

**Attachments to Comment on Nolte Family Irrigation Project Environmental
Assessment Worksheet**

Attachments 1- 13

Environmental Working Group

ATTACHMENT 1

From: MNPCA::WALL 22-SEP-1993
To: LYNOTT_W
CC: WALL
Subj: triple J EAW

Post-It™ brand fax transmittal memo 7571		# of pages »
To ^ <i>Paul Burns</i>	From <i>Bill Lynott</i>	
Co. <i>MDA</i>	Co. <i>MPCA</i>	
Dept.	Phone # <i>6-7794</i>	
Fax # <i>7-7678</i>	Fax #	

Bill, below is the response that Greg Johnson and I developed in answer to the questions asked at the meeting. I believe that MDA desired a fair amount of detail in our response. Please contact me if you have any questions about this.

After review of the proposed project plans, a visit to the proposed site, and review of the EAW, we believe that significant environmental degradation would result if the proposed plans for the site were implemented. As stated in the EAW, the effects of this project may not be mitigable. With the current level of information, it is difficult to know whether mitigation would adequately address the environmental concerns. An EIS would provide information that would better enable the state to determine the degree of environmental damage that would be expected with the proposed plans, and whether changes to the proposed project plan would significantly reduce the environmental threats.

Listed below are examples of the types of information that an EIS could provide

GROUND WATER NITRATE CONTAMINATION - More information is needed to determine the expected nitrate concentration increases in the surficial aquifer and deeper aquifers.

To address this issue, a review of relevant research and monitoring results in the Upper Midwest would need to be conducted. The soil, subsoil, climate, irrigation management, and cropping systems at the proposed site should be compared to conditions at the research sites in order to better evaluate the potential for nitrate leaching at the proposed site. Soil samples should be taken at various depths down to the water table at different points in the proposed project and analyzed to aid in the comparison with research site conditions.

The direction of ground water flow and the lateral continuity of clay layers needs to be better defined in order to determine the potential for lateral and vertical migration of leached chemicals to other areas. Installation of piezometers and deep soil borings would be needed to define these parameters.

SOIL SLOPE FAILURE - It is stated in the EAW "the probability of slope and bank failure along Dead Horse Creek increases significantly under irrigation, especially potato irrigation." The EAW also states "the frequency of slope failure will increase because of increased ground water flows and this will directly impact the habitat quality and permanent easement along the stream."

Slope failure will likely increase due to 1) increased subsurface moisture and water discharge (interflow) near the ravine and 2) direct application of

EXHIBIT

irrigation waters onto and near the ravine. The increased water movement in the subsurface layers and subsequent discharge to the sloping soils will result from the irrigation activities. The amount of increase is not known, but should be estimated by measuring current soil moisture and spring discharge and calculating the increased percolation that would result from irrigation.

Direct application of irrigation waters to the ravine would be a problem in certain areas due to the length of the pivot and presence of end guns. Areas where irrigation waters would approach the ravine, wetlands and "blowout" areas should be accurately identified. The effects of end gun elimination and shortening the length of pivots at key locations should be determined.

SEDIMENT AND NUTRIENT TRANSPORT TO THE STREAM - The EAW states "Due to the intense tillage, increased fertilization, and chemical inputs associated with irrigated rotations, impacts on surface waters will probably exceed previous agricultural contributions. Without further study, it is impossible to state the actual "before" and "after" impact."

The conservation plan for the site recommends turkey manure additions to control erosion. This practice has not been accepted as a best management practice to control erosion due to potential runoff of phosphorus, bacteria and chemical and biochemical oxygen demand substances. It is unclear how erosion loss limits would be met if turkey manure were not applied. This dilemma needs to be resolved by a review of the risks associated with turkey manure runoff and the evaluation of other possible erosion control measures.

Transport of sediment and nutrients to the stream is likely even though overland and channelized flows are typically not observed in the study area. The transport of pollutants would be expected to occur via the subsurface hydrology in combination with some surface erosion dynamics. The steeply sloping soils, along with lack of residue cover that would result under the proposed cropping plans, provide a greater risk of surface erosion and transport to the stream. The effectiveness of the proposed buffer strips and the establishment of cover crops in minimizing sediment and nutrient movement into the stream needs to be further evaluated. One way of estimating the impact of the "blow outs" would be to estimate the volume of sediment that has been sloughed from them to date. This could be used in conjunction with an evaluation of increased subsurface flows due to irrigation.

WATER LEVELS IN DEAD HORSE CREEK - It is stated in the EAW "irrigation pumping in the late summer could potentially reduce flows in Dead Horse Creek."

The reduced flows in Dead Horse Creek during pumping would depend primarily on the lateral continuity, thickness and permeability of the clay layers. This information can be obtained by drilling boreholes and analyzing the soil samples.

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To	Bill Lyott	From
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It was announced at the September 1st field visit by Paul Glander, Area Fisheries Manager for MDNR that based on a 1993 stream survey Dead Horse Creek met the criteria for the second highest class of trout stream in the state and would have been in the highest class but for the fact that the stream lacked a resident reproducing population of trout. The stream had improved significantly since the last survey conducted in the mid 80's and the improvement was found to be the result of significant land use change in the watershed from cropland to Conservation Reserve. The DNR's decision not to stock this stream in the 1980's was a budgetary decision, not a resource management decision where diminished trout stocking funds were directed to trout lakes rather than streams. This new information on the value of this stream and the possible impacts from having its watershed converted back to even more intensive agricultural uses would be most appropriate for inclusion in an EIS.

Low stream flow under drought conditions are likely to coincide with high demand for irrigation water. Stream temperatures will increase and dissolved oxygen levels decreased by reduced flows. If stream flows can be adversely impacted by groundwater appropriation this potential should be quantified to the extent possible and parameters for appropriation limits should be developed which would sustain water quality necessary for designated uses.

The other area that must be addressed is the potential for further development of this type in the area. Some important statistics were presented at the September 1st meeting after the field tour. I may not have these all precise so they should not be quoted without verifying them but generally, here is what I heard:

1. The number of acres of potatoes under irrigation in Minnesota has doubled in the past 15 years.
2. Of the 70,000 total potato acres in Minnesota, about half or 30,000 acres are irrigated.
3. The greatest increase in irrigated potato has been in the central sand plain potato area as opposed to the Red River Valley or Northern Potato areas (Lake of the Woods and Roseau Counties).
4. Hubbard County (adjoining county to the east of Becker where most of the irrigated potatoes are raised for R. D. Offut Inc.) has 4,500 acres out of 83,000 total cropland acres in irrigated potatoes. Comparable numbers were not available for Becker County but the acreages would certainly be much lower indicating that irrigated potato development is in its very early stages.
5. Since 1990 Hubbard county has experienced some 1,300+ acres converted from forest to irrigated potatoes.

6. Peterson Biddick Co. is planning to clear some 1,800 acres of forested land in Wadena County for conversion to irrigated potatoes.

7. Conservation Reserve Program lands in Hubbard county which were poor (droughty) for dry land farming will very likely be converted to irrigated crops such as potatoes when the program ends in 1995. (This is info from the Hubbard County Ag. Ext. Agent, Will Ylinimi.)

8. Kevin Bartels, a nearby land owner has 3 or 4 parcels of land he hopes to convert to irrigated potatoes pending the outcome of the Triple J permits. (This is information from Julian Janke at the 9/1/93 meeting). Mr. Bartels land is about one mile upstream from Triple J and also adjacent to Dead Horse Creek.

Mr. Janke went on to explain that he would very likely apply for MDA fertigation and chemigation permits if his ground water appropriation permits were granted. He added that it is very beneficial for potato growers to be able to add nitrogen via irrigation systems following heavy rains which tend to leach nitrogen out of the root zone. He indicated that reapplication of nitrogen through the center pivot rigs is sometimes necessary to "keep crops alive" after rain has flushed out the nitrogen applied earlier in the crop year. This fertigation practice, which appears to be standard irrigated potato management, has serious potential surface and ground water quality consequences. The increased potential for transporting nitrates to the ground water and greater probability of "blowouts" and surface runoff by reapplication of nitrogen through the irrigation system after heavy rains should be examined in some detail.

There are a number of effects that have been identified thus far which would not seem to be mitagable:

1. Groundwater contamination by nitrates seems a certainty, we can argue about what levels of nitrates but this is an unmitigable effect.

2. The "blowout" phenomenon (a catastrophic soil subsidence which occurs when certain soils on steep slopes become semi water-suspended and slide enmasse) is very evident on the slopes toward Dead Horse Creek under dry land farming or pasture use. Irrigation will exacerbate the frequency, severity, and area effected by this type of soil erosion. The soil fertility lost and the progressive movement of soil toward the creek so far seems unmitigable.

3. Mr. Janke expressed his unwillingness to consider a crop rotation which would eliminate potatoes. He insists that a corn, bean, potato, rotation is the only one he will consider. This eliminates the possibility of

mitigation of groundwater, wind and soil erosion impacts via alternative crop rotation.

4. There was universal agreement between the agency representatives at the meeting on September 1st that turkey manure was not acceptable for this conservation practice due to high potential for runoff containing nutrients and oxygen demanding organics. According to Dean Hendrickson, Backer County SWCD staff who prepared the conservation plan for Triple J, no alternative soil conservation measure is available to replace the turkey manure application for maintaining minimum residue on the soil surface. Prevention of wind and/or water erosion of these light soils without residue or vegetative cover would seem a virtual impossibility.

5. The soil conservation plan prepared for the Triple J property establishes "T" as the soil loss goal and it is unclear whether the plan prepared by the SWCD was capable of achieving "T". While "T" as a goal (I believe it is 5 tons per acre for these soils) may be adequate to sustain soil productivity there is no indication the "T" will be adequate to protect Dead Horse Creek. Furthermore, it is my understanding that "T" accounts for rill, sheet, and gully erosion but does not factor in the unique "blowout" type of erosion at work at this site.

6. Assuming BMP's were available which would protect groundwater at the 10 mg/l RAL for nitrates "Ongoing regulatory authority" is not in place which would make BMP's mandatory under the Agriculture Department's Groundwater Act responsibilities. It is my understanding that there must be a demonstration that voluntary BMB's are not sufficient to protect groundwater before mandatory BMP's can be enacted.

It could be argued that with the current status of Triple J having invested in developing irrigation wells (as required before applying for needed permits from MDNR) that an EIS should be done to protect their investment. Certainly their permit application ought not be denied on the basis of a cursory assessment of the environmental issues. A thorough evaluation of the issues and reasonable alternatives would give the Janke's satisfaction of knowing everything was done to try to allow them to develop the property and farm it profitably so long as it could be done in a manner which protected the ground water and Dead Horse Creek. If the permit must be denied, it could be done knowing that no feasible alternative was found.

We are concerned about the additional financial burden an EIS might place on the Janke's and means of alternative funding for the EIS should be reviewed. Joint state agency funding, agricultural

irrigation industry groups might be asked to contribute, University of Minnesota Irrigation Experiment Station funding might be explored, and R.D. Offut Inc. could be contacted for participation.

Paul, my own slant on the funding issue is that the proposer should bear the cost. If future similar projects come up for permitting & require EIS's, they will also expect others to pay if we do it that way on this one. I'd recommend that Offut help be solicited in identifying other proposers who could be asked to kick in & maybe join their projects to this one for EIS purposes. Or maybe Offut should pay & take more off the top from contractors in return.

Discuss if you wish.

Bill Hyatt / MPCA
6 2794

ATTACHMENT 2

MEMORANDUM

To: Jamie Konopacky
Environmental Working Group
111 Third Avenue South
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Minneapolis, MN 55401

From: George J. Kraft, Ph.D., PH
8640 Old Amish Rd.
Amherst WI 54406



Date: May 1, 2020

Re: Review of Environmental Assessment Worksheet for Nolte Family Irrigation Project

I, George J. Kraft, hold a Ph.D. from the University of Wisconsin – Madison with a major in Soil Science and minor in hydrogeology and a State of Wisconsin Professional Hydrologist license. I am a professor emeritus of water resources at the University of Wisconsin Stevens Point (UWSP) and the University of Wisconsin—Extension and former Director of the Center for Watershed Science and Education at UWSP. For over 30 years, I have researched and published extensively on the specific topic of agricultural groundwater quality and quantity issues in sandy soils and glacial aquifer systems in the Northern Great Lakes States. I have also had opportunities to work with Minnesota agency staff and citizen groups focused on these issues. In November 2019, I visited Park Rapids, Minnesota and made a presentation on how my research applies to water quantity and quality concerns in Minnesota’s Pineland Sands Aquifer area.

At the request of the Environmental Working Group, I have reviewed the Environmental Assessment Worksheet for the Nolte Family Irrigation Project (July 2013 version) prepared by the Minnesota Department of Natural Resources (hereinafter “EAW”). My review, as outlined below in this expert report, first briefly focuses on the need for considerably more information on potential groundwater pumping impacts, which are integrally related to the scope and extent of potential water quality issues from the proposed project. Next, I discuss the EAW’s incompleteness regarding nitrate and pesticide effects on water quality. It is my expert opinion that the proposed project will almost certainly contribute recharge to groundwater containing nitrate concentrations exceeding the 10 mg/L nitrate-N state and federal drinking water standard. Moreover, this nitrate-laden groundwater will discharge to and contribute nitrate to the nearby Redeye River.

Conceptual model

Groundwater in the vicinity of the proposed project area originates from local precipitation that percolates through soils and enters the region’s saturated geology (aquifers and aquitards). The saturated geology consists of an uppermost approximately 130-foot thick sand and gravel aquifer underlain by alternating aquitard and aquifer units to a depth of approximately 400 feet. I infer that groundwater in the immediate project area flows west, southwest, and south (depending on the

particular subarea of the site in question) through the surficial aquifer and discharges to the Redeye River.¹

Water Quality and Quantity Resource Concerns

In my opinion, the proposed project presents both water quality (pollution) and water quantity concerns. Water quality will be negatively affected by nitrate and pesticide residues that will leach from the proposed irrigated cropland to groundwater and then discharge to the Redeye River, located only .4 - 1 mile away.² Water quantity will be affected by the proposed project when groundwater is pumped from aquifer storage for irrigation and evapotranspired into the atmosphere, causing water level declines in the aquifer and in connected wetlands, as well as flow declines in connected streams. The current information in the EAW is insufficient to assess the type and extent of potential water quantity impacts.

The groundwater quantity effects that will result from the requested 100 million-gallon-per-year water appropriation for irrigating 303 acres of cropland will contribute to cumulative water quantity effects for the broader area. However, the EAW inaccurately identifies only two water resource related cumulative effects, "Contamination of groundwater, specifically due to nitrate and pesticides," and "Contamination of surface water, specifically due to nitrate and pesticides." (Pg. 38). Completely omitted is the critical category of water quantity cumulative effects. And because the EAW does not identify water quantity cumulative effects as a category for analysis, it fails to provide any meaningful discussion of the likely impacts of pumping on water levels and streamflows.

