Mark Hockel

Dear Mr. Peterson,

I respectfully submit this letter in support of Riverview LLP's proposed expansion of West River Dairy near Morris, Minnesota. I am an agronomist with decades of experience advising producers on crop production, nutrient management, and soil health. I have worked extensively with dairy and livestock operations on manure application planning, soil fertility management, and the agronomic value of organic nutrient sources. In my opinion, based on my review of the EAW and the draft feedlot permit, no EIS is needed.

In my professional experience, properly managed manure application is one of the most effective tools available for building long-term soil health while simultaneously providing crop nutrients that would otherwise need to be supplied by commercial fertilizers. The proposed expansion includes a comprehensive Nutrient Management Plan covering over 16,000 acres of currently tilled cropland identified for manure application. This plan reflects appropriate and careful planning.

The agronomic benefits of manure application are well-documented. Manure supplies nitrogen, phosphorus, and potassium—the three primary macronutrients essential for crop growth—along with secondary nutrients and micronutrients often absent from commercial fertilizer blends. Equally important, manure adds organic matter to the soil, which improves soil structure, water-holding capacity, infiltration rates, and aggregate stability over time. These improvements translate directly into more productive soils that are also more resilient to drought and heavy rainfall events.

From an agronomic and economic standpoint, the availability of manure as a locally produced organic fertilizer represents a significant value to area crop producers. In the current fertilizer market environment, the nutrient value of manure can offset substantial commercial fertilizer costs for participating landowners, while also delivering soil health benefits that commercial fertilizers alone cannot replicate.

Concerns about nutrient runoff from manure application are understandable, but the scientific evidence—including research published by the MPCA itself—demonstrates that when manure is properly incorporated into the soil, it actually reduces the risk of runoff and soil erosion compared to untreated fields.

The MPCA's 2018 literature review, "Runoff Reductions with Incorporated Manure" (wq-f1-08), synthesized the results of multiple peer-reviewed studies conducted across the Midwest, including research conducted in Morris, Minnesota—the same community where West River Dairy is located. The findings are clear and consistent:

Runoff volume reductions: Fields receiving annual applications of incorporated manure showed runoff reductions compared to fields that did not receive manure.

Soil loss reductions: Fields receiving annual incorporated manure applications showed soil loss reductions compared to fields that did not receive manure. A single application of manure in Morris, Minnesota reduced annual soil loss by 67% in the following year.

Phosphorus management: The research found that injection of liquid manure—the primary method proposed for West River Dairy's liquid manure—results in more-effective phosphorus management when compared to surface-applied manure.

The MPCA's own conclusion from this body of research is significant: all studies reviewed found that, compared to tilled plots that did not receive manure, the incorporation of manure into soil can significantly reduce runoff volume and soil loss and does not increase runoff phosphorus levels on an annual basis. The review further emphasized the importance of incorporating manure through minimum-tillage methods such as knifing or injection—which is precisely how West River Dairy proposes to manage its manure, using knife injection for liquid manure and incorporation within 24

hours for solid manure.

West River Dairy's Nutrient Management Plan reflects the best practices identified in the MPCA's research. Application rates are calculated to match crop nitrogen needs, phosphorus management restrictions are in place to prevent soil phosphorus buildup, and the plan includes best management practices for fall application timing.

From an agronomic perspective, the West River Dairy expansion's manure management plan, supported by the MPCA's own published research, demonstrates that properly incorporated manure is not an environmental liability but an environmental and agronomic asset—one that builds soil health, reduces runoff, and recycles nutrients that would otherwise require energy-intensive commercial fertilizer production. The expansion also represents exactly the kind of investment that rural Minnesota needs—one that supports processing infrastructure, creates jobs, strengthens the local agricultural economy, and provides a market for locally grown crops.

Thank you for the opportunity to provide comment.

Reference:

Minnesota Pollution Control Agency. "Runoff Reductions with Incorporated Manure." May 2018. Publication wq-f1-08. Available at: https://www.pca.state.mn.us/sites/default/files/wq-f1-08.pdf