsoil stripping must proceed under these conditions, it will only be removed from the area of the trench. A ripper will be used to break up the frozen Topsoil over the trenchline and a backhoe will remove the Topsoil layer and store the material in a separate pile. The ripper will extend to the depth of Topsoil to twelve (12) inches.
 - B. *Minimize Final Clean-up activities in frozen conditions.* Frozen conditions can preclude effective Topsoil replacement, removal of construction debris, removal of excess rock, decompaction of soil as required, final grading, and installation of permanent erosion control structures. If seasonal or other weather conditions preclude Final Clean-up activities, the trench and temporary workspace areas will be backfilled, stabilized, and temporary erosion control measures will be installed until

restoration can be completed. If Topsoil/spoil piles remain throughout the winter, the Topsoil/spoil piles will be stabilized by an application of mulch and a tackifier or other methods approved by the regulatory authority. To prevent subsidence, backfill operations will resume when the ground is thawed and the subsoil will be compacted (as needed) prior to Final Clean-up activities. The construction contractor must monitor these areas until final restoration is complete.

- C. Topsoil Stripping and Final Clean-up activities proposed in Agricultural Lands in frozen conditions in Minnesota will be discussed with the MDA, respectively prior to commencement of these activities.

4. Temporary Erosion and Sediment Control

Temporary erosion and sediment controls will be implemented as required.

5. Topsoil Stripping, Trenching, Soil Storage, and Replacement

- A. Full and partial Topsoil stripping methods are similar except for the area where the Topsoil is removed. With full Topsoil stripping, the Topsoil is removed from the entire working side (traffic lane, trench spoil storage, and trench area) of the right-of-way. Under partial Topsoil stripping, the Topsoil will not be removed from under the Topsoil storage piles. Topsoil will also be removed and segregated in other areas, such as bore pits at road and railroad crossings, where the footprint may be larger and/or irregularly shaped. Topsoil is typically stored on the outer most edge of the working side of the construction right-of-way, however, MERC may also store Topsoil on the spoil storage side of the construction workspace where there are workspace constraints.

MERC will use the following Topsoil segregation methods during construction of the Project on Agricultural lands. The method selected will be dependent on specific Landowner approvals or agreements, field conditions, regulatory authority or permit requirements and/or other factors.

- 1) Modified Ditch-Plus-Spoil-Side Method – This method involves stripping Topsoil horizon from the spoil storage area, the pipeline trench, and the primary portion of the travel lane.
 - 2) Full Right-of-Way Method – This method involves stripping Topsoil from the entire width of the construction right-of-way. This method typically results in less soil mixing between Topsoil and subsoil caused by equipment rutting over areas where Topsoil was not stripped. A larger volume of Topsoil will be generated using this method and, consequently, may warrant the need for Topsoil to also be stored on both sides of the construction right-of-way.
 - 3) Trenchline-Only Method – This method involves removing Topsoil from over the proposed trench only, and may be used where MERC determines that the width of the construction right-of-way is insufficient for storing Topsoil and maintaining a sufficient width to perform construction activities and allow equipment to pass.
- B. The maximum depth of Topsoil stripping will be twelve (12) inches unless otherwise agreed to with MDA. The Environmental Inspector will observe Topsoil operations so that appropriate depths are removed.