The omission of water quantity as a cumulative effects category is at odds with information contained in other portions of the EAW. First, the EAW seems to concede pumping effects are a concern, because most of the *Past and Present Conditions* part of the EAW is devoted to cumulative pumping impacts. And second, the EAW states aquifer tests will be required later, presumably to assess pumping drawdowns and streamflow diversions. (Pg. 30).

Importantly, agency staff and the concerned public should not assume that because the irrigation wells are proposed to be completed in a confined aquifer that water level and streamflow impacts will be precluded (pg. 25). All confining units are at least somewhat leaky (and sometimes very leaky). Groundwater in a confined aquifer is not really completely confined nor is it immobile, rather it is in transit toward some discharge point and connected to the surficial aquifer and to surface waters. Accordingly, the proposed project's pumping from the confined aquifer will diminish water levels and streamflows. These impacts may be more spread out in time and space than if the project were pumping from a shallow unconfined aquifer, but they will still occur.

¹ The EAW seems unclear on this point. It references a 1977 USGS report that "... the general groundwater flow direction for the Pineland Sands area is to the southeast," but then alludes to a re-evaluated map and USGS Hydrologic Atlas that "... clearly shows flow towards rivers and streams..." without ever conclusively stating the direction of groundwater flow at the site of the proposed project.

² I assume that water in the surficial aquifer, like most sandy, surficial aquifers is well oxygenated and hence unlikely to rapidly degrade nitrate.

Nitrate Contamination of Groundwater

The EAW lacks any evaluation of the potentially significant nitrate loads to groundwater and surface water from the proposed project. In the following analysis, however, I show that nitrate loads to groundwater and surface water from the proposed project will likely be considerable.

To evaluate the severity of potential nitrate contamination from the proposed project, I compared potential project nitrate loads to groundwater (i.e. the annual loss of nitrate to groundwater in pounds N per acre) to nitrate loads that are consistent with maintaining groundwater quality meeting the Safe Drinking Water Act standard of 10 mg/L nitrate-N. Based on that standard, and using the EAW's groundwater recharge rate of 5 inches per year (Pg. 25), I determined a maximum permissible nitrate-N loading rate (N_{load}) for the proposed project of 11.5 lbs/acre/yr. Using a more generous recharge rate of 10 inches per year (which is common in some sandy areas in the Northern Great Lakes States), the maximum N_{load} would be 23 lbs/acre/yr.

Assessing N_{load} to Groundwater From the Proposed Rotation

I estimated an N_{load} range for parts of the proposed project's crop rotation from the existing scientific literature when it was available, or budget approaches based on University of Minnesota fertilization recommendations and average crop yields.³ The N_{load} estimate for parts of the proposed project's crop rotation are then available for comparison against the 11.5-23 lbs/acre/yr permissible N_{load} consistent with the drinking water standard.

The EAW states that the rotation will be either four or five years, with the four-year rotation comprising:

- Year 1: Corn interseeded with annual rye grass and clover, possible grazed post-harvest.
- Year 2: Oats followed by alfalfa and fescue
- Year 3: Alfalfa and fescue
- Year 4: Potato or edible bean

A five-year rotation would replace year 4 with another year of alfalfa-fescue and add a fifth year of potato or edible bean. (Pg. 17-18).

Below, I present N_{load} estimates for each of the crops in the proposed project's crop rotation, assuming the use of best management practices (BMPs). As can be clearly seen, the BMP N_{load} estimates compare unfavorably with permissible N_{load} for maintaining safe drinking water.

It is important to note that the N_{load} estimates are likely overly optimistic (i.e., underestimates of N_{load}). This is the case because BMP approaches allow producers to add more nitrogen fertilizer when they feel it justified. For example, producers often apply additional nitrogen fertilizer following large rains to make up for perceived leaching losses. This practice substantially increases groundwater N_{load} .

Potato N_{load}

Potato BMP N_{load} of 75 and 106 lbs/acre/yr was estimated in the Wisconsin Central Sands region (Kraft and Stites 2003, Mechenich and Kraft 1997), a region similar to the Pineland Sands, using budget approaches (Meisinger and Randall 1991). In Minnesota, BMP potato N_{load} has been estimated to be 132

³ University recommendations are usually the standard for BMP approaches.

to 170 lbs/acre after non growing season nitrate losses were accounted for (Bohman et al. 2019, email communication with B. Bohman).

As stated above, these BMP potato N_{load} estimates are likely optimistically low. N_{load} of over 200 lbs/acre for BMP potato was measured in the Wisconsin Central Sands after growers added additional nitrogen fertilizer in response to large rainfalls (Kraft and Stites 2003).

Corn and Oat N_{load}

BMP corn and oat N_{load} was estimated at 57 and 20 lbs/acre for Wisconsin Central Sands using budget approaches (Mechenich and Kraft 1997).

Though the MN Department of Agriculture did not evaluate N_{load} in its Byron #1 study (MN DoA 2020) (referred to as the "Winnemucca Study" in the EWG comment), it reported groundwater nitrate-N concentrations more than 2.5 times the drinking water standard in downgradient monitoring wells during the year and a half following corn. The same study found nitrate-N concentrations following oat reached 1.5 to 2 times the drinking water standard. These monitoring data are consistent with my projections that BMP N_{load} from the proposed project will likely exceed that which is consistent with keeping nitrate-N in groundwater below the Safe Drinking Water Act limit of 10 mg/L.

Edible Beans N_{load}

I was unable to find a reference for edible bean N_{load} for this setting, but calculated an overly optimistic (i.e, low) N_{load} of 24 lb/acre using a budget approach that considered only BMP fertilizer rate as an N input, neglecting long-term native humus mineralization and precipitation N.

Alfalfa-fescue N_{load}

I expect that the standing-crop alfalfa-fescue N_{load} during years 3 and 4 would be small, perhaps less than the permissible N_{load} required to produce safe drinking water. However, and critically, the alfalfa-fescue N_{load} depends on if, and how much, manure-nitrogen might be applied in these years. The EAW fails to include sufficient information on manure application rates and timing to fully assess this point. In addition, post-plowdown N_{load} is potentially large⁴ because substantial amounts of mineralized alfalfa-fescue residue N may be uncaptured by subsequent crops.

Manure Management

The EAW's failure to specify how manure will be managed confounds estimates of N_{load} to groundwater. The 720 tons of solid cattle manure that will be produced is not insignificant, amounting to approximately 14400 pounds of nitrogen, assuming a nominal 20 pounds of N per ton of manure (UMNE 2020).

Manure that is applied to fields potentially contributes more nitrate to groundwater than commercial fertilizer when applied in amounts equal as plant available N. This is because manure may be mineralized at times of the year when plant uptake is small, leaving more nitrate that can seep beneath plant roots and into groundwater.

⁴ Estimating N_{load} from alfalfa is difficult as most agronomic literature only reports how much N can be credited to subsequent crops, not how much leaches to groundwater or is accounted for.

In addition to spread manure, the EAW does not provide any analysis as to the contribution of manure deposited directly on fields during grazing.

Mitigating Factors in the EAW Cannot be Assumed to Reduce Nitrate Losses

The EAW throughout discusses supposed pollution reduction measures in the abstract. It mentions BMPs, soil health principles, alfalfa's deep roots, the project proposer's MAWQCP certification, and cover crops. However, it is empirically faulty to assume that these measures will prevent unsafe levels of nitrate leaching to groundwater beneath the proposed project's irrigated cropland. Reducing N_{load} to groundwater requires decreasing nitrogen inputs (commercial fertilizer, manure, fixed N) or increasing nitrogen removed during crop harvest. The EAW fails to supply information showing the supposed pollution reduction measures will result in decreased inputs or increase crop harvest in any meaningful way. Hence they should be disregarded.

N_{load} Summary

The EAW fails to estimate N_{load} for crops in the rotation and does not specify management details that would allow estimates of N_{load} for manure and post-plowdown alfalfa-fescue residue. This information is critical to understanding the likely significant risk of nitrate pollution to groundwater and surface water from the proposed project.

As presented above, in the best-case scenario, potato and corn crops in the proposed project will likely contribute a N_{load} to groundwater that is many times higher than that consistent with maintaining nitrate-N concentrations below the Safe Drinking Water Act limit of 10 mg/L. Although not as large as corn and potatoes, projected edible bean and oat N_{load} from the proposed project is also still greater than the N_{load} consistent with achieving the above-stated water quality goal.

With the strictest adherence to minimum University of Minnesota fertilization recommendations, and ignoring manure and plowdown losses of alfalfa-fescue N and supplemental nitrate applications after heavy rainfall, the proposed rotation will likely still have a N_{load} double to quadruple the N_{load} consistent with keeping nitrate-N levels in groundwater below the Safe Drinking Water Act limit of 10 mg/L.

Pesticide Residues

Attachment D in the EAW enumerates a lengthy list of pesticide compounds. And, the EAW states that the residues of 45 pesticides have been identified in nearby groundwater. (Pg. 27). In the hydrologically similar Wisconsin Central Sands, neonicotinoid pesticides have recently been found in groundwater and surface water at concentrations that have potential negative consequences for aquatic and terrestrial invertebrates. (Bradford et al. 2018; W.DeVita pers. comm.). Accordingly, it is my recommendation that environmental review of this project incorporate more analysis of the potentially significant effect of neonicotinoids in groundwater and surface water.

Conclusion

In conclusion, the EAW neglects consideration of potentially significant water quantity effects, including water level drawdowns and streamflow depletion, associated with the proposed project. The EAW also lacks an analysis of likely significant nitrate and pesticide leaching and associated groundwater and surface water contamination. Based on my expert analysis, the proposed project will likely contribute

nitrate loads to groundwater that are inconsistent with achieving a water quality goal of keeping nitrate concentrations in groundwater below the Safe Drinking Water Act limit of 10 mg/L nitrate.

Literature cited

Bradford, B.Z., A.S. Huseeth, and R.L. Groves. 2018. Widespread detections of neonicotinoid contaminants in central Wisconsin groundwater. PLoS One.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6169852/>

Bohman, B.J., C.J. Rosen, and D.J. Mulla. 2019. Evaluation of variable rate nitrogen and reduced irrigation management for potato production. *Agronomy Journal* 111:2005-2017.

Kraft, G.J. and W. Stites. 2003. Nitrate impacts on groundwater from Irrigated vegetable systems in a humid north-central US sand plain. *Agriculture, ecosystems & environment* 2003 v.100 no.1 pp. 63-74.

Mechenich, D.J. and G.J. Kraft. 1997. Contaminant source assessment and management using groundwater flow and contaminant models in the Stevens Point – Whiting – Plover wellhead protection area. Central Wisconsin Groundwater Center, Cooperative Extension Service, College of Natural Resources, University of Wisconsin – Stevens Point.

Meisinger, J.J. and G.W. Randall. 1991. Estimating nitrogen budgets for soil-crop systems. P. 85-124. *In* D.R. Follett et al. (ed.) *Managing nitrogen for groundwater quality and farm profitability*, ASA, CSSA, and SSSA, Madison WI

MNDaA. 2020 Byron #1 study groundwater monitoring report.

<https://wrl.mnpals.net/islandora/object/WRLrepository%3A3521/datastream/PDF/view>

UMNE 2020. Manure characteristics. <https://extension.umn.edu/manure-land-application/manure-characteristics>.

GEORGE J. KRAFT

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Stevens Point WI 54481

CAREER EXPERIENCE

- Professor Emeritus/Research Specialist/Outreach Educator/Consulting Hydrologist.** 2018 -
College of Natural Resources, University of Wisconsin -Stevens Point & Freelance
- Conduct groundwater research in the public interest
 - Provide public water resource education
 - Consulting services on groundwater and surface water matters
- Director - Center for Watershed Science and Education** 1990 to 2018
& Professor of Water Resources
- College of Natural Resources, University of Wisconsin -Stevens Point
- Appointment (2017): 50% administration, 25% program, research, and service leadership, 10% classroom teaching, 15% Cooperative Extension education.
 - Responsibilities (2017): Manage personnel and budget; conduct outreach programming; assist state government, local governments, citizens and groups in water resources matters; support county Extension offices; collaborate with state, local and federal government agencies; conduct applied research; and teach courses at the College of Natural Resources.
 - Supervise of staff of 14 professionals plus 12 student workers.
 - Oversee a program with a continuously increasing staff, budget, and mission.
 - Serve on College's management team ("Dean's Council")
- Hydrogeologist** 1989 to 1990
- Wisconsin Department of Natural Resources, Madison WI
- Managed Superfund and state Environmental Repair projects
 - Designed and reviewed hydrogeologic investigations
- Groundwater Research Associate** 1986 to 1990
- Wisconsin Geological and Natural History Survey, Madison WI
- Conducted groundwater investigations on pesticide fate in groundwater
 - Procured grants, managed budget
- Hydrogeologist and Hazardous Waste Specialist** 1980 to 1985

Wisconsin Department of Natural Resources, Green Bay WI

- Managed spill and contaminated site investigation and cleanups
- Enforced RCRA and CERCLA laws

EDUCATION

Ph.D., 1990

University of Wisconsin – Madison

Major: **Soil Science (Soil Chemistry)**

Minor: **Geology (Hydrogeology)**

M.S., 1982

University of Wisconsin - Stevens Point

Major: **Natural Resources Land Use Planning**

B.S., 1978

University of Wisconsin - Stevens Point

Major: **Soil Science**

PROFESSIONAL LICENSES

- Professional Hydrologist 111-17

PROFESSIONAL MEMBERSHIPS

- Association of Ground Water Scientists and Engineers
- Soil Science Society of America
- Sigma Xi Honorary Research Society

SELECT COUNCILS, COMMITTEES, WORK GROUPS

University of Wisconsin System Groundwater Research Advisory Council Member of a scientific council that defines Wisconsin groundwater research priorities, requests research proposals, and recommends proposals for funding. 2002 to present.

Wisconsin Initiative on Climate Change Impacts Member of a collaboration between the University of Wisconsin System, Wisconsin Department of Natural Resources, and other institutions that assesses and anticipates climate change impacts on Wisconsin natural resource; evaluates potential effects on industry, agriculture, tourism and other human activities; and develops and recommends adaptation strategies. 2009 to present.

Wisconsin Groundwater Coordinating Council – Governor’s representative, both Republican and Democratic, to this statutory council on groundwater. 2002 to 2015.

Wisconsin Groundwater Advisory Council Technical Committee A scientific group advising a Council implementing 2003 Wisconsin Act 410 on groundwater pumping. 2004-5.

Wisconsin Joint Assembly -Senate Groundwater Working Group Appointed by the state legislature to advise policy on creating groundwater quantity management statutes. 2003.

