SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: **MillsHof Colony Farms Ltd.**

PROPOSAL NAME: **MillsHoff Colony Irrigation Project**
CLASS OF DEVELOPMENT: **Two**
TYPE OF DEVELOPMENT: **Water Development and Control**
CLIENT FILE NO.: **5215.00**

OVERVIEW:

The Proposal was received on July 14, 2006. It was dated July 12, 2006. The advertisement of the proposal was as follows:

"A Proposal has been filed by the Prairie Farm Rehabilitation Association on behalf of MillsHof Colony Farms Ltd. to irrigate up to 215 hectares (532 acres) annually in a 3:1 rotation on a land base of approximately 459 hectares (1135 acres). The project is located approximately 40 km southeast of the City of Brandon, Manitoba, west of the Town of Glenboro in the R.M. of South Cypress. A total of 340 dam^3 (276 acre-feet) of water would be applied annually, using 140 dam^3 (114 acre-feet) of water obtained from the Assiniboine Delta Aquifer and 200 dam^3 (162 acre-feet) of water from the Assiniboine River.

In the future, the development may be expanded to include irrigation of up to 54 hectares (133 acres) annually in a 1:3 rotation on a land base of approximately 108 hectares (266 acres). A volume of 100 dam^3 (81 acre-feet) of water would be applied to these lands annually, using water obtained from the Assiniboine Delta Aquifer."

The Proposal was advertised in the Baldur Glenboro Gazette on Tuesday, September 5, 2006. It was placed in the Main, Winnipeg Public Library, Eco-Network and Western Manitoba Regional Library (Brandon) public registries. It was distributed to TAC members on August 30, 2006. The closing date for comments from members of the public and TAC members was October 5, 2006.

COMMENTS FROM THE PUBLIC:

No public comments were received.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Manitoba Conservation – Sustainable Resource and Policy Management Branch

1. As stated in the erosion and sediment control measures (North/South Consultants Inc. 2005), the areas disturbed by the construction of the pump site should be seeded with plant species native to the area. The area should be monitored to

make sure that no invasive plant species (eg. purple loosestrife) becomes established.

2. Although the species identified by Manitoba Conservation Data Centre (CDC) (Table 4) are widespread and abundant globally, they range from very rare to status unknown in Manitoba. If these species are present, removal or destruction of individuals or their habitat may be in contravention of Subsection 10(1) "Prohibition" of the Endangered Species Act (Manitoba). It is the responsibility of the proponent to inspect the area prior to and during construction to determine if these species or any other listed species are present and may be impacted. If species of concern are present, the proponent must contact the Biodiversity Conservation Section of the Wildlife and Ecosystem Protection Branch to discuss possible mitigation options. Note: Since many areas of the province have never been thoroughly surveyed, the absence of data in the CDC database in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present. The information should therefore not be regarded as a final statement on the occurrence of any species of concern nor can it substitute for on-site surveys for species that will be impacted by the development. All proponents who conduct biological surveys in conjunction with their developments are asked to share that data with the Biodiversity Conservation Section. This will provide important updates to the CDC database.
3. The Protected Areas Initiative advises that W26-7-15W is a protected Wildlife Management Area (WMA). The project has proposed a water intake route just west of the WMA. Care is needed to ensure project activities avoid the WMA as proposed.

Disposition:

All of these comments can be addressed through licence conditions.

Manitoba Water Stewardship This proposal does address the majority of concerns related to water quality however, due to the risk of increased runoff following irrigation, nutrient management should include phosphorus in addition to nitrogen. Nutrient application should occur at one times the crop removal rate. Reducing the application of unnecessary phosphorus is crucial because excessive phosphorus can build up in the soil and potentially runoff into surface water. Manitoba is proposing to include phosphorus as a nutrient by which fertilizer application through manure, inorganic fertilizer, or municipal waste sludge to agricultural lands may be limited.

On page 21 under the section entitled 4.3.2 Surface Water Quantity and in section 6.0 Summary and Conclusions, it is noted that the proposed expansion could result in a decline at Oak Creek if the wells are located in the southeast quarter of NE3-7-15W. Modeling studies indicated that no impacts at Oak Creek would be experienced if the wells are located in the northeast part of the same quarter section.

We know that the surface water and groundwater sources interact quite readily in this general area (Assiniboine Delta Aquifer) but I am not sure about the interaction of Oak Creek with groundwater at this exact location. In light of this, I think it would be prudent

to locate the wells in the northeast corner of the quarter section as suggested in the report to minimize potential impacts on the creek (as well as nearby domestic wells).

Section 2.2 mentions the Millshof colony groundwater wells. It is unclear whether the colony receives its drinking water supply from these wells. Whether any treatment is provided to the water supply? As well, the proposed activities should not degrade the groundwater and surface water qualities on adjacent properties and subsequently make these unsuitable for use as drinking water sources. The consultant should identify such activities and recommend appropriate mitigation measures if required.