- C. Equipment operators will be trained to discriminate between Topsoil and subsoil based on obvious color changes. In locations where the Topsoil/subsoil color changes are not easily distinguishable or variable, the Agricultural Inspector will determine the depth.
- D. Before removing Topsoil during wet soil conditions, the Environmental Inspector will assess whether the moisture content in the surface horizon is suitable for grading. If the soil is considered too wet to segregate, stripping may be postponed. Based on the Environmental Inspector's recommendation, MERC may allow Topsoil removal in areas where soils are persistently wet.
- E. MERC may also remove Topsoil from ATWS as dictated by site-specific conditions and Landowner agreements. Topsoil will be removed in all cut and fill areas prior to grading.
- F. In specific areas of deep Topsoil and as determined in consultation between the Environmental Inspector and/or the Agricultural Monitor, the modified ditch-plus-spoil method will be used. However, the area requiring Topsoil stripping may be adjusted from the modified ditch-plus-spoil method where the Agricultural Inspector determines that such modification is necessary for safety or would be more protective of the soil resource. The adjusted method may include trenchline-only Topsoil segregation, such as in instances where Topsoil is removed under frozen conditions (i.e., winter construction). In all cases where modifications are proposed, approval from MERC, the MDA, or other regulatory authority may be required.
- G. If the Agricultural Monitor and the Environmental Inspector cannot agree on the proposed adjustment in the Topsoil segregation method, the Agricultural Monitor will document the objection and provide documentation to the MDA and MERC.
- H. Trench spoil will be placed in a stockpile that is separate from Topsoil. MERC will maintain a minimum one (1)-foot-wide separation or place a barrier between Topsoil and subsoil piles to avoid mixing. In areas where the Topsoil has not been stripped from the subsoil storage area, subsoil can be stored on a thick layer of mulch or another physical barrier that identifies and protects the unstripped Topsoil.
- I. Backfilling will follow lowering the pipe into the trench. During trench backfilling, subsoil material will be replaced first, followed by Topsoil. To prevent subsidence, subsoil will be backfilled and compacted. Compaction by operating construction equipment along the trench is acceptable.
- J. Rock excavated from the trench may be included with backfill provided the rock content of the pre-construction soils is not significantly increased. In the event excess rock cannot be returned to the trench without substantially increasing pre-existing rock content, rocks will be considered construction debris and removed (see Section 8 of this Plan).
- K. Replacing Topsoil will be initiated within fourteen (14) days after backfilling the trench. If seasonal or other weather conditions prevent compliance with this timeframe, temporary erosion control measures must be implemented and maintained until conditions allow completion of cleanup. Topsoil will be replaced across the stripped area as near as practicable to its original depth. A Trench Crown over the trenchline is permissible to offset potential settling. Following placement of the subsoil crown, Topsoil would be uniformly returned across the stripped area. The

height of the crown will generally be equal to, or less than, twelve (12) inches at the center. Breaks in the crown may be cut to accommodate overland water flow across the right-of-way.

6. Repair of Damaged and Adversely Affected Tile

If Tile is damaged during installation of the pipeline, the Tile will be repaired in a manner that restores operating condition. If Tile lines immediately adjacent to the construction area are adversely affected by the pipeline installation, MERC will restore the Tile, including the relocation, reconfiguration, or replacement of the Tile. The affected Landowner may settle with MERC for payment to repair, relocate, reconfigure, or replace the damaged Tile. In the event the Landowner chooses to perform the repair, relocation, reconfiguration, or replacement of the damaged Tile, MERC will not be responsible for correcting Tile repairs after completion of the pipeline and the Landowner's repairs. MERC is only responsible for correcting Tile repairs if the repairs were made by MERC or its agents or designees.

Prior to pipeline installation, MERC will contact Landowners to determine if Tile systems will be affected. Tile systems that will be damaged, cut, or removed during construction will be marked by placing a highly visible flag at the edge of the construction right-of-way directly over the Tile lines. These markers will not be removed until the Tile has been permanently repaired and approved and accepted by the Landowner, or the Agricultural Monitor.

The pipeline trench shall provide a minimum of twelve (12) inches of clearance, where practicable, between the pipe and drainage Tiles. In most situations, the pipe will be installed under the drainage Tile; however, where drain Tiles are deeper than six (6) feet MERC may elect to install the pipe above the Tile lines.

MERC will ensure that the construction contractor repairs damaged Tile in a manner consistent with industry-accepted methods. At the Landowner's request and with MERC's approval, local contractors may perform the repair, replacement, or reconfiguration of the Tiles damaged or cut during pipeline construction.