COURSES TAUGHT

Introduction to Soil and Water Resources	Groundwater Management
Contaminant Hydrogeology	Hydrology
Water Chemistry	Applications of Groundwater Models
Hydrogeology	Techniques in Hydrogeology

OUTREACH PROGRAMMING

Watershed-scale water resources management, watershed partnerships, climate change, agricultural impacts on water quality, groundwater quantity issues, groundwater resource sustainability.

RESEARCH AREAS

Effects of land uses on water quality, agricultural and environmental sustainability, contaminant hydrogeology, climate change and water resource connections, groundwater pumping impacts on lakes and streams.

SELECT AWARDS (Since 2000)

University Scholar Award. University of Wisconsin – Stevens Point.

Water Conservationist of the Year. Wisconsin Wildlife Federation.

Distinguished Service Award. Wisconsin Chapter of the American Water Resources Association, for a career's work of water issues.

Outreach Award. Awarded by the University of Wisconsin - Stevens Point College of Natural Resources for outstanding outreach service to Wisconsin citizens, professionals, and students.

Wisconsin Idea Fellow. University of Wisconsin System. In recognition of extraordinary public service on behalf of the University of Wisconsin to local communities, business, and improving the quality of life and economy in Wisconsin.

Outstanding Environmental Contribution Award. Wisconsin Stewardship Network.

River Champion Award. Wisconsin Rivers Alliance. Awarded for ongoing service, technical assistance, and public education work.

Outstanding Service Award. Wisconsin Society of Professional Soil Scientists. For distinguished service in instituting a Soil Science professional license.

PUBLICATIONS Peer-reviewed journal papers since 2000

Nocco, M., C. Kucharik, G.J. Kraft, and S. Loheide. 2018. Drivers of recharge from irrigated cropping systems in the Wisconsin Central Sands. *Vadose Zone Journal* V17(1).

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Area of the Stockbridge-Munsee reservation. Report to the Stockbridge-Munsee Tribe of Mohican Indians. Center for Watershed Science and Education, University of Wisconsin - Stevens Point. 16 p.

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GRANT HISTORY *Select grants since 2000*

WDNR. *Monitoring Support for Groundwater Management in the Wisconsin Central Sands.* \$240,000. 2016-2020.

WDNR. *Monitoring and Modeling Support for Groundwater Management and Policy Activities in the Wisconsin Central Sands.* \$97,000. 2014-2016.

WDNR "Information Support for Groundwater Management in the Wisconsin Central Sands." \$84,000. 2012-2014.

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WDNR "Impacts of potato and maize management and climate change on groundwater recharge across the Central Sands" (with Chris Kucharik, UW-Madison) \$120,000. 2012-2014.

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Lost Creek Wetland Mitigation Site evaluation. Stantec. \$10,000. 2011-12.

Information support for groundwater management in the Wisconsin Central Sands. Wisconsin Department of Natural Resources, \$43,290. 2010-2012.

Mass spectrometry facility for research, education, and outreach on drinking and ground water quality. (With P. McGinley, W. DeVita, R. Stephens.) National Science Foundation major Research Instrumentation Grant Program, \$248,000.

Lost Creek Wetland Mitigation Site evaluation. Stantec. \$34,000. 2009-10.

Assessment of natural resources conditions for Isle Royale National Park. National Park Service. \$97,000. 2008-10.

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Assessment of water resources and watershed conditions in and adjacent to Sleeping Bear Dunes National Lakeshore. \$80,000. National Park Service. 2007-9.

Lost Creek wetland remediation groundwater modeling study. \$15,000. Wisconsin Department of Transportation. 2007-8.

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Chloroacetanilide and atrazine residue penetration in two Wisconsin groundwater basins. \$63,416. Wisconsin Groundwater Coordinating Council. 2000.

Developing groundwater flow and particle track models for source water protection and groundwater management. Wisconsin Department of Natural Resources / Environmental Protection Agency. \$145,000. 1999-2001.

Nitrate and triazine concentrations in the groundwater of the northern Wisconsin River basin. State of Wisconsin - Department of Natural Resources. \$5585. 2000.

A basin-scale denitrification budget for a nitrate contaminated Wisconsin aquifer. (With Bryant A. Browne.) Wisconsin Groundwater Research Council. \$59,273 2000-2002.

Effectiveness of anionic surfactant in reducing nitrate leaching to groundwater under potato production. (With Birl Lowery and Frederick Madison) Wisconsin Potato and Vegetable Growers Association. \$20,000. 2000.

Assessing the impacts of irrigated agriculture on water quality and economics in the central sands. (With W. Bland and M. Anderson.) University of Wisconsin - Consortium. \$22,820. 2000.

COMMUNITY INVOLVEMENT

- Tomorrow River Scholarship Foundation Current president, past secretary. This foundation with a \$1 million endowment serves residents of the Tomorrow River School District, providing some 80 scholarships annually (by way of reference, graduating classes are about 70) to deserving young people to pursue higher education.
- Iola Winter Sports Club Nordic High School / Middle School Racing Team Coach. Along with co-coaches, solicit athlete participation, run trainings, arrange race participation, fund-raise, report to the Club board of directors.
- Friends of the Tomorrow Waupaca River Member. Write news releases, organize river clean-ups, solicit membership, generally contribute to the smooth running of a healthy river organization.

ATTACHMENT 3

DEPARTMENT Department of Natural Resources
Division of Fish and Wildlife
Ecological Services Section

STATE OF MINNESOTA

Office Memorandum

DATE : June 30, 1993

TO : Don Buckhout, Office of Planning, St. Paul
Through Con Christianson, Environmental Review Supervisor
Ecological Services Section

FROM : Paul Stolen, *Paul Stolen*
Bemidji,
Fisheries and Wildlife
Environmental Assessment Biologist

PHONE : 218-755-4068

SUBJECT : Comment, Triple-J Farms Irrigation Project EAW
Becker County
Pl. #930241-1

This is the third DFW memo that contains substantive comments about this project. The first, dated June 14, 1993, was submitted upon request from the Office of Planning as input to the EAW. The second was a June 18th memo to Tom Balcolm discussing changes in the draft EAW.

The comments are based on two site visits, the first done by Paul Glander, Rob Naplin, and myself; the second with Paul Glander, myself, Bob Merritt, and Dean Hendrickson from the Becker County SWCD on June 24. The first visit resulted in a June 14 memo that was input for the EAW. DFW Region 1 staff recommended either permit denial or an EIS in that memo.

It is important to note that many of the comments that follow pertain to potential impacts from runoff from private land. This land is presently in grass and has been farmed in the past. It could be re-converted to farmland at the present time without any permits. However, given the poor site conditions, it is not likely that this will occur without irrigation. In addition, MEQB rules require the assessment of impacts from land use conversions, and from other significant impacts that might directly or indirectly result from a state permit being granted.

We have the following comments:

SIGNIFICANT ISSUES

There are a number of issues that are significant about this project. To facilitate the scoping process, this memo points out the topics which would be appropriate for inclusion in an EIS. The list below roughly follows the EAW format.

A) EAW Question #8. Chemigation. Page 2 of the EAW refers to chemigation as a possibility. The types of nutrients and pesticides to be used, and the likelihood that impacts to Dead Horse Creek will occur, needs to be assessed. Types of impacts that could occur are from wind drift and runoff. The steep valley

means that wind turbulence could do strange things with respect to deposition. The types of nutrients and pesticides that would be applied are unknown at this time. This issue is significant and should be addressed in an EIS. It is also discussed in D. below.

B) Question #9, Land uses. The EAW statement regarding current land uses and potential for conflict is incorrect on several counts:

1) The majority of the surrounding land is not in row crops, as is stated in the EAW. For instance, there is a pasture on the north. There is a 400 acre private land parcel to the east that, according to the owner, John Wacker, is in the process of being put into a "wildlife preserve." To the west, there is wooded creek bottomland. Finally, row crops in the general area are found on flatter land, not hillsides as steep as found here.

2) The center pivots are on both sides of a designated trout stream that is partially protected by a permanent easement. This is a potential land use conflict. This parcel was obtained by Triple-J from the county (according to a neighbor) less than a year ago. This stream has been managed for trout in the recent past. Plans for it are being reviewed by the new Area Fisheries Manager, Paul Glander.

3) The question also asks that potential environmental hazards from past land uses be described. There is evidence that past attempts to crop this land have resulted in substantial loss of topsoil and the organic soil fraction in many places. For example, on the north side of the creek, there are numerous locations with little or no vegetation, even though the land has not been farmed for years. In addition there are numerous locations where gullies and other unstable sites have formed. (See also D.4 of these comments.) This environmental hazard can be alleviated by keeping the land in grass cover.

There is a concrete cistern(?) at the homesite south of the creek that is partially filled with trash. It is about 15 feet in diameter, and is buried about 10 feet into the ground. It is within Pivot #3.

This land use conversion has a high potential for conflict with neighboring uses. Furthermore, there is evidence it is not a use compatible with the site because of past damage from previous uses.

C) Question #10, Cover types. The question does not include the loss of forest from Pivot #3. Nor does it include the possible loss of wetlands due to siltation from field erosion. These wetlands are found on hillsides above the creek and in the lower parts of the gullies that lead into the creek. The types of impacts that could occur to the wetlands within the creek valley are discussed in G below, in comments on EAW Question 17.

D) Question #11, Fish, wildlife, and ecologically sensitive resources. First, I would note an error. The highest point in Minnesota is 2301 feet elevation, and Toad Mountain is at 1755. The 200 foot figure is thus wrong (it was my error when I did the

June 14 comments.)

The answer to question 11 does a relatively good job of describing the potential impacts, although no conclusion is drawn. We do have some additional comments beyond what was contained in our June 14 memo, as follows:

1) A population assessment of stream fish in Dead Horse Creek had been planned for later this summer. This is being accelerated, and should be done the week after July 4th. Our files indicate that Dead Horse Creek was generally annually stocked. However, the public has reported trout in the stream within the last couple of years in the project vicinity. If this is correct, it would indicate that the stream would have good natural reproduction. The field work will be completed in time to provide basic additional information to meet the EAW comment deadline. The actual population assessment will not be completed until next winter.

2) A thorough assessment of impacts to fish, wildlife, and ecologically sensitive resources is highly dependent upon a better understanding of erosion issues, more details of the specific farming practices, and, most importantly, a thorough and pragmatic assessment of erosion control and stormwater runoff plans, including an assessment of whether the plan will work in practice. This is discussed below in J., our comments on EAW Question 30.

3) Our previous comments did not explain the ecological classification system used for these streams. This system supports our contention that Dead Horse Creek is an above average trout stream. The Fisheries Management Planning Guide classifies Dead Horse Creek as second on a scale from 1-4 for cold-water streams. It is classified as Class IB, and which is described as "Tributary streams often provide nursery habitat and can be stocked with fry or fingerlings if not being utilized by wild fish." Class IA is the highest class, and contains naturally reproducing wild fish. Class IC is a cold-water stream suitable for "semi-wild trout. Generally these waters have inconsistent reproduction, and can be stocked with any size class." (The Toad River is IC.) Class ID is the lowest class of stream that can receive stocked trout, and generally lacks year-round habitat.

4) The Dead Horse Creek file contains notes of a March 1959 reconnaissance of the creek within Section 8 (the location of the currently proposed project) which describes a "Heavily farmed area, badly eroded banks." Our reconnaissance in this area now shows an area without this condition, except at the one location referred to in the EAW.

5) According to Howard Krosch of DNR's Ecological Services Section, pesticides in runoff have been suspected as the source of disappearance of trout in southeastern Minnesota streams. The specific runoff circumstances involved heavy rains early in the

season before vegetation was established. Trout that had been found to be present before the rainfall event were not present afterward. Similar rainfall events that occurred later did not seem to do damage. No definitive causal relationship was established, however, but a fungicide used on corn was suspected.

6) It should be noted that our review of this project is based on a site visit to Pivots #1, #2, and #3. We did not review #4 as described in the EAW because Bob Merritt stated that this had been dropped, and because it is unclear how many additional sites should be included. In other words, there are likely other sites that should be included in an EIS study.

7) Based on our discussion with some of the participants since we submitted input to the EAW on June 14, there appears to be an attitude that because there has been no trout management of Dead Horse Creek since 1983, that somehow it is no longer a significant resource. This is incorrect--management priorities change, and staff resources are limited. The Detroit Lakes fisheries office has a large area of responsibility. We do not know the significance of the stream at this time beyond the important facts that is a designated trout stream and that public money has been spent on a permanent easement. Nor do we know for certain what the impacts will be. Our efforts are toward determining this significance and determining impacts.

As described in the EAW, this project has the potential for significant impact.

E) EAW Question #12, physical impacts to water resources. We reconfirm that deposition of silt downhill may occur from this project. If so, wetland filling may occur, or wetland vegetation diversity may be substantially reduced. Currently, the ravines below the field contain a rich variety of wetland vegetation. The potential for damage to this is discussed in G. below, in our comments on EAW Question #17.

F) EAW Question #14, water-related land use management district. A 100 foot buffer strip may not be adequate at this site, given the steep slopes, soils, significance of the resources, and uncertainty about the practicality of an erosion and stormwater runoff plan. (See next section.) This issue needs addressing in an EIS.

G) EAW Question #17, erosion and sedimentation. It should be noted that the list of gullies is a partial list.

Based on information in the draft EAW, and on discussions with Bob Merritt and Dean Hendrickson, it is clear that in the discussions that preceded the EAW preparation, there has been an assumption that the Soil Conservation plan developed by the Soil and Water Conservation District could reduce impacts to an acceptable level. Triple-J has stated that they will do whatever the plan requires. Bob Merritt has stated that, should there be a hearing on a permit

denial, this contention will carry substantial weight.

The key issue here is the contention, or implication, that the soil conservation plan has adequately taken all important factors into account. We challenge that contention. According to the plan's author, Dean Hendrickson, "the plan is only designed to reduce soil losses in order to sustain farming, is based on general methodology and thus does not necessarily take into account the extreme problems at the site; and is not designed to protect the aquatic environment of the stream."

In addition, during the site visit June 24 Dean Hendrickson said that:

- 1) The Becker County Soil and Water Conservation District Board has decided not to monitor compliance. (However, Bob Merritt has written them a letter June 29 asking that they reconsider;)
- 2) The plan does not achieve its goal of reducing erosion to a tolerable level of soil loss (T);
- 3) Any plan may not work. He cited, for example, the fact that herbicides typically applied from the air would kill grassed waterways. In addition, the site is such that "blowouts" would likely chronically occur along protected waterways, or in unexpected areas; and
- 4) Any plan would need close attention and monitoring to even achieve a chance at success, and there were still no guarantees of success because of the basic problems with the site.

These statements reflect the difficulty in developing any kind of plan, given the difficult site conditions. The key question is not whether a plan can reduce soil erosion--it certainly can do so. Rather, the key questions are: What are the soil erosion objectives with respect to preventing unacceptable impacts to the recipient stream? Can a plan reduce soil erosion enough to meet these objectives? Is there a practical means of monitoring and enforcing the plan? The response to EAW Question 18b indicates that "Dead Horse Creek is the receiving body for all site runoff."

