May 17, 2021

Erik Schovanec
Director
Summit Carbon Solutions
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VIA EMAIL

RE: Rutting Effects on Drain Tiles and Soil Compaction
Summit Carbon Solutions

Mr. Schovanec,

Soil and Ecological Solutions reviewed the letter provided by ISG dated April 19, 2022 regarding rutting within right-of way ("ROW") during construction and has prepared the following comments on behalf of Summit Carbon Solutions ("Summit"). Soil and Ecological Solutions appreciates the thought and consideration of ISG's comments and understands their concerns with general wet weather pipeline construction conditions particularly with regard to soil compaction, drain tile and ultimately crop yield. As a Certified Professional Soil Scientist ("CPSS"), Certified Professional Agronomist ("CPAg"), and Certified Crop Advisor ("CCA"), I also have concerns regarding potential negative impacts on soil health, soil-water drainage, and most importantly maintaining crop productivity both during and after pipeline construction. In my pipeline agronomic experience, if not planned for prior to construction and properly mitigated, the issues that ISG has raised can negatively affect crop yield. However, if planned for and properly managed during construction, problem areas are minimized, and crop yield can be returned to baseline conditions relatively quickly.

Many, if not all, of ISG's concerns can be alleviated by enhanced reclamation practices and the use of appropriate technologies prior to, during, and after construction activities. These enhanced reclamation practices and technologies can be used in lieu of the guidelines ISG proposed while maintaining construction timelines. I agree that drain tile crushing and soil compaction are a potential issue during construction but disagree with the assumption that these issues occur more frequently during wet weather conditions that result in 12 inch or greater rutting. In my experience as a soil scientist and agronomist working in agricultural pipeline reclamation, there are too many factors that affect drain tile damage and soil compaction to place any arbitrary limit on rutting depth across the entire ROW. These site-specific factors include but are not limited to:

1) Soil forming factors (parent material, topography, biota, climate and time)
2) Depth of topsoil
3) Soil texture
4) Depth of drain tile

In my experience soil compaction is problematic if not properly addressed regardless of whether the compaction occurred due to excessive rutting or normal traffic across "drier" soil. The Iowa Utilities Board ("IUB") has addressed this issue in the 199 IAC 9.5(6), which requires that all soil must be tested and have a PSI less than 300 to a depth of 18 inches below the working grade. In most instances in Iowa,

this will allow for a minimum of 30 inches of compaction free rooting depth, which has been shown in peer-reviewed journals to support maximum yield potential for corn and soybeans.

Drain tile damage can occur at any point during construction activity, as well as during normal farming operations. Understanding that pipeline construction activity could impact drain tiles, Summit has made commitments to landowners and is otherwise required by Chapter 9 of the IUB rules to maintain properly functioning drain tile systems post-construction. For example:

1) Summit is requesting drain tile maps of properties crossed. If maps are not available Summit has engaged and will engage landowners to identify potential areas of drain tile to the best of the landowners' recollections. This process is intended to help Summit and their contractors ensure that all drain tile crossings are properly repaired and functioning prior to back filling the trench.
2) Summit is required to follow Chapter 9's detailed processes for temporary and permanent repair of drain tile and has prepared and submitted an AIMP reflecting those requirements.
3) Summit is required to scope 100% of the identified and cut drain tiles to the full width of the ROW prior to permanent repair to ensure that the drain tiles are not obstructed or damaged and are in proper working condition.
4) Summit's signed easement agreements with landowners have a warranty obligation to repair all damaged drain tile due to construction or operations within the field in perpetuity. This warranty obligation ensures that the drain tile will be repaired properly even if it was not identified immediately after construction.

These enhanced measures and commitments by Summit minimize the potential for construction activities to damage drain tiles without knowing and provide farms assurances that any damage caused during construction will be addressed at Summit's expense. Although I do not disagree with ISG's assessment that drain tiles need to be protected and excessive rutting could pose the potential risk of damaging drain tiles, I respectfully disagree that the proper action to maintain functioning drain tiles post-construction is to stop construction during any condition in which 12 inches of rutting might occur. Based on my experience, the items listed above that Summit has committed to and is required to perform will provide equal if not greater protection, ensure identification of potential problems, and ultimately provide for properly functioning drain tiles post-construction than stopping construction at an arbitrary depth requirement.

While construction in wet weather is not preferred, it is a necessity at times to maintain critical exposed infrastructure, limit time topsoil is stockpiled (i.e., susceptible to erosion) and meet schedules. Similar to farming, construction in wet conditions must be balanced with other considerations. In pipeline construction the areas built during wet weather conditions will require greater resources used to reclaim the soil and drain tiles but could have benefits to overall reclamation by reducing the time topsoil is stockpiled. In addition, the tracts that are crossed by the ROW will be returned quicker to historic tillage and planting practices and the natural hydrology will be returned, reducing potential landowner and environmental issues. In other words, the faster the topsoil is returned and the faster it returns to production, the fewer issues will be encountered, assuming that proper reclamation is completed.

In situations like this where enhanced reclamation measures will be employed to ensure proper long-term drain tile repairs return baseline crop yields, the ISG proposed revisions are redundant, unnecessary, and overly burdensome. It is my opinion as a CPSS, CPAg and CCA that if enhanced

techniques and commitments are employed, like those being employed by Summit, the drainage networks (surface and subsurface and crop yields), in the landowners' fields will be better protected in the long-term. It has been my experience on thousands of miles of pipeline in drain tiled areas that problems are readily identified and can be remedied if problems occur.

Based on my experience the methods that Summit will employ will fully protect the soil and crop productivity. Post-construction yield monitoring conducted under my supervision in Iowa and South Dakota indicates that when reclamation is done correctly over 90% of the tracts monitored showed no statistically significant yield differential after 4+ years post-construction. In those tracts with statistically significant yield differentials reclamation strategies can be implemented to ensure that maximum yield potential is returned. In my opinion, the 199 IAC Chapter 9 rules provide strategies that allow for successful reclamation of land and provide a thorough set of protections to landowners in Iowa. The proposed addition of an additional, arbitrary restriction related to wet weather conditions is unnecessary and overly redundant.

Sincerely,

/s/ Aaron De Joia

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