Where damaged Tile is repaired by MERC, the following procedures will apply:

- A. Before completing permanent repairs, Tiles will be examined on both sides of the trench for their entire length within the work area to check for damage by construction equipment. If Tiles are found to be damaged, they will be repaired to preconstruction conditions.
- B. Tiles will be repaired with material of the same or better quality as that which was damaged.
- C. Filter-covered drain Tiles will be replaced with filter-covered drain Tiles.
- D. If the Tile is clay, ceramic, or concrete, any connection made with new material must be made with commercially available connectors, wrapped in plastic, or sealed with Sakrete to prevent soil intrusion.
- E. If water is flowing through a damaged Tile, temporary repairs will be promptly completed and maintained until permanent repairs can be made.
- F. Where Tiles are damaged or severed by the pipeline trench, repairs will be made according to the following procedures:

- 1) Where Tiles are severed by the pipeline trench, double-walled drain Tile pipe, or its equivalent material, will be used for Tile repairs.
 - 2) Within the trench, one and one-half (1.5) inch river gravel, four (4) inch crushed stone, sandbags, bags of Sakrete (or an equivalent), or poured concrete will be backfilled under Tiles, as needed, to provide support and prevent settling. Concrete blocks are also acceptable forms of support as are protective pads on the pipeline.
 - 3) The support member will be of sufficient strength to support loads expected from normal farming practices (i.e., loads up to a ten (10) ton point load) on the surface directly above the repaired Tile.
 - 4) The support member will extend a minimum of two (2) feet into the soil on both sides of the trench and will be installed in a manner that will prevent it from overturning. If the repairs involve clay Tile, the support member will extend to the first Tile joint beyond the minimum two (2) -foot-wide distance.
 - 5) There will be a minimum clearance as required by Section 2.C. of this Plan.
 - 6) The grade of the Tile will not be changed.
- G. MERC will initiate efforts to complete permanent Tile repairs within a reasonable timeframe after Final Cleanup, weather and soil conditions permitting.
- H. Following completion of the final cleanup, MERC will be responsible for correcting repairs to Tile that fail, but only if MERC or its agents or designees made the initial repairs. MERC will not be responsible for Tile repairs that MERC has paid the Landowner to perform.
- I. Any necessary modifications to the configuration of existing Tile systems must be consistent with the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service, and Minnesota Wetland Conservation Act restrictions, and other regulatory authorities on wetland drainage.
7. Agricultural Drainage Ditches

Where the pipeline route crosses agricultural drainage ditches that are operated by the Landowner, pipeline will be installed at a depth that is sufficient to allow for ongoing maintenance of the ditch. After the pipeline is installed, the ditch will be restored to its preconstruction contours with erosion controls as needed. Ditches that are operated and maintained by a public entity will be crossed in accordance with applicable permits.

8. Rock Removal

The following conditions will apply on Agricultural Land:

- A. If trenching, blasting, or boring operations are required in bedrock, suitable precautions will be taken to minimize the potential for rocks to become mixed with the backfill.
- B. After the construction right-of-way has been decompacted as required in Section 10 of this Plan and the Topsoil replaced, MERC will remove rocks from the surface of the entire construction area so that the size, density, and distribution of rock on the right-of-way is similar to that on adjacent off-right-of-way areas. MERC will consult with the Landowner to identify suitable rock disposal locations on the construction right-of-

way, or the rocks will be removed for disposal at another approved disposal location. Written authorization from the Landowner is required for disposal on the Landowner's property. Rock disposal will comply with any federal, state, or local regulations involving fill and disposal of construction debris.

9. Removal of Construction Debris

Construction-related debris, material, and litter will be removed from the Landowner's property at MERC's expense. The Landowner or land-managing agency may approve leaving specific materials onsite that may provide for beneficial uses for stabilization or habitat restoration.