The Conservation Plan is based on standard measures to conserve soil. Except for the provision of the standard 100-foot buffer strip, it is not designed to protect the stream. Its forecasts of soil erosion are based on generic methods and are not site specific. In other words, there has been no analysis of siltation impacts to the stream, and no analysis of how much the site features deviate from the normal erosional situation. Therefore, since the site raises so many red flags, there is as yet no basis for the conclusion that the plan will protect the stream.

The issue of the effectiveness of the 100 foot buffer area along the stream needs attention. To all appearances, the gullies in the

area above the creek are now heavily vegetated. There is wetland vegetation in many of them because of springs. They appear to be good filters at this time. However, the amount of material eroded during sudden heavy thunderstorm events is potentially large. This material will either be trapped in gullies or will end up in the stream. The gradient is such that trapping sediments in vegetation will likely result in only short-term success. Gullies are not normally the kind of physical landscape feature that work to trap sediments. We feel that these materials could well migrate down-slope in the gullies, and, over time, reduce the entrapment effectiveness of the vegetation or largely eliminate it.

There appears to be a difference of opinion on whether the soil conservation plan will be effective. To sum up, it appears that the argument in favor of the plan relies on the following factors to protect the creek:

- a) the primary erosive agent on sandy soils is wind erosion; therefore water erosion is not that large of a problem here,
- b) plan details, especially grassed and/or armored waterways, have covered each pertinent issue; and
- c) extensive vegetation is currently present in the gullies leading to the creek and will act as an adequate filter.

The argument that the plan should not yet be relied on to protect the creek is supported by:

- a) the plan is based on general principles and not on a site specific assessment of soil erosion and sedimentation potential,
- b) the general principle of wind erosion being the largest general erosive factor on these soil types is true, but that argument is immaterial in this case: the key question is what amount of soil/parent material will move down-slope from water erosion, and where will it end up on this site,
- c) the rich vegetation in the ravines that one now sees is likely a reflection of the grassed fields. Soil will first likely be deposited and trapped within this vegetation, but over time, this entrapment ability will be reduced or disappear, and
- d) to make the plan work on this super-sensitive site, annual monitoring and enforcement would be especially important and would need to continue as long as the land is farmed. Such a measure may be impractical.

The utility and practicality of the conservation plan needs addressing in an EIS because of the uncertainties surrounding it.

H) EAW Question #18, water quality-surface runoff. The statement on page 6 that it is not possible to describe the impacts from

surface water runoff at this time is correct. This is appropriate for an EIS. We disagree, however, with the statement near the top of page 7 that it is "not possible to predict impacts prior to project implementation." Dead Horse Creek should not be subjected to an experiment to see if a plan works on a difficult site. More detailed site data and looking at studies of similar sites elsewhere would be fruitful topics to explore at an EIS-level study.

I) EAW Question #28, compatibility with plans. There is preliminary evidence that this project is not compatible with a designated use of Dead Horse Creek as a trout stream, and with management plans for this public resource. (See D.3 above.) This needs further study in an EIS.

J) EAW Question 30 Connected/phased actions. The proposer of this project, Julian Janke, is a farm manager for the R.D. Offut Company. According to Bob Merritt and Dean Hendrickson, this company is a major interstate potato grower using groundwater irrigation systems. I have no official information as to how Offut, Inc. is related to Triple-J; therefore, the following discussion is based on what others have described to me.

How this proposal is related to other projects is an important topic, however, because of MEQB rules. Even if there is no official business relationship, it appears that if the Triple-J state permit is approved, a number of other irrigation systems will be installed in the vicinity of Dead Horse Creek and the Toad River.

It may be, however, that these other projects are actually tied together with Triple-J on a business basis. On April 6, 1993 R. D. Offut passed out a map showing eight different sites. The EAW includes four sites. (Bob Merritt says that Pivot #4 should be dropped out because Mr. Janke says he is not going to pursue it.) In addition, Bob and Dean Hendrickson say that Offut has stated that either Mr. Janke will not be employed by them if he farms the site that is the subject of the EAW, or that he must sign up a number of other landowners and sell (or lease) to R.D. Offut. They also said that other landowners were waiting to see if the permit was granted. This was confirmed by a landowner who stopped by during the June 24 site visit.

One of the other possible irrigation sites is in section 4 of Evergreen Township, less than a mile away from Pivots #1 and #2. It is not included in the EAW. It also involves pivot irrigation very close to Dead Horse Creek. The issue of runoff into the creek would apply to this project also.

Procedurally, according to MEQB regulations, it appears that environmental review needs to cover the other projects under phased and/or connected actions. In fact, the EAW points out that future projects are not likely to be over the threshold that would

require an EIS. This lends additional weight to doing an EIS at this time, and to forecasting the cumulative impact of these proposals.

Substantively, it appears that there are substantial land use changes potentially involved with the sites in the EAW, and other sites. Possible impacts to fisheries resources may be significant. These land use changes appear unlikely to occur without irrigation. According to Bob Merritt, Dean Hendrickson, and two neighbors who stopped at the site, these projects would likely directly follow if the Triple-J project is approved.

This is especially significant because the sites are in the relatively pristine upper part of a watershed. The impacts that may result need to be addressed in an EIS.

K) EAW Question #32. The summary statement of the EAW strongly supports a finding that an EIS is necessary for this project.

DISCUSSION AND RECOMMENDATIONS

This proposal raises some difficult regulatory issues. Clearly, any objective technical observer, and probably most others, would conclude that the land at these sites is not suitable for growing irrigated row crops, one of the most intensive farming practices in Minnesota. The principles that lead to such conclusions have been written into federal and state programs such as CRP and RIM. Clearly, there is also a strong principle that landowners can normally farm the land as they wish.

In this case, however, there appears to be two key exceptions: a) the land to be irrigated is on the hillsides above a high-value public resource, a designated trout stream, that has additional protection because of a permanent easement signed by the prior owner. There are reasonable scenarios whereby farming the land could severely adversely impact the adjacent stream, and b) The landowner needs a major state permit from the DNR in order to farm the land as he wishes. Therefore, the DNR has the ability to prevent damages to the stream from both its regulatory action and through the public's legal interest in the easement.

It is likely to be the applicant's contention that a Conservation Plan developed by the Soil and Water Conservation District will reduce these impacts to an acceptable level. There are a number of reasons why this contention is not valid. These include the substantive parts of the plan itself, but also the fact that there are no institutional structures in place to monitor the kind of detailed plan that is necessitated by the sensitivity of the site.

Any plan involving such a sensitive area would have to be mandatory, and would need frequent monitoring. Otherwise it is only a meaningless exercise. We question the practicality of such monitoring. Neither state nor local government seems currently

prepared to intervene annually in a private agriculture endeavor, even though it is situated on unsuitable land on a watershed immediately above a sensitive aquatic resource. However, such intervention would seem to be necessary to assure success of a plan to protect Dead Horse Creek. This point is strengthened by the current reluctance of the Becker County Soil and Water Conservation District to become involved in such monitoring.

OVERALL CONCLUSION

The evidence demonstrates that there is a strong potential for significant impact to important aquatic habitats from this project. There are a number of key issues that are not known about the project and about the site, including environmental features, details about the proposed action, and contents and practicality of the soil conservation plan. Finally, if the project proceeds, there is evidence that there will be associated development triggered, some of which is along the Dead Horse Creek upper watershed.

Therefore, we feel there is no choice but to prepare an EIS. To facilitate the scoping process, this memo points out the topics which would be appropriate for inclusion in the EIS.

In the June 14 memo about this project we recommended either the permit be denied or that an EIS should be done. The recommendation about permit denial was made partly because we understood at the time that this was one of the options being considered by others. We are not ready to discuss permit actions at this time, however, because we are still gathering information. There are a number of uncertainties about the project proposal, connected/phased actions, and the site that would be appropriately handled in an EIS.

Concurrence:

Jim Breyen Regional Wildlife Manager 7/1/93 Date
Robert Strand Regional Fisheries Manager 7/1/93 Date

c: Ron Fayer
Rob Naplin
Paul Glander
Jim Breyen
Robert Strand
Lee Pfanmuller

ATTACHMENT 4

R.D. OFFUTT COMPANY

700 South 7th Street
P.O. Box 7160/58106-7160
Fargo, North Dakota 58103
(701) 237-6062

RECEIVED

DEC 07 2017

DNR Eco-Waters
Park Rapids

November 30, 2017

Bob Guthrie
110 7th Street West, Suite 301
Park Rapids, MN 56470

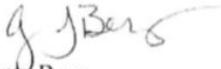
Re: Tim & Rita Nolte Contract for Deed

Dear Bob:

Per the conversation that I recently had with Tim and Rita Nolte, please find a copy of the Contract for Deed by and between Tim and Rita Nolte (Buyer) and R.D. Offutt Company (Seller). I understand that you received a copy of the recorded Memorandum already.

Please feel free to call me if you have any questions or concerns.

Kind regards,



Amy Berg
Real Estate Project Specialist

Enclosures

CONTRACT FOR DEED

Date: May 1, 2017

THIS CONTRACT FOR DEED ("Contract") is made as of the above date by R.D. Offutt Company, a Minnesota corporation, Seller, and Tim Nolte and Rita Nolte, a married couple, Purchaser.

Seller and Purchaser agree to the following terms:

1. **PROPERTY DESCRIPTION.** Seller hereby sells, and Purchaser hereby buys, real property consisting of approximately 640 acres, as described in Exhibit A and attached hereto and made a part hereof, located in the County of Wadena, State of Minnesota.
2. **TITLE.** Seller warrants that title to the Property on the date of this Contract is only subject to the following exceptions:
 - a) Covenants, conditions, restrictions, declarations and easements of record, if any;
 - b) Reservations of minerals or mineral rights by the State of Minnesota, if any; and
 - c) Building, zoning and subdivision laws and regulations.
3. **DELIVERY OF DEED AND EVIDENCE OF TITLE.** Upon Buyer's prompt and full performance of this Contract, Seller shall:
 - a) Execute, acknowledge and deliver to Buyer a Warranty Deed, in recordable form, conveying marketable title to the Property to Buyer, subject only to the following exceptions:
 - i) Those exceptions referred to in paragraph 2 - a), b), and c) of this Contract;

- ii) Liens, encumbrances, adverse claims or other matters which Buyer has created, suffered or permitted to accrue after the date of this Contract.
 - b) Deliver to Buyer a complete Abstract of Title continued to date evidencing good and marketable title to the Premises.
4. PURCHASE PRICE. Purchaser shall pay to Seller, at such address as Seller shall designate in writing, the sum of One Million One Hundred Thirty Thousand and No/100ths Dollars (\$1,130,000.00), as and for the purchase price for the Property, payable as follows:
- a) \$10,000 cash, receipt of which is acknowledged by Seller as of the signing of this Contract; and
 - b) The balance of \$1,120,000, together with interest thereon at the rate of 6.0% per annum, shall become due and payable in full in one lump sum as a "balloon payment" on December 31, 2018.
5. PREPAYMENT. Purchaser shall have the right to fully or partially prepay this Contract at any time without penalty. Any partial prepayment shall be applied first to payment of amounts then due under this Contract, including unpaid accrued interest, and the balance shall be applied to the principal balance due.
6. REAL ESTATE TAXES AND ASSESSMENTS. Purchaser shall pay, before penalty accrues, all real estate taxes and installments of special assessments assessed against the Property which are due and payable in the year 2017 and in all subsequent years. Seller warrants that the real estate taxes and installments of special assessments which were due and payable in the years preceding the year in which this Contract is dated are paid in full.
7. PROPERTY INSURANCE.
- a) INSURED RISKS AND AMOUNTS. Purchaser shall keep all buildings, improvements and fixtures now or later located on or a part of the Property insured against loss by fire, extended coverage perils, vandalism, malicious mischief for at least the amount of full insurable value.
 - b) OTHER TERMS. The insurance policy shall contain a loss payable clause in favor of Seller which provides that Seller's right to recover under the insurance shall not be impaired by any acts or omissions of Purchaser or Seller, and that Seller shall otherwise be afforded all rights and privileges customarily provided a mortgagee under the so-called standard mortgage clause.

- c) NOTICE OF DAMAGE. In the event of damage to the Property by fire or other casualty, Purchaser shall promptly give notice of such damage to Seller and the insurance company.

8. DAMAGE TO THE PROPERTY.

- a) APPLICATION OF INSURANCE PROCEEDS. If the Property is damaged by fire or other casualty, the insurance proceeds paid on account of such damage shall be applied to payment of the amounts payable by Purchaser under this Contract, even if such amounts are not then due to be paid, unless Purchaser makes a permitted election described in the next paragraph. Such amounts shall be first applied to unpaid accrued interest and next to the principal balance to be paid as provided in this Contract in the inverse order of their maturity. Such payment shall not postpone the due date of the installments to be paid pursuant to this Contract or change the amount of such installments. The balance of insurance proceeds, if any, shall be the property of Purchaser.
- b) PURCHASER'S ELECTION TO REBUILD. If Purchaser is not in default under this Contract, or after curing any such default, and if the mortgagees in any prior mortgages and sellers in any prior contracts for deed do not require otherwise, Purchaser may elect to have that portion of such insurance proceeds necessary to repair, replace or restore the damaged Property (the repair work) deposited in escrow with a bank or title insurance company qualified to do business in the State of Minnesota, or such other party as may be mutually agreeable to Seller and Purchaser. The election may only be made by written notice to Seller within sixty (60) days after the damage occurs. Also, the elections will only be permitted if the plans and specifications and contracts for the repair work are approved by Seller, which approval Seller shall not unreasonably withhold or delay. If such a permitted election is made by Purchaser, Seller and Purchaser shall jointly deposit, when paid, such insurance proceeds into such escrow. If such insurance proceeds are insufficient for the repair work, Purchaser shall, before the commencement of the repair work, deposit into such escrow sufficient additional money to insure the full payment for the repair work. Even if the insurance proceeds are unavailable or are insufficient to pay the cost of the repair work, Purchaser shall at all times be responsible to pay the full cost of the repair work. All escrowed funds shall be disbursed by the escrowee in accordance with generally accepted sound construction disbursement procedures. The costs incurred or to be incurred on account of such escrow shall be deposit by Purchaser into such escrow before the commencement of the repair work. Purchaser shall complete the repair work as soon as reasonably possible and in a good and workmanlike manner, and in any

event the repair work shall be completed by Purchasers within one (1) year after the damage occurs. If, following the completion of and payment for the repair work, there remain any undisbursed escrow funds, such funds shall be applied to payment of the amounts payable by Purchaser under this Contract in accordance with paragraph 8(a) above.