Fisheries Branch has reviewed this proposal for increased water needs to accommodate the expansion of this irrigation project. In addition to utilizing the existing groundwater wells, the proponent is requesting water withdrawal from the Assiniboine River at 34-7-5 W, at a rate of 1,400 US gpm plus backflow (1,370 USgpm prior to July 1) for a maximum annual withdrawal of approximately 162 acre-ft. Water requirements from both sources are not to exceed 276 acre-ft per year.

There is also discussion of a possible expansion to the south which would be supplied by new groundwater wells located in the N1/2 of 3-7-15 W accessing water from the Assiniboine Delta Aquifer (Oak Creek runs just south of this expansion). It is unclear whether this EAP includes this expansion as well. From Figure 1 it appears that there is existing pipeline already in place but no indication of where water has been accessed. We would like to know if this expansion is included in this EAP.

There is also no indication in the report when the surface water withdrawals will begin other than "prior to July 1st". In the timeline provided the pump/intake installation is scheduled for completion around May 7th with operation beginning around May 8th. If this is the case then it appears the potential timeframe for withdrawal is from May until September with direct application to the field.

Our first concern is an increasing number of proposals now wanting direct application to fields starting during the spring spawning timing window. To date, it is our understanding that most irrigation withdrawals occur outside of spring spawning timing windows, are in the headwaters where fisheries issues are generally minimal and when withdrawing during the spring freshet are done at the onset to avoid entrainment/impingement of larval fish and eggs and the withdrawal is to an offsite reservoir. This application is from the mainstem of the Assiniboine River, takes place during spring and summer spawning timing windows and the water is directly applied to the field. The significance of this issue increases in low water years when most spawning occurs in the mainstem due to limited or no flows in the tributaries and the need for water for irrigation also increases.

Regarding the withdrawal timing window (May – September), this is a very time sensitive period due to the potential to impinge/entrain spring spawning fish eggs and larvae. Given our experience entrainment and impingement of larval fish and eggs does occur and we would not want withdrawals to occur during this window (April 1 - June 15) unless they can be mitigated for and there is a monitoring program to evaluate effectiveness or potential foregone production. While the EAP indicates adherence to the

end of pipe screen requirements for withdrawals prior to July 1st these screening requirements are for the protection of fish 25mm and larger, which does not address our concerns regarding impingement/entrainment of larval fish and eggs (e.g. walleye eggs are ~1.5-2.1 mm and fry are 5.8-8.7 mm long).

Similarly, because this is the Assiniboine River there are also a number of summer spawning fish species-channel catfish (recreationally significant); silver chub and bigmouth buffalo (listed under COSEWIC) and; the flathead chub (northern refugia for this population - Dr. Ken Stewart)- that if withdrawals are to occur from June 15th to June 30th we want to see more stringent end of pipe screening to mitigate for impingement / entrainment of fish eggs and larvae and a monitoring program to evaluate effectiveness.

Both project specific and accumulatively, the effect of withdrawing water during this period of time on larval fish and eggs is unknown. Further to this while the withdrawal amounts fall within Water Branch's current estimate of surplus water, we have concerns with the accumulative effect of water withdrawals on the hydrological cycle of the Assiniboine River. This river provides all life stages for roughly 40 fish species, including sturgeon, bigmouth buffalo, silver chub, flathead chub and numerous sport and commercial species. It is already a highly altered system and increased demands by users continue to strain this river.

In addition, this expansion is over the Assiniboine Delta Aquifer where recharge to the aquifer occurs largely from direct infiltration at the surface and regional groundwater flow is generally to the northeast towards the Assiniboine River. The "potential for environmental impact under irrigation" (page 15) is rated as high (37%) and moderate for over half (51%) of the area. It is critical that specific mitigation measures be specified in the licence and adhered to, with follow up by the licensing authority. Some of the irrigation areas (13) are adjacent to the Assiniboine River and maintenance of a 30 m riparian area should be stipulated. Furthermore, it would seem prudent for both groundwater and surface water monitoring needs to be ongoing and reflected in the license and some background analysis compiled prior to this proposal starting.

Regarding the pump station area, as the timeline for construction is later this fall the ability for the site to revegetate prior to freeze up is likely small so erosion control blankets should be used to prevent sediment from entering the river.

In conclusion, as with the Mayfair/Jamor proposal, we feel that this proposal should not be licenced until Fisheries can further discuss the potential for precedence with Environmental Licencing and then the Department/Branch can determine the direction they would like to recommend for this and future proposals. At minimum some monitoring program to address the entrainment/impingement of larval fish and eggs should be required.

Disposition:

Comments concerning nutrient management and the location of wells in NE 3-7-15W can be addressed as licence conditions. Groundwater protection can also be addressed through licence conditions. The potential southern expansion of the project is

part of the proposal, and will be addressed in the licence. As with other irrigation projects withdrawing water directly from the Assiniboine River, standard licence conditions will require intake screening to be in accordance with DFO requirements, and final screen design will require DFO approval. This will address concerns about water withdrawals prior to July 1 – more rigourous velocity requirements apply when larvae and eggs are of concern. Comments about erosion and sedimentation protection during construction can be addressed through licence conditions.