10. Compaction, Rutting, and Soil Restoration

- A. In an effort to minimize soil compaction prior to trenching activities, MERC will, where practical, transport pipe joints (i.e., stringing trucks) as closely as possible along the pipeline centerline.
- B. After construction, compaction of the subsoil will be alleviated on cropland using deep-tillage equipment, as needed. Decompaction of the topsoil, if necessary, will be performed during favorable soil conditions. If the Environmental Inspector and/or Agricultural Monitor determine that the soil is too wet, decompaction will be delayed until the subsoil is friable/tillable in the top eighteen (18) inches.
- C. Deep subsoil ripping in cropland will occur in all traffic and work areas of the pipeline right-of-way where there was full right-of-way Topsoil stripping, unless the Environmental Inspector determines compaction has not occurred. This includes ATWS.
- D. Subsoil ripping equipment may include v-rippers, chisel plows, or equivalents.
- E. If the Landowner makes a written claim for damages related to soil compaction greater than that of immediately adjacent Agricultural Land owned by the Landowner but unaffected by pipeline construction, MERC will retain a Professional Licensed Soil Scientist, or an appropriately qualified professional engineer. The Professional Soil Scientist or engineer will perform a survey of the construction right-of-way, ATWS, and adjacent unaffected land owned by the Landowner for soil compaction using field equipment such as a soil penetrometer. In addition, where there are row crops, samples will be taken in the middle of the row, but not in rows where the drive wheels of farm equipment normally travel. Copies of the results of the survey will be provided to the Landowners making such claim within thirty (30) days of completion of the soil survey. These surveys for soil compaction will be completed at MERC's expense.
- F. MERC will restore rutted land as near as practical to its preconstruction condition.
- G. MERC will compensate Landowners, as appropriate, for damages caused by MERC during Project construction. Damages will be paid for the cost of soil restoration on the construction right-of-way and ATWS to the extent such restoration work is not performed by MERC.
- H. In the event of a dispute between the Landowner and MERC regarding what areas need to be deep tilled (i.e., ripped) or chiseled, or the depth at which compacted areas should be ripped or chiseled, MERC will determine the appropriate actions based on the Agricultural Monitor's opinion.

11. Fertilization and Liming

Fertilizers and lime will be applied based on Landowner requirements.

12. Land Leveling

Following completion of the Project, MERC will restore the construction work areas as practicable to the original preconstruction contours. If uneven settling occurs or surface drainage problems develop as a result of pipeline construction, MERC will provide additional land leveling services within forty-five (45) days of receiving a Landowner's written notice, weather and soil conditions permitting. Alternatively, MERC will negotiate with the Landowner for reasonable compensation in lieu of restoration.

13. Prevention of Soil Erosion

MERC will install permanent erosion control devices during restoration to prevent erosion.

14. Repair of Damaged Soil Conservation Practices

Soil conservation practices (e.g., terraces, grassed waterways) that are damaged by pipeline construction will be restored to their preconstruction condition.

15. Interference with Irrigation Systems

- A. If it is feasible and mutually acceptable to MERC and the Landowner, temporary measures will be implemented to allow an irrigation system to continue to operate across land on which the pipeline is being constructed.
- B. If the pipeline right-of-way and/or ATWS interfere with an operational (or soon-to-be operational) spray irrigation system, MERC will inform the Landowner of the need to take the Irrigation system out of service. MERC and the Landowner will agree upon an acceptable amount of time the irrigation system may be out of service. If MERC and the Landowner are unable to agree on the amount of time within ten (10) days of MERC informing the Landowner of the need to take the irrigation system out of service, construction will proceed and the Landowner will be asked to take the irrigation system out of service.
- C. If, as a result of pipeline construction, interruption of an irrigation system results in crop damages, either on the right-of-way or off-right-of-way, compensation of Landowners will be determined as described in Section 21 of this Plan.

16. Ingress and Egress

Prior to pipeline construction, MERC will identify the means of entering and exiting the right-of-way should access to the right-of-way not be practical or feasible from adjacent tracts or from public highway or railroad rights-of-way, consistent with MERC's Easement rights. Temporary access ramps may be constructed using locally obtained Topsoil as needed to facilitate the movement of equipment between public highways and the right-of-way.