9. INJURY OR DAMAGE OCCURRING ON THE PROPERTY.

- a) **LIABILITY.** Seller shall be free from liability and claims for damages by reason of injuries occurring on or after the date of this Contract to any person or persons or property while on or about the Property. Purchaser shall defend and indemnify Seller from all liability, loss, costs and obligations, including reasonable attorneys' fees, on account of or arising out of any such injuries. However, Purchaser shall have no liability or obligation to Seller for such injuries which are caused by the negligence or intentional wrongful acts or omissions of Seller.
- b) **LIABILITY INSURANCE.** Purchaser shall, at Purchaser's own expense, procure and maintain liability insurance against claims for bodily injury, death and property damage occurring on or about the Property in reasonable amounts to be approved to Seller.

10. **INSURANCE, GENERALLY.** The insurance which Purchaser is required to procure and maintain pursuant to paragraphs 7 and 9 of this Contract shall be issued by an insurance company or companies licensed to do business in the State of Minnesota and which are approved by Seller. The insurance shall be maintained by Purchaser at all times when any amount remains unpaid under this Contract. The insurance policies shall provide for not less than ten (10) days' written notice to Seller before cancellation, non-renewal, termination or change in coverage, and Purchaser shall deliver to seller a duplicate original or certificate of such insurance policy or policies.

11. **CONDEMNATION.** If all or any part of the Property is taken in condemnation proceedings instituted under power of eminent domain or is conveyed in lieu thereof under threat of condemnation, the money paid pursuant to such condemnation or conveyance in lieu thereof shall be applied to payment of the amounts payable by Purchaser under this Contract, even if such amounts are not then due to be paid. Such amounts shall be applied first to unpaid accrued interest and next to the installments to be paid as provided in this Contract in the inverse order of their maturity. Such payment shall not postpone the due date of the installments to be paid pursuant to this Contract or change the amount of such installments. The balance, if any, shall be the property of Purchaser.

12. **WASTE, REPAIR AND LIENS.** Purchaser shall not remove or demolish any buildings, improvements or fixtures now or later located on or a part of the Property, nor shall Purchaser commit or allow waste of the Property. Purchaser shall maintain the Property in good condition and repair. Purchaser shall not create or permit to accrue liens or adverse claims against the Property which constitute a lien or claim against Seller's interest in the Property. Purchaser shall pay to Seller all amounts, cost and expenses, including reasonable attorneys' fees, incurred by Seller to remove any such liens or adverse claims.
13. **COMPLIANCE WITH LAWS.** Except for matters which Sellers have created, suffered or permitted to exist prior to the date of this Contract, Purchaser shall comply or cause compliance with all laws and regulations of any governmental authority which affect the Property or the manner of using or operating the same, and with all restrictive covenants, if any, affecting title to the Property or the use thereof.
14. **RECORDING OF CONTRACT; DEED TAX.** Purchaser shall, at Purchaser's expense, record this Contract, or a memorandum thereof, in the office of the registrar of titles in the county in which the Property is located within ten (10) working days after full execution.
15. **DEED.** Upon Purchaser's full performance of this Contract, the Seller shall pay the cost of preparing the deed and paying the deed tax due upon recording of the deed to be delivered by Seller to Purchaser.
16. **NOTICE OF ASSIGNMENT.** If either Seller or Purchaser assign their interest in the Property, a copy of such assignment shall promptly be furnished to the non-assigning party and record the same in the office of the registrar of titles in the county in which the Property is located within ten (10) working days after full execution.
17. **PROTECTION OF INTERESTS.** If Purchaser fails to pay any sum of money required under the terms of this Contract or fails to perform any of Purchaser's obligations as set forth in this Contract, Seller may, at Seller's option, pay the same or cause the same to be performed, or both, and the amounts so paid by Seller and the cost of such performance shall be payable at once, with interest at the rate stated in paragraph 4 of this Contract, as an additional amount due Seller under this Contract.

If there now exists, or if Seller hereafter creates, suffers or permits to accrue, any mortgage, contract for deed, lien or encumbrance against the Property which is not herein expressly assumed by Purchaser, and provided Purchaser is not in default under this Contract, Seller shall timely pay all amounts due thereon, and if Seller fails to do so, Purchaser may, at Purchaser's option, pay any such delinquent amounts and deduct the amount paid from the installment(s) next coming due under this contract.

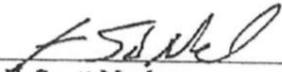
18. **DEFAULT.** The time of performance by Purchaser of the terms of this Contract is an essential part of this Contract. Should Purchaser fail to timely perform any of the terms of this Contract, Seller may, at Seller's operation, elect to declare this Contract cancelled and terminated by notice to Purchaser in accordance with applicable law. All right, title and interest acquired under this Contract by Purchaser shall then cease and terminate, and all improvements made upon the Property and all payments made by Purchaser pursuant to this Contract shall belong to Seller as liquidated damages for breach of this Contract. Neither the extension of the time for payment of any sum of money to be paid thereunder nor any waiver by Seller of Seller's rights to declare this Contract forfeited by reason of any breach shall in any manner affect Seller's right to cancel this Contract because of defaults subsequently occurring, and no extension of time shall be valid unless agreed to in writing. After service of notice of default and failure to cure such default within the period allowed by law, Purchaser shall, upon demand, surrender possession of the Property to Seller, but Purchaser shall be entitled to possession of the Property until the expiration of such period.
19. **BINDING EFFECT.** The terms of this Contract shall run with the land and bind the parties hereto and their successors in interest.
20. **HEADINGS.** Headings of the paragraphs of this Contract are for convenience only and do not define, limit or construe the contents of such paragraphs.
21. **ADDITIONAL TERMS:**
- a) If at any time there is an uncured default by Purchaser under this Contract, Seller may require that thereafter, even if the default is cured, Purchaser must make monthly payments to Seller into an escrow to be held by Seller for the payment of real estate taxes and installments of special assessments on the Property. If there is any deficiency in the amount of the escrow at any time that the payment of real estate taxes or installments of special assessments are due, the deficiency amount shall be paid by Purchaser to Seller within five (5) days of Seller providing notice to Purchaser of the amount of such deficiency.
 - b) Purchaser will not cause or permit any mechanic's liens to attach to the Property. If any such lien shall attach, Purchaser shall have ninety (90) days to remove or satisfy said lien. If Purchaser fails to do so, Sellers shall have the option of (a) taking such steps or paying such amounts as it deems reasonable to satisfy or discharge said lien, or (b) declaring this Contract to be in default, in which event Sellers shall have the right to exercise any remedy it may have in the event of any other default

hereunder. Purchaser agrees to defend, indemnify and hold Sellers harmless from any loss, damage or expense, including reasonable attorneys' fees, incurred by Sellers with respect to any party asserting a mechanic's lien claim as a result of any action or omission by Purchaser, it being understood and agreed that this undertaking shall survive the final payment of this Contract.

- c) Purchaser shall provide satisfactory evidence to Seller that Purchaser has paid the real estate taxes due on the Property on May 15 and October 15 of each year by delivering evidence of such payment to Seller on or before the 20th day of each month in which the taxes are due.
- d) Purchaser may not enter into any leases, contracts, or agreements of any kind which further encumber the Property without the Seller's express written consent.
- e) As an inducement for Seller to enter into this Contract, the parties agree to the following:
 - i. Purchaser shall apply for and receive water permit(s) from applicable governmental agencies in order to irrigate the Property. Purchaser shall work with Seller with regards to the application specifications. The Purchaser shall apply for said permits within thirty (30) days of the date of this Contract and diligently work as necessary to receive the same.
 - ii. During the term of this Contract, Purchaser agrees to improve the Property by whatever means necessary to make it useful for potato production. The parties have agreed that a minimum of 350 acres shall be improved during such period and that Purchaser shall work with the Seller as to the location and methodology of these improvements.
 - iii. In Seller's sole discretion, Seller may install improve the property, including but not limited to, constructing and installing an irrigation well, pump, irrigation pivot and motor, and associated irrigation equipment, and that all said improvements is, and will remain the property of Seller regardless of how affixed to the Property. Purchaser shall be allowed to replace, remove, or maintain these improvements as it deems necessary, without Purchaser's permission to enter to the Property to do the same.
 - iv. On or before April 1, 2018, the parties shall enter into a farm lease upon terms and conditions agreeable to the parties.

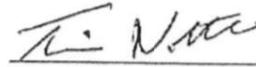
In the event Purchaser is not able to satisfy any of the terms and conditions hereinabove by the maturity date of this Contract, in Seller's sole discretion, Seller may terminate this Contract with thirty (30) days written notice thereafter. Purchaser waives any rights of recourse and this Contract shall then be deemed null and void except for those provisions which specifically survive this Contract.

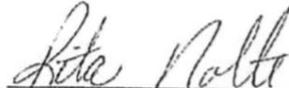
SELLER:
R.D. OFFUTT COMPANY

By: 
F. Scott Neal

Its: President - Real Estate

PURCHASER:
Tim Nolte and Rita Nolte


Tim Nolte


Rita Nolte

ATTACHMENT 5

FIRST AMENDMENT TO CONTRACT FOR DEED

WHEREAS, heretofore on the 1st day of May, 2017, R.D. Offutt Company ("Seller") and Tim Nolte and Rita Nolte ("Purchaser"), entered into a certain Contract for Deed with respect to property therein described situated in the County of Wadena, State of Minnesota, to which this Amendment is attached and incorporated as a part thereof; and

WHEREAS, the said parties desire and intend to adopt certain modifications and alternatives to said Contract for Deed as more particularly set forth below;

NOW, THEREFORE, for and in consideration of the monies hereinafter provided for to be paid, the mutual covenants hereinafter undertaken, the monies provided for to be paid in said Contract for Deed and the sufficiency of which consideration is by the said parties hereby acknowledged, the said parties hereby and herewith amend said Contract for Deed.

1. ADDITIONAL TERMS.

The parties hereby agree to delete the terms and conditions set forth in Section 21(e) with such terms and conditions to be deemed and as if never written.

EXCEPT as hereinbefore specifically provided and set forth, each and every other term, provision, and condition in and of said Contract for Deed shall remain in full force and effect. This Amendment shall be binding upon and inure to the benefit of its said parties, their successors, and assigns, and no modifications of or alterations to the same shall be valid unless in writing and signed by both parties.

IN WITNESS WHEREOF, the said parties have caused these presents to be executed this 1st day of May, 2018.

PURCHASER

SELLER

BY: Tim Nolte
Tim Nolte

BY: F. Scott Neal
F. Scott Neal

ITS: President-Real Estate

BY: Rita Nolte
Rita Nolte

ATTACHMENT 6

Update, April 2020

NITRATE IN DRINKING WATER

Nitrate is one of the most common contaminants in drinking water. Nitrate naturally occurs at low levels in ground and surface water. However, elevated levels of nitrate are associated with contamination from commercial fertilizer, manure or effluent from municipal or industrial wastewater treatment plants. **EWG data for 2015-2017 show that detectable levels of nitrate are present in the drinking water served to 231 million Americans.** And drinking water in agricultural areas frequently has the highest nitrate concentrations.

CURRENT LEGAL LIMITS AND THE NEED FOR A NEW APPROACH TO PROTECT PUBLIC HEALTH

The federal limit of 10 milligrams per liter, or mg/L, equivalent to parts per million, for nitrate in drinking water, was set in 1962 and has not been updated. This standard was developed to prevent acute cases of methemoglobinemia, which causes an infant to suffer from oxygen deprivation in the blood after ingesting excessive nitrate.

More recent studies, discussed briefly below, have found increased risk for other troubling health outcomes at nitrate levels significantly below 10 mg/L. A comprehensive scientific review of nitrate drinking water concentrations and related impacts on human health showed strong evidence of an increased risk of colorectal cancer, thyroid disease and neural tube defects at nitrate concentrations in drinking water below the current legal limit of 10 mg/L.¹

Based on more recent studies showing correlation between serious health impacts and nitrate levels significantly below 10 mg/L, the Environmental Protection Agency and the states should reassess legal limits for nitrate in drinking water.

In 2017, the EPA's Integrated Risk Information System program began a review of health effects from nitrate in drinking water.² However, the agency later suspended the review and did not prioritize nitrate reassessment for 2019.³

To ensure safe drinking water, protect public health and wisely use limited public resources, regulatory and programmatic action to reduce sources of nitrate contamination should be implemented immediately when levels in ground or surface water are above naturally occurring background levels. It is irresponsible to wait to implement nitrate source reduction measures until nitrate levels are at or near the current legal limit of 10 mg/L. This delayed approach has failed to protect public health and has saddled the individuals and communities least able to afford drinking water treatment with millions in costs.



NITRATE DRINKING WATER CONCENTRATIONS OF 1 TO 5 MG/L AND ABOVE MAY INCREASE CANCER RISK

Danish researchers have found an elevated risk of colorectal cancer associated with drinking water concentrations of just 1 mg/L – tenfold lower than the U.S. Safe Drinking Water Act limit.⁴ A study conducted in Spain and Italy found an increase in colorectal cancer risk at 1.7 parts per million, or ppm, of nitrate.⁵ Moreover, studies conducted in the U.S. found greater incidence of colorectal, ovarian, thyroid, bladder and kidney cancers among people exposed to nitrate from drinking water at levels half the federal standard and lower.^{6, 7, 8, 9, 10} **According to a 2019 peer-reviewed study by EWG, there is a one in 100,000 cancer risk associated with a nitrate concentration of 1.4 mg/L in drinking water.**¹¹

NITRATE DRINKING WATER CONCENTRATIONS ABOVE 1 MG/L MAY HARM THE DEVELOPING FETUS

Epidemiological studies report that nitrate ingestion during pregnancy can harm the development of the fetus. Adverse outcomes associated with nitrate levels below 10 mg/L include spontaneous abortion, fetal deaths, prematurity, low birth weight and congenital malformations.^{1, 12}

A 2013 study found associations between prenatal nitrate exposure from drinking water and neural tube defects such as spina bifida, oral cleft defects and limb deficiencies.¹³ In 2017, researchers from the University of Illinois in Chicago reported that women who consumed drinking water with nitrate concentrations above 1 mg/L during pregnancy had an elevated risk of very low birth weight and very preterm birth. These findings were based on birth data for four Midwestern states (Ohio, Indiana, Iowa and Missouri).¹⁴

More recently, the same research group analyzed birth data for the state of Missouri and found that nitrate concentrations above 1 mg/L during pregnancy were associated with a significant increase in birth defects including limb deficiencies.¹⁵

NITRATE DRINKING WATER CONCENTRATIONS OF 2.5 MG/L TO 6.5 MG/L MAY HARM THE THYROID

Research by the National Cancer Institute found that women drinking nitrate-contaminated water face a greater risk of thyroid cancer.¹⁶ These effects were observed at nitrate concentrations above 2.5 mg/L.⁸ A 2012 publication from the same research group reported a link between nitrate intake and subclinical hypothyroidism in women who consumed nitrate at concentrations above 6.5 mg/L.¹⁷



UNLIKE DRINKING WATER AND CURED MEAT, NITRATES IN SPINACH ARE NOT LINKED TO INCREASED CANCER RISK

According to the International Agency for Research on Cancer, once ingested, nitrate is converted into N-nitroso compounds, such as nitrosamines, by bacteria in our digestive systems. Nitrosamines damage DNA and cause cancers in the blood and in various organs, including the stomach, bladder, colon and esophagus.