Historic Resources Branch No concerns.

Mines Branch No concerns.

Community Planning Services Branch

Municipal Approvals - The proponent should obtain the approval of the municipality for the installation of those portions of the pipeline which are to be located within the rights-of-way of municipal roads, as they represent a structure located in the right-of-way which is under municipal jurisdiction. According to Policy 7 of PART I of the Cypress Planning District Development Plan, the proponent should also obtain a development permit for the installation of irrigation facilities from the local development officer.

Monitoring - Based on the sensitivity of the soil and groundwater conditions in this area, I would suggest that a fairly comprehensive program for monitoring any emerging impacts to the local groundwater should be considered, so that remedial action might be undertaken in a timely manner if problems emerge. The municipality typically requires the operators of recently approved large livestock operations (including this proponent) to provide an annual monitoring report for manure disposal associated with their livestock production facilities. Perhaps there is an opportunity for the existing monitoring program to be coordinated with any irrigation monitoring that might be considered for the proposed irrigation project. (Note that this is similar to a recommendation I made for another proposal in the municipality last year – client file no. 5100.00)

If the appropriate authorities are satisfied that this proposal will be sustainable over the long term, and will not have a significant detrimental effect on regional water quality and water quantity, then I would have no concern with the issuance of a license.

Disposition:

The information concerning municipal approvals was forwarded to the applicant's consultant. Monitoring can be addressed through licence conditions.

Manitoba Agriculture, Food and Rural Initiatives - Crops Branch Section 8 of The Land and Agronomic Assessment (AXYS December 2005) notes two parcels of land that have restrictions for irrigation.

AXYS notes that Field 10 (NE 26-07-15 W1) is NOT suited for irrigated potato production.

AXYS also notes that FIELD 1 (NW16-07-15 W1) has portions of the field that should not be irrigated (the north-west portion of the proposed irrigation circle).

AXYS goes on to state the other parcels in the study area are suitable for irrigation development.

I concur with these assessments.

Regarding the Millshof Colony Irrigation Project Environment Act Proposal (March 6, 2006) I note the following.

Figure 1 – Land Ownership and Irrigation Layout shows no irrigation development on the NE 26-07-15 W1) which concurs with the AXYS recommendation.

However, Field 1 (NW 16-7-15 W1) shows a pivot circle being developed on the entire parcel. The portion of this field not suitable for irrigation as identified in the AXYS report, should be shown as not being suitable for irrigation.

Disposition:

Irrigation on these parcels can be excluded through licence conditions.

Manitoba Health – Medical Officer of Health, Assiniboine and Brandon Regional Health Authorities Although the installation of backflow prevention valves on pumps should minimize cross-contamination between the two water sources, it would be advantageous to include periodic water quality monitoring of groundwater and domestic wells.

Disposition:

Groundwater monitoring can be addressed through licence conditions. Because of the low density of domestic wells in the project area and the need to identify groundwater contamination issues quickly, groundwater monitoring will be confined to monitoring wells closer to the irrigated fields.

Canadian Environmental Assessment Agency I have completed a survey of federal departments with respect to determining interest in the project. I can confirm that the project information that was provided has been reviewed by all federal departments with a potential interest. Based on the responses to the survey, application of the Canadian Environmental Assessment Act (the Act) will not be required for this project.
Natural Resources Canada and Prairie Farm Rehabilitation Administration both indicated that they were prepared to offer specialist advice on request (copy of responses attached.)

I understand that Environment Canada has already provided advice directly to Ms. Braun in a letter dated October 11, 2006.

(Note: PFRA indicated that they wished to participate in the provincial review of the project.)

Environment Canada Environment Canada has an interest in the project, but we are not requesting to participate in the provincial review under the Canada-Manitoba Agreement on Environmental Assessment Cooperation at this time. We would, however, like to provide some comments for your consideration in licensing this and similar future projects.

The proximity of the project area to the Assiniboine River raises a concern with regards to impact on surface water; in addition potential contamination of groundwater is also a concern.

We note that Assiniboine River is already under considerable stress, and this can be expected to increase due to future irrigation and other projects.

Mitigation measures have been proposed for some of the possible environmental impacts associated with irrigation. References were also made to the Best Management Practices as well as Beneficial Management Practices. If the proponent implements these mitigation measures, EC's concerns would have been addressed.

Disposition:

Surface water and groundwater contamination can be addressed through licence conditions. Mitigation measures discussed in the proposal can also be incorporated in licence conditions.

ADDITIONAL INFORMATION:

No additional information is required to address TAC comments on the project.

PUBLIC HEARING:

No requests were received for a public hearing. Accordingly, a public hearing is not recommended.

RECOMMENDATION:

All comments received on the Proposal can be addressed as licence conditions. Therefore, it is recommended that the Development be licensed under The Environment Act subject to the limits, terms and conditions as described on the attached Draft Environment Act Licence. It is further recommended that enforcement of the Licence be assigned to the Western Region.

PREPARED BY:

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