17. Temporary Roads

- A. If public roads do not provide sufficient access, MERC will attempt to use existing farms roads for access to and from the right-of-way, subject to approval from the Landowner or MERC's Easement rights. If MERC needs to construct a new temporary access road across Agricultural Land, the location will be made in collaboration with the Landowner. Temporary roads that are needed during construction will be located

to minimize impacts on the landowner's or tenant's use of the agricultural land. If temporary roads in Agricultural Lands require gravel stabilization, geotextile construction fabric will be placed beneath the rock to add stability and to provide a distinctive barrier between the rock and soil surface. During restoration of the right-of-way, temporary access roads will be removed or restored to preconstruction conditions, except as described in Section 17.C of this Plan.

- B. Temporary roads will be designed so as not to impede drainage and will be constructed to minimize soil erosion.
- C. Following construction, new temporary roads may be left intact through mutual agreement of the Landowner and MERC unless otherwise restricted by federal, state, or local regulations.
- D. If the temporary roads are to be removed, the Agricultural Land on which the temporary roads are constructed will be returned to its previous use and restored to a condition equivalent to what existed prior to construction. Restoration techniques for temporary roads will be similar to those used in restoring the Project right-of-way (e.g., decompaction).

18. Weed Control

MERC will provide weed control at its aboveground facility sites (i.e. valve sites, pump stations) to avoid the spread of weeds onto adjacent Agricultural Land during operation of the Project. Weed control spraying, will be conducted in accordance with applicable regulatory authorities.

19. Pumping of Water from Open Trenches

- A. MERC will follow the steps outlined in Section 7852.2800 Subparts 1C and 1D of the Route Permit Application submitted to the Commission.
- B. When dewatering trenches, MERC will discharge the water in a manner that will minimize damaging adjacent Agricultural Land, crops, and/or pasture. Such damages may include, but are not limited to, inundation of crops for more than twenty-four (24) hours and deposition of sediment in cropland and drainage ditches. If water-related damage during discharge from trenches results in a loss of yield, compensation of Landowners will be determined as described in Section 21 of this Plan.
- C. Discharge of water will be conducted in accordance federal and state regulations, and permit conditions.

20. Construction in Wet Conditions

Should the Agricultural Monitor determine that continued construction in wet conditions could result in damage to soil structure and compromise future cropland productivity, the Agricultural Monitor may request MERC's Environmental Inspector to temporarily halt the activity on a Landowner's property until the Agricultural Monitor and Environmental Inspector consult with MERC's Construction Manager. Should MERC elect to continue construction activities over the objection of the Agricultural Monitor, MERC will retain a Professional Licensed Soil Scientist or an appropriately qualified Professional Engineer licensed by the State of Minnesota, at its own expense, to perform a survey of the construction right-of-way, ATWS, and adjacent unaffected land owned by the Landowner for soil compaction, prior to final restoration and using the procedures described above.

21. Procedures for Determining Construction-Related Damages

- A. MERC will negotiate in good faith with Landowners who assert claims for construction related damages. The procedure for resolution of these claims will be in accordance with the terms of the Easements.
- B. Negotiations between MERC and any affected Landowner will be voluntary in nature and no party is obligated to follow a specific procedure or method for computing the amount of loss for which compensation is sought or paid, except as otherwise specifically provided in the Easements. In the event a Landowner should decide not to accept compensation offered by MERC, the compensation offered is only an offer to settle, and the offer shall not be introduced in any proceeding brought by the Landowner to establish the amount of damages MERC must pay. In the event that MERC and a Landowner are unable to reach an agreement on the amount of compensation, any such Landowner may seek further recourse as provided in the Easement.

22. Advance Notice of Access to Private Property

- A. MERC or its agents will provide the Landowner with a minimum of twenty-four (24) hours' notice before accessing his/her property for construction, in addition to any regulatory notifications.
- B. Prior notice will consist of personal or telephone contact, whereby the Landowner is informed of MERC's intent to access the land. If the Landowner cannot be reached in person or by telephone, MERC will mail or hand-deliver to the Landowner's home a dated, written notice of MERC's intent. The Landowner need not acknowledge receipt of the written notice before MERC enters the property.

23. Indemnification

Indemnification obligations relating to the pipeline installation covered by this Plan shall be determined in accordance with the terms of the Easements and applicable law.