Cured meats, which are commonly preserved with nitrates, can be a significant source of dietary nitrate. Like nitrate in drinking water, nitrate in cured meat is also linked to an increased risk of cancer. Nitrate also occurs naturally in green leafy vegetables, such as spinach. However, leafy greens have been shown to fight cancer, likely because of naturally occurring antioxidants that are also present in those foods.

HUMAN HEALTH IMPACTS AND DRINKING WATER TREATMENT ARE COSTLY

The cost of addressing the human health impacts from nitrate-contaminated drinking water is significant. Nitrate pollution of U.S. drinking water may be responsible for up to 12,594 cases of cancer a year, which equates to up to \$1.5 billion in additional health care costs, according to an EWG peer-reviewed study.¹¹ Of these, 10,379 cases and \$1.3 billion in costs are estimated for colorectal cancer, and the remaining cases encompass kidney, bladder, ovarian and thyroid cancers.

The cost of treating drinking water to remove nitrate can be large and often falls disproportionately on residents of small rural towns and cities.¹⁸ Hiawatha, Kansas, for example, began building a new water treatment plant in 2017 after nitrate contamination of drinking water reached 11 mg/L. The plant will cost the town of about 3,300 an estimated \$3.5 million.¹⁹ Moreover, the millions of households that use water from their own wells for drinking and other household purposes will bear the entire cost.

Agricultural sources of nitrate are a massive problem. Taking swift and effective action to require and help farmers to manage their fertilizers and manures – often the largest source of nitrate drinking water contamination – is necessary to protect drinking water and public health and to use limited public resources wisely.



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ATTACHMENT 7



Minnesota Department of Agriculture

June 8, 1995

Julian Janke
Box 267
1911 Shawnee
Delhart, TX 79022

RE: Environmental Review for Triple J Farms Irrigation Project

Dear Mr. Janke:

As you know, the decision of the Minnesota Department of Agriculture (MDA) not to require an environmental impact statement (EIS) for the Triple J Farms Irrigation Project was appealed by the Trout Unlimited, Inc. and the Osage Environmental Society. The purpose of this letter is to inform you that the appeal was ultimately granted, and an EIS will be required prior to the issuance of any further government approvals on the project.

Following is a brief history of the appeal:

1. On September 30, 1993, after preparing an environmental assessment worksheet (EAW) and soliciting comments, MDA determined that the project did not have the potential for significant environmental effects, and an EIS would not be required.
2. That decision was appealed by Trout Unlimited, Inc., and Osage Environmental Society.
3. On August 3, 1994, Becker County District Court affirmed the decision of MDA not to require an EIS.
4. However, on March 7 of this year, the Court of Appeals reversed the District Court and ordered the preparation of an EIS.
5. The decision of the Court of Appeals was appealed by MDA to the Minnesota Supreme Court. However, on April 27, 1995, the Supreme Court decided not to hear the appeal and let stand the lower court ruling which ordered an EIS.

Following is an outline of the EIS process, should you decide to proceed with your proposal.

1. The first step would be to notify us in writing that you wish to proceed.
2. Assuming MDA would remain the responsible governmental unit for the environmental review, we would then prepare an estimate of the costs of the first part of the EIS process known as "scoping". Scoping is a process to determine the contents of the EIS. It involves the publishing of notices in newspapers, and a

Julian Janke
June 8, 1995
Page 2

public hearing. As project proposer, you are responsible for costs of preparing and distributing the EIS. Scoping would involve costs of preparing notices and conducting hearings, including labor costs. Prior to beginning scoping, an agreement on payment of scoping costs would be executed.

3. Once scoping was complete, we would prepare an estimate of the remaining costs of preparing and distributing the EIS, and a second agreement on payment of costs would be executed. Costs of preparing an EIS are difficult to predict prior to scoping, but several have cost \$100,000 or more.
4. After execution of a cost agreement, a Draft EIS would be prepared and circulated for agency and public comment, comments would be received, and responses to the comments would be included in a Final EIS. Upon determination that the final EIS is adequate, governmental approvals for the project could be obtained. The EIS process can be expected to exceed one year in length.

Please let us know how you would like to proceed in this matter. If you have any questions or require assistance, please contact Robert Patton, Principal Planner, at (612) 296-5226.

Sincerely,



Paul Burns, Assistant Director
Agriculture Planning and Development Division

cc: Elton Redalen, Commissioner
Greg Buzicky, Agronomy Services Division
Gregg Downing, Environmental Quality Board
Thomas Balcom, Department of Natural Resources

ATTACHMENT 8



Minnesota Department of Agriculture

Date: 9/14/93

To: Tom Balcom
DNR

Fax #: 6-6047

Number of Pages (including this page): 4

From: Paul Barnes
MDA

Telephone Number: 612-296-7686 1488

Fax Number: 612-297-7678

Message:

Here's the info we discussed

Triple T EAW mtg - Sept 2, 1993

<u>Name</u>	<u>Organization</u>	<u>Phone</u>
Greg Johnson	MPCA -	(612) 296-8847
Dean Hendrickson	Becker SWCD	(218) - 847-2651
Peder Otterson	DNR DIV Waters	612 296-0508
Terry Lejcher	DNR Waters	218 739 7576
Tom Balcom	DNR Planning	612-296-4796
Bob Merritt	DNR Waters	218-847-1580
Rob Naplin	DNR-Wildlife	218-732-8452
Gregg Downing	ECB	612-296-8253
Paul Burns	MDA	612-296-1488
Dave Wall	MPCA	612-297-3847
Bob Strand	DNR-Fisheries	218-755-3959
Paul Stolen	DNR-Ecological Services	218-755-3955
Willis Mattison	MPCA	218-846-0748
PAUL GLANDER	DNR-FISHERIES	218-847-1879
Greg Buzick	MDA	612-296-5639
Dale Krystosek	BWSR	218-755-4236
Carolyn Engebretson	Co. Bd	218-847-4934
William Alden	Hubbard SWCD	218-732-0121
Dennis Ernst	DNR-Fisheries	218-732-4153
Dale Steevens	RD Offutt Co	218-732-1461
Lisa Axton	Becker Co. Extension	218-847-3141
Will R Ylvisiani	Hubbard Co. Extension	218-732-3391
BRUCE Montgomery	MDA	612-297-7178

State of Minnesota
DEPARTMENT OF NATURAL RESOURCES
FACSIMILE TRANSMITTAL COVERSHEET

Date sent	8/23/93
# of pages including this page	2

TO:	<i>Paul Burns</i> <i>Dept. of Agriculture</i>	Telephone Number:	
		Fax Number:	<i>297-7678</i>
FROM:	<i>Tom Balcom</i>	Telephone Number:	<i>296-4796</i>
<p><i>Please review and modify so that we can co-sign the memo. Also, we need to talk about contacting appropriate people for the afternoon meetings.</i></p>			

Grant

List of possible attendees (Irrigation)

Norm Krause

Bill Alden - Hubbard Co SWCD

Wil ~~the~~ Yliniemi - Hubbard Co. Ext.

~~Dee~~ Lisa Axton - Becker Co. Ext. (from Dean)

Dale Stevens - Offutt/Monaca

Jerry Wright - Ext. Irr. spec.

Merritt suggested

Dale Krystossek - BWSR

Carolyn Engebretsen

ATTACHMENT 9

DEPARTMENT : POLLUTION CONTROL AGENCY

STATE OF MINNESOTA

SF-00006-05 (4/86)



Office Memorandum

DATE : June 7, 1993

TO : Tom Balcom
Minnesota Department of Natural Resources

FROM : David B. Wall, Hydrologist
Gregory D. Johnson
Nonpoint Source Section *ADJ*
Water Quality Division

PHONE : 297-3847/296-8847/TDD Users call (612) 297-5353

SUBJECT : EAW for Triple J Farms Irrigation Project

Minnesota Pollution Control Agency (MPCA) staff is concerned about negative impacts to the ground and surface waters of the area that are likely given the proposed irrigation project. Water quality monitoring in irrigated cropland areas has indicated considerable contamination of the ground water, primarily with nitrate-nitrogen. Surface water concerns are present given the soils and slopes of the area, the intensity of cultivation to be present, and the close proximity of a designated trout stream.

Specific comments are listed below:

1. Question 12 - Physical Impacts on Surface Water Resources.

The draft EAW indicates that little surface and surficial aquifer interaction with the deep aquifer is expected. We believe that the potential for significant interaction is present. Without more information regarding the lateral extent and permeability of the till layers, we do not know what the impact of pumping irrigation wells will be on the water levels, temperature and trout viability in Dead Horse Creek. Further study is needed to determine the interaction between the surficial and buried aquifers under long term pumping conditions.

The wetland in field #2 would be negatively impacted if pesticides or fertilizers entered the wetland through any chemigation or fertigation, runoff or drift. Direct application of nutrients and pesticides to wetlands are inconsistent with MN statutes 7050.0210 subp 2 and subp 13. For this reason, we recommend that pesticides or fertilizers not be applied through the irrigation system fields with wetlands. Please note that, if any filling of the wetland is being considered for the irrigation system, regulatory authorities of the U.S. Corps of Engineers may be present.

2. Question 17. Erosion. The combined wind and water erosion is very high, nearly approaching 2T. Estimated erosion calculations in the conservation plan should not consider turkey manure additions. Turkey manure runoff into the surface waters is a major concern given the steeply sloping land, potentially contributing nutrients, bacteria, biological oxygen demand and chemical oxygen demand to the stream. Soil losses may not be tolerable without the turkey manure additions.

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4C

3. Question 18. Water Quality - Surface Runoff. There will be 1) increased runoff from the site during precipitation events that would lead to increased sediment transport to the stream (more water applied and less vegetative cover), 2) increased movement of pesticides to surface water (aerial or irrigation applied drift, more pesticides will be applied with the change in crops, greater pesticide transport will coincide with increased erosion, and pesticides leaching to ground water could then be transported to the stream), and 3) a potential for more fecal bacteria transported to the stream due to manure application.

Given the proximity of the proposed irrigated fields to the trout stream, additional enforcement action will be needed to ensure that pesticide drifting does not result in pesticide movement to the stream or wetland.

Excessively steep sloping portions of the fields (e.g. >8-10 percent) should be kept as permanent vegetation or a crop that maximizes ground cover and minimizes erosion. All manure should be incorporated into the soil.

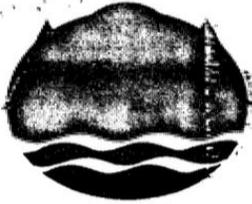
Use of turkey manure as surface residue on the fields is questioned. While turkey manure consists largely of dry matter, it is still open to moving off a field with runoff. The conservation plan for the fields appears to provide surface residues following planting less than that generally accepted for conservation tillage (i.e. 30% residue after planting) in a resource management system (RMS). Is the plan meant to be written as an RMS or as an alternative management system? Runoff to the wetland and the stream is a concern and we recommend that a minimum of 30% residue cover be applied to the cropland. We are supportive of the plan to have a buffer strip along the stream.

4. Question 20. Ground Water - Potential for Contamination. Nitrate leaching is likely to be the greatest concern directly related to ground water. Research results show that the potential for major nitrate losses under poorly managed irrigated corn and potatoes is very high. There is a high probability that nitrate concentrations leaching to ground water under irrigated potatoes, even when BMPs are used, will exceed the drinking water standard of 10 mg/l. All irrigation and nitrogen management BMPs known should be used and monitoring should be conducted to ensure that additional preventative action is taken if nitrate levels exceed state and federal drinking water standards.

A factor not addressed in the EAW involves the potential for contamination of the stream and/or wetland via shallow ground water pathways. The hydrology of the area is not fully known; however, information does indicate that the shallow and middle aquifers likely flow toward and interact with the stream. Nitrate and pesticides that enter ground water will likely discharge into Dead Horse Creek.

USFWS should be included as an interested party for the EAW.

DW:GJ/jmg



Minnesota Pollution Control Agency

July 22, 1993

Mr. Paul Burns
Minnesota Department of Agriculture
90 West Plato Boulevard
St. Paul, Minnesota 55107

RECEIVED

JUL 26 1993

AG PLNG & DEV DIV

EXHIBIT

6B

Dear Mr. Burns:

Re: Triple J Irrigation Project Environmental Assessment Worksheet

Thank you for the opportunity to review and comment on the above document. The Minnesota Pollution Control Agency staff has the following comments.

The Environmental Assessment Worksheet (EAW) makes a number of statements about this project's potential for adverse impacts on wetlands, springs, slopes, surface water, and ground water. In general, we agree with these statements; we are especially concerned that one of the surface waters at risk is a designated trout stream, and that the EAW acknowledges that the effects on this stream may not be mitigable.

Our concern is heightened by the existence of data gaps in several key areas. Little is known, for instance, about the subsurface connection, if any, between the source aquifer and Dead Horse Creek, the trout stream. The existence of a connection has significant ramifications for creek water levels and temperatures. Lack of hard information on the quality of runoff during storm events is equally problematic. The latter concern arises in part because we are unclear on the plan to use turkey manure applications for runoff management. If envisioned as the primary nitrogen source and erosion inhibitor, one result may be excess applied phosphorus, which can reach Dead Horse Creek during storm events. This would exacerbate existing phosphorus loading from agricultural sources in the Big Toad Lake watershed. On the other hand, if the manure is incorporated, the erosion control potential is lost.

It seems clear to us that the existing land use (grass/brushland with light, if any, grazing) is the most appropriate one for this site.

Although the EAW seems to imply otherwise (item 20, for example), studies we are familiar with have not demonstrated that best management practices exist that would adequately protect shallow aquifers below irrigated potatoes grown in coarse soils. Further information on this issue is needed, as is data on the integrity of subsequent confining layers, so that the potential for impacts to deeper aquifers can be assessed. Our judgement is that, at least in the surficial aquifer, the nitrate recommended allowable limits would be violated as a result of this project. Despite the EAW's statements on the issue, it may not be possible to amend the conservation plan in such a way as to reduce erosion and the surface and ground water contamination potential to acceptable levels.

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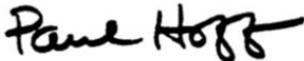
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Mr. Paul Burns
Page 2

Based on what we know now, this project seems clearly to have the potential for significant environmental effects. Lack of some key data, as outlined above, contributes to this perception. The Minnesota Environmental Quality Board (EQB) Rules provide several alternative courses of action when data are lacking. A Responsible Governmental Unit can either make positive declaration and scope the Environmental Impact Statement (EIS) to provide the missing information, or delay the decision and seek the missing data in the interim. Given that this may be merely the first of several such projects, which might be expected to raise similar concerns, the case for an EIS is compelling. There may be some important policy issues, such as the permitting of large scale irrigation projects on steep slopes with coarse soils and the associated appropriation permits, that could be profitably aired in an EIS.