24. Tile Repair Following Pipeline Installation

If, after pipeline installation, the Landowner must make repairs to the Tile system within the right-of-way, or plans to install a new Tile system, the Landowner must obtain Applicant approval of the work plan prior to commencing any activities within the right-of-way. MERC may impose such requirements and limitations on the work as necessary to protect the safety and integrity of MERC's facilities. The Landowner will be responsible for contacting 811 or the local one call center prior to any excavation near the pipeline and complying with all necessary requirements imposed by MERC to protect the safety and integrity of MERC's facilities.

MERC will, at its own expense, follow the procedures below.

An Applicant representative will be present while the excavation work is being performed, but will not perform the excavation work. If the pipeline is above the Tile system, MERC will be responsible for reasonable extra costs incurred by the Landowner to excavate and expose the pipeline in accordance with MERC's requirements for protection of the pipeline.

Appendix A

Mitigation Measures for Organic Agricultural Land

Introduction

This appendix identifies mitigation measures that apply specifically to farms that are Certified Organic or farms in Minnesota that are in active transition to become Certified Organic, and is intended to address the unique management and certification requirements of these operations. All protections provided in the Plan must also be applied to Organic Agricultural Land in addition to the provisions of this appendix.

The provisions of this appendix will apply to Organic Agricultural Land for which the Landowner has provided to MERC a true, correct, and current version of the Organic System Plan within sixty (60) days after the signing of the Easement for such land or sixty (60) days after the issuance of a PRP to MERC by the Commission, whichever is sooner. In the event the Easement is signed later than sixty (60) days after the issuance of the PRP, the provisions of this appendix are applicable when the Organic System Plan is provided to MERC at the time of the signing of the Easement. In instances where MERC is in possession of the Easement prior to submitting its Route Permit application to the Commission, the Landowner must provide the Organic System Plan to MERC no later than sixty days after the issuance of the PRP. MERC recognizes that Organic Agricultural Land is a unique feature of the landscape and will treat this land with the same level of care as other sensitive environmental features.

Definitions

Unless otherwise provided to the contrary in this appendix, capitalized terms used in this appendix shall have the meanings provided below and in the Plan. In the event of a conflict between this appendix and the Plan with respect to definitions, the definition provided in this appendix will prevail but only to the extent such conflicting terms are used in this appendix. The definition provided for the defined words used herein shall apply to all forms of the words.

Apply	To intentionally or inadvertently spread or distribute any substance onto the exposed surface of the soil.
Certified Organic	As defined by the National Organic Program Standards, 7 C.F.R. Part 205.100 and 7 C.F.R. Part 205.101.
Certifying Agent	As defined by the National Organic Program Standards, 7 C.F.R. Part 205.2.
Decertified	Loss of Organic Certification. Decertification
Organic Agricultural	Farms or portions thereof described in 7 C.F.R. Parts 205.100, Land 205.101, and 205.202.
Organic System Plan	As defined by the National Organic Program Standards, 7 C.F.R. Part 205.2.
Prohibited Substance	As defined by the National Organic Program Standards, 7 C.F.R. Parts 205.600 through 205.605 using the criteria provided in 7 United States Code (U.S.C.) 6517 and 7 USC 6518.

Organic System Plan

MERC recognizes the importance of the individualized Organic System Plan to the Organic Certification process. MERC will work with the Landowner, the Landowner's Certifying Agent, and/or a USDA-approved organic consultant to identify site-specific construction practices and develop an organic construction plan that will minimize the potential for Decertification as a result of construction activities. MERC also recognizes that Organic System Plans are proprietary in nature and confidentiality will be respected.

Prohibited Substances

MERC will avoid the application of Prohibited Substances onto Organic Agricultural Land. No herbicides, pesticides, fertilizers, or seed will be applied unless requested and approved by the Landowner. Likewise, no refueling, fuel, or lubricant storage or routine equipment maintenance will be allowed on Organic Agricultural Land. Equipment will be checked prior to entry to make sure that fuel, hydraulic, and lubrication systems are in good working order before working on Organic Agricultural Land. If Prohibited Substances are used on land adjacent to Organic Agricultural Land, these substances will be used in such a way as to prevent them from entering Organic Agricultural Land.

Soil Handling

Topsoil and subsoil layers that are removed during construction will be stored separately and replaced in the proper sequence after the pipeline is installed. Unless otherwise specified in the site-specific plan described above, MERC will not use this soil for other purposes, including creating access ramps at road crossings. No Topsoil or subsoil (other than incidental amounts) may be removed from Organic Agricultural Land. Likewise, Organic Agricultural Land will not be used for storage of soil from non-Organic Agricultural Land.

Erosion Control

On Organic Agricultural Land, MERC will, to the extent feasible, implement erosion control methods consistent with the Landowner's Organic System Plan. On land adjacent to Organic Agricultural Land, MERC's erosion control procedures will be designed so that sediment from adjacent non-Organic Agricultural Land will not flow along the right-of-way and be deposited on Organic Agricultural Land. Treated lumber will not be used in erosion control measures on Organic Agricultural Land.

Water in Trenches

During construction, MERC will leave an earthen plug in the trench at the boundary of Organic Agricultural Land to prevent trench water from adjacent land from flowing into the trench on Organic Agricultural Land. Likewise, MERC will not allow trench water from adjacent land to be pumped onto Organic Agricultural Land.

Weed Control

On Organic Agricultural Land, MERC will, to the extent feasible, implement weed control methods consistent with the Landowner's Organic System Plan. Prohibited Substances will not be used for weed control on Organic Agricultural Land. In addition, MERC will not use Prohibited

Substances for weed control on land adjacent to Organic Agricultural Land in such a way as to allow these materials to drift onto Organic Agricultural Land.

Mitigation of Natural Resources Impacts

MERC will not use Organic Agricultural Land for the purpose of required compensatory mitigation of impacts on natural resources such as wetlands or woodlands unless approved by the Landowner.

Monitoring

In addition to the responsibilities of the Agricultural Monitor described in the Plan, the following will apply:

- The Agricultural Monitor or a trained Organic Inspector (trained through a USDA-approved Organic Inspection Program and retained by MERC) will routinely monitor construction and restoration activities on Organic Agricultural Land for compliance with the provisions of this appendix and will document activities that could result in decertification. A trained Organic Inspector will be used if the Agricultural Monitor has not already been trained through a USDA-approved Organic Inspection Program; and
- Instances of noncompliance will be documented according to USDA-approved protocol consistent with the Landowner's Organic System Plan, and will be made available to the MDA, the Landowner, the Landowner's Certifying Agent, and to MERC.

If the Agricultural Monitor is responsible for routinely monitoring activities on Organic Agricultural Land, he or she will have been trained in such activities by the International Organic Inspectors Association, at MERC's expense if necessary.

Compensation for Construction Damages

The settlement of damages will be based on crop yield and/or crop quality determination and the need for additional restoration measures, and will proceed in accordance with the terms of the Easement. Unless the Landowner of Organic Agricultural Land and MERC agree otherwise, at MERC's expense, a mutually agreed upon professional agronomist will make crop yield determinations, and the MDA Fruit and Vegetable Inspection Unit will make crop quality determinations. If the crop yield and/or crop quality determinations indicate the need for soil testing, the testing will be conducted by a commercial laboratory that is properly certified to conduct the necessary tests and is mutually agreeable to MERC and the Landowner. Fieldwork for soil testing will be conducted by a Professional Soil Scientist or Professional Engineer licensed by the State of Minnesota. MERC will be responsible for the cost of sampling, testing, and additional restoration activities, if needed. Landowners may elect to settle damages with MERC in advance of construction on a mutually acceptable basis or to settle after construction based on a mutually agreeable determination of actual damages.

Compensation for Damages Due to Decertification

Should any portion of Organic Agricultural Land be Decertified as a result of construction activities, the settlement of damages will be based on the difference between revenue generated from the land affected before Decertification and after Decertification, for the entire period of time the land is Decertified, so long as a good faith effort is made by the Landowner to regain certification.