We look forward to receiving your responses to these comments, as well as your decision on whether to prepare an EIS. Please direct further discussion to William J. Lynott of my staff at 296-7794. Thank you again for sending us this material.

Sincerely,



Paul Hoff, Director
Environmental Analysis Office
Administrative Services Division

PH:ns

cc: Rita Messing, Minnesota Department of Health
Tom Balcom, Minnesota Department of Natural Resources

ATTACHMENT 11



Minnesota Department of Natural Resources

2115 Birchmont Beach Road NE
Bemidji, MN 56601
218/755-3623

October 9, 1996

Mr. Paul Burns
MN Dept of Agriculture
90 West Plato Blvd.
St. Paul, MN 55107

Dear Mr. Burns:

The purpose of this letter is to notify you about the current effort of the Department of Natural Resources to prepare a state Environmental Assessment Worksheet (EAW) for a new agricultural irrigation project on private land within the watershed of Dead Horse Creek in south-central Becker County. This EAW is discretionary, not mandatory, and is being prepared based on the decision of DNR managers in the Bemidji Regional Office. You are being notified because of your previous interest in the Triple J agricultural irrigation project, which was also located in the Dead Horse Creek watershed.

As you may recall, the Triple J project also had an EAW. In that case the Minnesota Department of Agriculture was the responsible governmental unit. The Department of Agriculture decided that it was not necessary to prepare an Environmental Impact Statement for that project, contrary to several of the commenters on the EAW. That decision was subsequently overturned by the Minnesota Court of Appeals after a legal challenge based in part on a failure to adequately assess potential cumulative impacts. However, the Triple J project proposer decided to withdraw the project, so the required Environmental Impact Statement was never prepared.

The irrigation project for which the DNR is currently preparing an EAW is adjacent to Dead Horse Creek approximately one mile upstream from the Triple J project. The attached map shows the location of this project. The characteristics of the proposed project site, the buffer area between the proposed irrigated area and the creek, and the creek itself are different from those at the Triple J site. However, the similarities between the projects led to our decision to prepare this EAW.

The EAW will describe the project site, the stream environment, and identify potential adverse environmental effects, including potential cumulative effects. You will be provided a copy of the EAW for your review and comments when it is available later this year. In the meantime if you have questions or would like further information about this new project, please contact either me at (218) 755-3623 or Don Buckhout, in our St. Paul office, at (612) 296-8212.

Sincerely,

A handwritten signature in cursive script that reads "Paul Swenson".

Paul Swenson
Region I Administrator, Bemidji

Attachment

DNR Information: 612-296-6157, 1-800-766-6000 • TTY: 612-296-5484, 1-800-657-3929

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ATTACHMENT 12

STATE OF MINNESOTA
COUNTY OF HUBBARD

DISTRICT COURT
NINTH JUDICIAL DISTRICT

Trout Unlimited, Inc. and
Minnesota Center for Environmental Advocacy

Plaintiffs,

Court Case No. _____

v.

Minnesota Environmental Quality
Board,

COMPLAINT FOR
DECLARATORY AND
INJUNCTIVE RELIEF

Defendant.

Plaintiffs, for their complaint against Defendant, state and allege as follows:

1. This Court has jurisdiction pursuant to Minn. Stat. § 116D.04, subd. 10, in that the decision not to prepare an Environmental Assessment Worksheet or Environmental Impact Statement, made by the Minnesota Environmental Quality Board involved a proposed action in Hubbard County.
 2. Plaintiff Trout Unlimited, Inc. is a national organization, incorporated as a non-profit entity in Michigan. It has over 70,000 members; including 1,400 in Minnesota. The organization is dedicated to conserving, protecting and restoring trout populations and their watersheds. The Minnesota Center for Environmental Advocacy is a not-for-profit corporation whose purposes are to preserve and protect Minnesota's natural resources, environment and the health of its people. Many of
-

plaintiffs' members live near the waters at issue in this lawsuit and use or would use the Straight River for fishing and recreation.

3. Defendant Minnesota Environmental Quality Board (MEQB) is a Minnesota state agency with its administrative offices in St. Paul, Minnesota.

4. Lamb-Weston, Inc., a subsidiary of ConAgra, and RDO Frozen Foods, Inc., through a joint venture, plan to undertake a \$25 million expansion project of a potato processing plant near Park Rapids, Minnesota. The potato plant expansion will require an amended air quality permit from the Minnesota Pollution Control Agency (MPCA), a water appropriation permit amendment from the Minnesota Department of Natural Resources (DNR), and a water discharge permit from the MPCA.

5. On information and belief, the plant is already not in compliance with its DNR water appropriation permit in that this permit authorizes appropriation of only 220 million gallons per year and in 1993, the plant appropriated 297 million gallons of ground water; the plant proposes to appropriate in excess of 556 million gallons annually after its expansion.

6. A study by the U.S. Geological Survey indicated that the 19-mile Straight River, "one of the most productive trout fishing streams in the state," is affected by existing water appropriations by the plant. The proposed expansion of the plant and additional irrigation connected or associated therewith would exacerbate this problem. According the U.S. Geological Survey study, the Straight River is fed by ground water and large amounts of pumping for irrigation could

reduce the flow of water into the Straight River by up to 34%, drop water levels, and raise temperatures in the river to a point that would be life threatening for brown trout.

7. The Straight River is classified as a trout water pursuant to Minn. R. pt. 7050.0420. Minnesota trout streams -- like the Straight River -- are uncommon resources that receive special protections under Minnesota law. Minn. R. pt. 6262.0400, subpt. 4(B)(1). Trout waters are classified under MPCA water quality rules that incorporate by reference the same physical and chemical standards applicable to class 1A drinking water -- the highest quality of waters in the state. Minn. R. pts. 7050.0220, subpt. 2(B), 7050.0420. If these standards are exceeded, "it is considered indicative of a polluted condition which is actually or potentially deleterious, harmful, detrimental, or injurious with respect to designated uses or established classes of waters of the state." Minn. R. pt. 7050.0220, subpt. 1. As the Supreme Court has recognized, "water quantity is closely related to water quality; a sufficient lowering of the water quantity in a body of water could destroy all of its designated uses, be it for drinking water, recreation, navigation or, as . . . a fishery" in violation of the federal Clean Water Act. PUD No. 1 v. Washington Dep't of Ecology, 114 S. Ct. 1900, 1912-13 (1994).

8. DNR water appropriation permits to appropriate surface water from trout streams "must be limited to temporary appropriations." Minn. Stat. § 103G.285, subd. 5. Fishing in designated trout streams also is limited by statute. Minn. Stat. § 97C.021. Moreover, Minn. Stat. § 97C.065 provides that:

A person may not dispose of any substance in state waters, or allow any substance to enter state waters, in quantities that injure or are detrimental to the propagation of wild animals or taint the flesh of wild animals. Each day of violation is a separate offense. An occurring or continuous violation is a public nuisance. . . .

9. In terms of consumption priorities, the Minnesota legislature has designated water appropriation for processing of agricultural products, as is proposed here, as a "fifth priority" in the scheme of things. Minn. Stat. § 103G.261.

10. The Minnesota Environmental Quality Board was designated as the Responsible Governmental Unit (RGU). A petition for Environmental Assessment Worksheet was duly filed with the MEQB consistent with the provisions of Minn. Stat. § 116D.04, subd. 2a(c).

11. On December 19, 1994, the MEQB published in the EQB Monitor its decision that no Environmental Assessment Worksheet (EAW) would be required for the expansion project.

12. Numerous parties objected to the decision not to require an EAW or an EIS for the expansion project.

13. The proposed expansion project has the potential for significant adverse environmental effects.

14. The MEQB's conclusion was inadequate, arbitrary and capricious, and inconsistent with the Minnesota Environmental Policy Act, Minn. Stat. § 116D.

15. Under Minn Stat. § 116D.04, subd. 2, the State's permits at issue here are major government actions with potential for significant deleterious environmental effects. Accordingly, the MEQB'S decision not to require an EAW or

an EIS for the expansion project is in violation of the Minnesota Environmental Policy Act, Minn. Stat. ch. 116D was arbitrary and capricious, without reasoned analysis, unsupported by substantial evidence, and, therefore, contrary to the Minnesota Administrative Procedure Act, Minn. Stat. § 14.69.

16. Because the MEQB's decision is not substantially justified, plaintiff is entitled to recover its reasonable attorneys fees under the Minnesota Equal Access to Justice Act, Minn. Stat. § 3.762, and other applicable law.

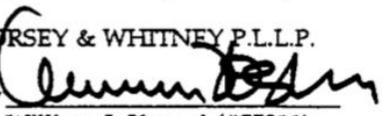
PRAYER FOR RELIEF

WHEREFORE, Plaintiffs ask the Court to enter judgment as follows:

1. Ordering the Defendant to comply with the law;
2. Ordering the Defendant to prepare an Environmental Assessment Worksheet or an Environmental Impact Statement;
3. Declaring that no permits for the project may be issued until the environmental review required under the Minnesota Environmental Policy Act, Minn. Stat. ch 116D, has been completed;
4. Awarding Plaintiffs their costs and disbursements, including reasonable attorneys' fees;
5. Awarding any further relief that the Court deems just and equitable.

Dated: January 18, 1995.

DORSEY & WHITNEY P.L.L.P.

By 

William J. Keppel (#55311)

And _____

Todd E. Zimmerman (# 213950)
Pillsbury Center South
220 So. Sixth Street
Minneapolis, MN 55402-1498
Telephone: (612) 340-2745

Attorneys for Plaintiffs

ATTACHMENT 13

NEW YORK
WASHINGTON, D. C.
DENVER
ORANGE COUNTY, CA
LONDON
BRUSSELS

DORSEY & WHITNEY
PROFESSIONAL LIMITED LIABILITY PARTNERSHIP
PILLSBURY CENTER SOUTH
220 SOUTH SIXTH STREET
MINNEAPOLIS, MINNESOTA 55402-1498
(612) 340-2600
FAX (612) 340-2868

B. ANDREW BROWN
(612) 340-5612

ROCHESTER, MN
BILLINGS
GREAT FALLS
MISSOULA
DES MOINES
FARGO

May 4, 1995

BY MESSENGER

Cindy Jepsen, Chair
Environmental Quality Board
300 Centehnia Building
658 Cedar Street
St. Paul, MN 55155

RECEIVED
MAY 08 1995

MINN. POLLUTION
CONTROL AGENCY

Re: Matter of the Need for an EAW for the
Proposed Expansion of the Lamb-Weston/RDO Frozen, Inc.
Potato Processing Facility, Park Rapids

Dear Ms. Jepsen:

In its Order dated December 1, 1994, and published in the EQB Monitor on December 19, 1994, the EQB denied the citizens' petition seeking an EAW on the Lamb-Weston/RDO Frozen, Inc. potato processing plant expansion at Park Rapids ("proposed RDO project"). Our clients -- Trout Unlimited, Inc., Minnesota Center for Environmental Advocacy and Mississippi Headwaters Audubon Society -- have commenced an action to obtain judicial review of the EQB's decision. They believe, however, that the preferable means to address this matter is for the EQB to reconsider its negative declaration, and to order an EAW. This response is appropriate because there has been a significant change in the proposed RDO project, which may trigger a mandatory EAW and invalidate one of the crucial assumptions made by the EQB in support of its negative declaration -- that the proposed RDO plant expansion will not result in increased irrigation for potato farming. In these circumstances, the EQB is required to order an EAW under Minn. Rule 4410.1000, subpt. 5.

RDO represented to the EQB that its plant expansion would not lead to any expansion of potato farmlands beyond historical rates of growth, or to resulting increases in the amount of groundwater appropriations. The "Environmental Position Statement of RDO," dated November 4, 1994, and submitted by RDO's counsel to the EQB, stated:

DORSEY & WHITNEY

Ms. Cindy Jepsen
May 4, 1995
Page 2

Contrary to the understanding of the citizen petitioners, this Project does not contemplate expansions of farmland to provide the raw potatoes for the expanded processing plant, and it does not contemplate groundwater appropriations associated with irrigation that would occur were such expansions of crop acreage to take place. As RDO has explained to the MPCA and DNR representatives as well as to the public at public meetings, the Company will not supply the potatoes for the expanded facility by expanding acreage in Hubbard and Becker Counties beyond historical rates of growth. In 1995, the Company farmed 4,857 potato acres in Hubbard and Becker Counties. In 1995, the Company plans to farm 5,000 potato acres in Hubbard and Becker Counties, or an additional 150 potato acres. This growth of under 3% reflects all of the business growth in potato acres for the Company for 1995, in Hubbard and Becker Counties. The Company's historical records indicate that since 1989, its six year average potato acreage increase is less than 2% in these counties.

RDO's Environmental Position Statement, pp. 5-6. (See Exhibit A.)

In its Environmental Position Statement, RDO's counsel also represented that the additional groundwater appropriations proposed by RDO was 28,000,000 gallons per month, and thus only about seven percent less than the 30,000,000 gallon per month level that triggers a mandatory EAW under Minn. Rule 4410.4300, subpt. 24. RDO's Environmental Position Statement, p. 15. (See Exhibit A.)

The representations made by RDO regarding the need for additional groundwater appropriations were decisive factors in the EQB's decision to issue a negative declaration. If the proposed project had included additional groundwater withdrawals for irrigation, the project would have been pushed easily into the mandatory review category. The EQB recognized the importance of this issue. At the hearing, the EQB specifically asked RDO whether more potato farmland would be needed in view of the proposed doubling of the processing capacity of the RDO plant's production capacity from 35,000 pounds of potatoes per hour to 70,000 pounds per hour. RDO said "no." RDO's attorney responded:

The second permit is the permit to be issued by Commissioner Sando's agency; that is a water appropriation permit, not for additional agricultural irrigation, no such request is being made or required by this project, no additional acreage is being cleared for this project, or needed. There is plenty of potatoes produced by the Company to be utilized in this facility.

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Transcript of Nov. 17, 1994 EQB Hearing, at p. 18. (See Exhibit B.)

Since the time of the EQB's negative declaration, R.D. Offutt Co. and its agents have filed at least 14 water appropriation permit applications for irrigated farming. The permit applications include, but are not necessarily limited to, the following:

<u>Application Number</u>	<u>Application Date</u>	<u>County</u>	<u>Acres</u>	<u>Pump Rate</u>
95-1135	01/18/95	Becker	65	28 mgyl/
95-1136	01/18/95	Becker	100	43 mgy
95-1137	01/18/95	Becker	109	48 mgy
95-1185	02/27/95	Ottertail	92	700 gpm ² /
95-1186	02/27/95	Ottertail	110	1400 gpm
95-1187	02/27/95	Ottertail	120	850 gpm
95-1188	02/27/95	Ottertail	68	650 gpm
95-1189	02/27/95	Ottertail	130	950 gpm
95-1190	02/27/95	Ottertail	130	800 gpm
95-1213	03/28/95	Becker	110	800 gpm
95-1214	03/28/95	Becker	139	600 gpm
95-1215	03/28/95	Becker	135	600 gpm
95-1216	03/28/95	Becker	133	650 gpm
95-1217	03/28/95	Becker	96	800 gpm

TOTAL ACREAGE: 1,537

(See Exhibits D and E.)

We understand that after it received the first three irrigation permits listed above, DNR asked RDO to explain the apparent discrepancy between the requests for additional irrigated farmland and the statements made by RDO during EQB's consideration of the citizens' petition. In response, Paul Horn, RDO's Chief Operating Officer, in a letter to DNR dated February 6, 1995, claimed RDO's historic rate of growth ranges from two to five percent, and that RDO has a 15,000 acre landbase. (See Exhibit F.) The growth rate cited by Mr. Horn is approximately twice as high as the two to three percent growth rate provided during the EQB hearing by

1/ "Mgy" means millions of gallons per year.

2/ "Gpm" means gallons per minutes.

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RDO's attorney. Nonetheless, even if RDO's historic growth rate is five percent (and assuming for the moment that such a rate is acceptable), the permit applications filed by RDO listed above in the first quarter of this year alone amount to 10 percent of RDO's acre landbase or twice the historic annual rate cited by Mr. Horn.

RDO's irrigation permit applications constitute a significant change in the proposed RDO project, and probably push the proposed RDO project into the mandatory EAW category. Under the circumstances, the EQB should order an EAW for proposed RDO project, as revised pursuant to the permits for additional groundwater appropriations. The EAW is required under Minn. Rule 4410.1000, subpt. 5, which provides:

If after a negative declaration has been issued but before the proposed project has received all approvals or has been implemented, the RGU determines that a substantial change has been made in the proposed project that may affect the potential for significant adverse environmental effects, a new EAW is required.

If the threshold for a mandatory EAW has been exceeded, the potential for significant adverse environmental effects is clearly established. If not, there is still "potential for significant adverse environmental effects." Professor emeritus Thomas Waters, University of Minnesota, Department of Wildlife and Fisheries, has determined that additional groundwater withdrawals may be fatal to the Straight River as a trout stream. (See Exhibit G.) Professor Waters' opinion is consistent with the findings of the 1994 U.S. Geologic Study, Stream-Aquifer Interactions in the Straight River Area, considered by the EQB in this case.

The Minnesota Court of Appeals has provided further support for the EQB to order an EAW. In Trout Unlimited, Inc. v. Minnesota Department of Agriculture, 528 N.W.2d 903 (Minn. Ct. App. 1995) (petition for review denied Apr. 27, 1995), the Court of Appeals reaffirmed that an RGU should consider "cumulative potential effects of related or anticipated future projects" when deciding whether to order an EAW or an EIS. Id. (quoting Minn. R. 4410.1700, subp. 7B) The Court of Appeals also noted that "[c]onnected actions and phased actions shall be considered a single project for purposes of the determination of need for an EIS." Id. (quoting Minn. R. 4410.1700, subp. 9). In Trout Unlimited, the Court of Appeals applied these cumulative impact requirements to a case very similar to RDO's - involving possible future expansion of irrigated crop lands. Noting that the EAW had found that future irrigation projects were "planned or likely," the Court of Appeals held

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the RGU erred in failing to consider the potential cumulative effects of those projects. (See Exhibit H.)

The law in Minnesota, as affirmed by Trout Unlimited, also provides the RGU cannot rely on future permit review to justify a negative declaration on a petition for environmental review. But this is exactly what the EQB did in RDO's case, when it deferred to the DNR's and the PCA's reviews of RDO's groundwater appropriation and wastewater permits. See EQB's Findings of Fact, Conclusions and Order, at paras. 8, 32. (See Exhibit I.) Permit review is not a good substitute for environmental review. As Commissioner Sando noted, the permit review process is much narrower than the environmental review process, and so "the environmental review process should not be replaced by the permit process." Transcript of Dec. 1, 1994 EQB Hearing, at p. 59. (See Exhibit C.) When the permit process replaces environmental review, major environmental issues -- like the impacts of increased groundwater appropriations from irrigation permits in this case -- can be missed.

As many people have pointed out, RDO's expansion project cries out for environmental review. The project involves the doubling of a very large existing plant, and, if the expansion results in any stream depletion or contamination of the adjacent Straight River, the State may lose one of its very best trout streams. Under law, the RGU should have ordered an EAW in RDO's case, even without considering the cumulative impacts of additional crop irrigation. Under Minn. R. 4410.0200, subpt. 11, the definition of "cumulative impact" extends to the

results from incremental effects of the project in addition to other past, present and reasonably foreseeable projects regardless of what person undertakes the other projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

(Emphasis added.)

Applied to RDO's case, it is clear that the threshold for a mandatory EAW (30 million gallons per month of groundwater appropriations) was exceeded since the current plant uses approximately 18 million gallons per month (see Exhibit I, para. 7) and the proposed expansion will increase these appropriations by 28 million gallons per month (see Exhibit A, p. 15). Thus, the total groundwater appropriation for the proposed expanded RDO plant are at least 46 million gallons per month, even before the additional appropriations for crop irrigation are considered.

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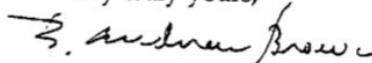
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In view of Trout Unlimited, the changes in the proposed RDO project since the time of the negative declaration, the EQB's failure to find that the RDO project fell into the mandatory EAW category, and the very significant environmental issues at stake, our clients request that EQB order an EAW for the RDO project. Pursuant to Minn. Stat. § 116D.04, subd. 2b, they further request EQB order that further work on the RDO expansion project be suspended and that no final government decision regarding any permit pertaining to the project be issued. Since the EQB meeting for May has been canceled, our clients request that a special meeting of the EQB be called as soon as possible, and no later than May 18, 1995, to consider whether an EAW should be ordered for the RDO project. An early meeting is necessary because the DNR and PCA apparently are in the final stages of their consideration of RDO's groundwater appropriation and wastewater system permits.

Our clients also request that the EQB ensure that there are no *ex parte* communications by any EQB member relating to the proposed RDO project. They further request that any EQB member who is now or in the past has been a partner or associate of the law firm, Gray, Plant, Mooty, Mooty & Bennett, RDO's counsel in this matter, should recuse themselves from considering the need for an EAW for the proposed RDO project.

Thank you for your attention to this matter.

Very truly yours,



B. Andrew Brown

BAB:ps

Enclosures

cc: Board of Water & Soil Resources
D. James Nielson, Chair (BWSR)
c/o Gray, Plant, Mooty, Mooty & Bennett
3400 City Center
33 South Sixth Street
Minneapolis, Minnesota 55402

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Administrator/Permits & Land Use Section
Minnesota Department of Natural Resources
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Rod Sando, Commissioner
500 Lafayette Road
St. Paul, MN 55155

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✓ Pollution Control Agency
Charles Williams, Commissioner
520 Lafayette Road
St. Paul, MN 55155

Office of Environmental Assistance
Edward Garvey, Director
520 Lafayette Road N., 2nd Floor
St. Paul, MN 55155

EXHIBITS

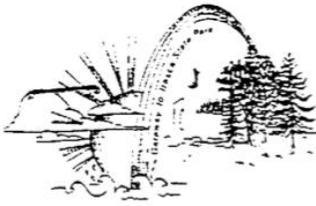
<u>Tab</u>	<u>Document</u>
A	Environmental Position Statement of RDO Frozen Company, by Gray, Plant, Mooty, Mooty & Bennett, RDO's Counsel, November 4, 1995, pp. 5-6, 15.
B	Transcript of November 17, 1994 EQB Hearing (as transcribed by RDO's attorneys), pp. 16-19.
C	Transcript of December 1, 1994 EQB Hearing, pp. 59-61.
D	January 26, 1995 Memorandum of Paul Stolen to DNR Division of Fish and Wildlife, Ecological Services Section (regarding permit applications nos. 95-1135, 95-1136, 95-1137).
E	Permit Applications for Appropriation of Waters of the State-Irrigation by R.D. Offutt Co. and its agents (regarding permit applications nos. 95-1185, 95-1186, 95-1187, 95-1188, 95-1189, 95-1190, 95-1213, 95-1214, 95-1214, 95-1215, 95-1216, 95-1217).
F	February 6, 1995 letter of Paul Horn, R.D. Offutt Co., to Kent Lokkesmoe, Director, DNR Division of Waters.
G	April 25, 1995 letter of Professor emeritus Thomas Waters to B. Andrew Brown.
H	<u>Trout Unlimited, Inc. v. Minnesota Department of Agriculture</u> , 528 N.W.2d 903 (Minn. Ct. App. 1995), <i>pet. for rev. denied</i> Apr. 27, 1995.
I	Findings of Fact, Conclusions, and Order of the State of Minnesota Environmental Quality Board dated December 1, 1994.

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Water Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road
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Maclay R. Hyde, Esq. (by messenger)
Gray, Plant, Mooty, Mooty & Bennett, P.A.
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AUG 22 1994

City of Park Rapids

P.O. BOX 33
PARK RAPIDS, MINNESOTA 56470
PHONE (218) 732-3163
FAX (218) 732-7351

FLOYD HARVALA, MAYOR
GARY JOHANSON, COUNCILPERSON
KATHY STENNES, COUNCILPERSON
DAVID STEVENS, COUNCILPERSON
EARL WAGNER, COUNCILPERSON
LARRY R. KRUSE, CITY ADMINISTRATOR
BEV ROHWER, CLERK/TREASURER
JOAN TWEEDALE, PLANNER/ECONOMIC
DEVELOPMENT

Tim
FYE add to file
JRH

The City of Park Rapids is requesting the release of Federal funds for a project involving Lamb Weston/RDO Frozen Foods, Inc. The enclosed "Notice of Finding of No Significant Impact" and "Notice of Intent to Request Release of Funds" is being sent to you as a potentially interested party, group or person.

SUMMARY OF PROJECT REQUESTING FEDERAL FUNDS

Lamb Weston/RDO Frozen Foods, Inc. is planning a \$25 million expansion in the fall of 1994. This expansion includes doubling the current output of frozen french fries and potato products, the purchase of additional equipment and machinery and the addition of approximately 150 new jobs. This expansion will be financed by RDO Frozen, Inc.

Additional wastewater will be a by-product of the expansion and will need treatment. To accommodate this expansion, the City of Park Rapids proposes to complete a substantial wastewater treatment project consisting of a pre-treatment facility for RDO Frozen, Inc.

The total cost of this project is estimated to be \$3.5 million. The City of Park Rapids is in the process of applying for \$1.25 million from the Federal Economic Development Administration, \$500,000 in state Economic Development Program funds, and \$1.64 million from the Minnesota Public Facilities Authority. In addition, Hubbard County is also applying for state funds (\$110,000) for the project. The City of Park Rapids will bond for the remainder of the project.

The new pre-treatment system will treat existing and proposed wastewater flow to a higher discharge standard, reducing organics and nutrients discharged to irrigation by 90% or more, resulting in a benefit to the environment.

COMBINED NOTICE OF FINDING OF NO SIGNIFICANT IMPACT AND
NOTICE OF INTENT TO REQUEST RELEASE OF FUNDS

DATE: August 20, 1994

City of Park Rapids
212 West Second Street
Park Rapids, MN 56470
(218) 732-3163

TO ALL INTERESTED PARTIES, GROUPS AND PERSONS:

The purpose of this notice is to identify two separate but related actions to be taken by the City of Park Rapids, Minnesota.

On or about September 9, 1994, the City of Park Rapids will request the Business and Community Development Division (BCD), Minnesota Department of Trade and Economic Development, to release Federal funds under Title I of the Housing and Community Development Act of 1974, as amended (PL 98-181) for the following project:

Lamb-Weston/RDO Frozen, Inc. Expansion Project
Expansion of Lamb-Weston/RDO Frozen, Inc.
City of Park Rapids, County of Hubbard, State of Minnesota
Census Tract

FINDING OF NO SIGNIFICANT IMPACT

It has been determined that such request for release of funds will not constitute an action significantly affecting the quality of the human environment and the City of Park Rapids has decided not to prepare an environmental impact statement under the National Environmental Policy Act of 1969 (PL 91-190).

The reasons not to prepare such statement is that:

No negative or adverse impacts on the human or physical environments are anticipated.

An Environmental Review Record respecting this project has been made by the City of Park Rapids that documents the environmental review of the project and fully sets forth the reasons why such statement is not required. This Environmental Review Record is on file at the above address and is available for public examination and copying, upon request, at City Hall between the hours of 8:00 a.m. and 5:00 p.m.

No further environmental review of this project is to be conducted before the request for release of federal funds.

PUBLIC COMMENTS ON FINDING

All interested agencies, groups and persons disagreeing with this decision are invited to submit written comments for consideration by the City of Park Rapids to the Office of the City Administrator, Park Rapids, Minnesota. Written comments should be received at City Hall, 212 West Second Street, Park Rapids, MN 56470 on or before September 7, 1994. All comments received will be considered and the City of Park Rapids will not request the release of federal funds or take any administrative action on this project before the date specified in the preceding sentence.

RELEASE OF FUNDS

The City of Park Rapids will undertake the project described above with Block Grant funds from the Business and Community Development Division (BCD) under Title I of the Housing and Community Development Act of 1974. The City of Park Rapids is certifying to BCD that the City of Park Rapids and Floyd Harvala, in his official capacity as Mayor consent to accept the jurisdiction of the Federal Courts if an action is brought to enforce responsibilities in relation to environmental reviews, decision making and action; and that these responsibilities have been satisfied. The legal effect of the certification is that upon its approval the City of Park Rapids may use Block Grant funds and BCD and the U.S. Department of Housing and Urban Development will have satisfied their responsibilities under the National Environmental Policy Act of 1969.

OBJECTIONS TO STATE RELEASE OF FUNDS

BCD will accept an objection to its approval only if it is on one of the following bases: (a) that the certification was not executed by the certifying officer or other officer of grantee approved by BCD; or (b) that the City of Park Rapids' environmental review record for the project indicates omission of a required decision, finding or step applicable to the project in the environmental review process. Objections must be prepared and submitted in accordance with the required procedure (24 CFR Part 58) and may be addressed to BCD at 500 Metro Square, 121 7th Place East, St. Paul, Minnesota, 55101-2146.

Objections to the release of funds for reasons other than those stated above will not be considered by BCD. No objection received after October 1, 1994 will be considered by BCD.

Mayor Floyd Harvala
212 West Second Street
Park Rapids, MN 56470

