

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** Central Manitoba Resource Management Limited

**PROPOSAL NAME:** Lower Rat Creek Irrigation Project

**CLASS OF DEVELOPMENT:** Two

**TYPE OF DEVELOPMENT:** Water Development and Control

**CLIENT FILE NO.:** 4464.00

### **OVERVIEW:**

The Proposal was received on August 5, 1999. It was dated July 9, 1999. The advertisement of the proposal was as follows:

“A Proposal has been filed by Central Manitoba Resource Management Ltd. (a holding company formed by the Central Manitoba Irrigators Association) to irrigate land in the vicinity of the Lower Rat Creek north of the Trans Canada Highway in the Rural Municipality of Portage la Prairie. The project would involve the irrigation of 530 hectares of land annually in rotation. The main irrigated crop would be potatoes, with some irrigation of canola, wheat, beans, alfalfa and grass also occurring. Annual water requirements are estimated to be 800 cubic decametres. Water would be obtained from the Assiniboine River via the Portage Diversion, the Mount Pleasant Drain and Rat Creek. Construction of the project is proposed for the fall of 1999.”

The Proposal was advertised in the Portage Herald Leader on Tuesday, August 24, 1999. It was placed in the Main, Centennial, Eco-Network and Portage Plains Regional Library (Portage la Prairie) public registries. It was distributed to TAC members on August 16, 1999. The closing date for comments from members of the public and TAC members was September 23, 1999.

### **COMMENTS FROM THE PUBLIC:**

**C. Barrie Brown** (Same letter also signed by nine others.) Have had no contact or consultation with the proponent with regard to the project. Does the company have assets or is it a group to pass the buck if there are any problems. The irrigators have made no effort to directly discuss the decrease in the value of our houses and yard sites by basement flooding and pumping polluted river water into our wells. They also have made no effort to discuss the future of low level crossings with the owners. If they were honest and sincere they would be discussing the installation of perimeter tile and proper sump pumps and maintaining them with the homeowners. They should also be discussing the

piping of “safe” drinking water to all the well users and the maintenance of the pipes and wells before pumping this water into Rat Creek. Who will own this water and be responsible to the rest of us? The survey was taken when water levels were at their lowest point in years. Little or no spring runoff is not normal. No mention is made of the hydrogen sulphide gas in the creek water though it must have been present in some of the monitoring wells. Additional seepage could spoil more if not all the wells. Owners on  
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both sides of the Portage Diversion have had to start hauling water lately because of the taste and odor due to the increased seepage from the diversion channel. The quality of Rat Creek water is not an issue as no one is proposing to pump it into other people’s wells. Our water must be superior to the (Assiniboine) river water because we do not have to chlorinate it to kill the bugs. The City of Portage la Prairie has to use chlorine before they can distribute it to its citizens. Neither our sand nor us have had any experience with water that has been contact with city sewage and commercial waste.

The engineer’s report uses 0.3 m depth – this may maintain a flow in the creek once it has started, but it will take at least two feet to start and maintain the flow over this flat area that has little drop in elevation to the north. This means the pumpers will be responsible for this two feet under the houses and when it rains this two feet will be trapped in the sand pockets so that a much smaller rain will flood the basements. The report states that in a worst case estimate the additional water would only penetrate ten metres from the creek. This is absolutely not so because on pages 50 and 52, the water flows outward from the creek and as the water penetrates the sand pockets readily it will flow out the width of the sand pocket. According to scientists there are “fines” in the liquid formed by blue-green algae and in fecal coliform that will penetrate sand.

We have been offered no binding legal agreements by either the irrigators or the Environment people that our health and wells will be protected. We do not feel that under these circumstances anyone has a legal or moral right to use our property against our will. This has been a flawed plan from the beginning, as there are other ways of getting water for irrigation. How can engineers use old data and water samples to prove anything? If there is any doubt about the quality, we will all have to haul water from another source to protect our health. Once again, we do not believe anyone has the right to spoil our wells on our own property.

**Disposition:**

Comments were requested from the Proponent’s consultants to address these concerns.

**C. Barrie Brown** (Same letter also signed by 19 others.) We firmly believe that this project will raise the water under our houses by at least two feet. The engineer uses 0.3 metres in his report, the irrigators admit to one or two feet and apparently pump capacity can be doubled to make the water flow. The engineer uses the minimum figure to make the report look good for the irrigators. He also suggested that in a “worst case estimate” their water would only penetrate ten metres. This is absolutely untrue because on pages 50 and 52 of the report, the water moves outward from the creek and as it easily

penetrates the sand pocket it will move five to six hundred feet across or the entire width of the pocket. When it rains, this two feet of water will be trapped in the pocket raising the level by two feet under the houses allowing a much smaller rainfall to flood the basements. The irrigators have not addressed the question of property values directly with the owners.

**Disposition:**

Comments were requested from the Proponent's consultants to address these concerns.

**Whitemud Watershed Conservation District** The District has not granted permission to the proponent to utilize drains in this project. The District is concerned

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with erosion of district drains and natural waterways caused by irrigation waters introduced into the system. The District is based on the natural drainage basin of the Whitemud River. As such, the District is concerned as to the effect of foreign water from the Assiniboine River into its watershed. The District feels off-channel storage of spring runoff would benefit both the District and producers as it would provide 100 percent of producers water requirements while at the same time reducing peak flow downstream, benefiting the District. Other District concerns are listed in the letter of May 25, 1999 to the Proponent which is provided in the appendix section of the Proposal.

**Disposition:**

The approval of the District must be obtained by the proponent prior to the use of the District's drainage system for water conveyance purposes. This can be addressed as a licence condition. With respect to the District's other concerns, most can be addressed through an agreement between the District and the Proponent.

**Fort La Reine Wildlife Association** (This comment was received prior to the advertisement of the Proposal.) This organization has spent thousands of dollars and invested hundreds of man hours over the past decade improving pickerel habitat and population in the area of Rat Creek and the Whitemud River. This project would be a severe blow to these efforts. There is no comparison between the water in the Portage Diversion and in Rat Creek. Pickerel have all but disappeared from the area around the diversion mouth on Lake Manitoba. This species simply does not thrive in the filthy water of the diversion. The benefits to a few potato producers do not outweigh the benefits to thousands of Manitobans and tourists who use this area for their fishing and recreational activities. If irrigation is needed, the producers should dig retention ponds on their own property to trap spring runoff.

**Disposition:**

The water quality concerns noted involve spring flows in the Portage Diversion, when suspended sediment loads are very high. Diversions of Assiniboine River water during the irrigation season would occur when suspended sediment loads were lower. Pickerel are found in the Assiniboine River.

**COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

**Manitoba Environment – South-Central Region** Petroleum storage tanks used with the pumping equipment should be registered.

Disposition:

Compliance with Manitoba Regulation 97/88R respecting the storage and handling of gasoline and associated products is a standard licence condition for irrigation proposals.

**Manitoba Environment - Water Quality Management** I have concerns with this proposal because it proposes to create mini-reservoirs within a functioning stream course, and the assumptions or reasons provided that there will **not** be detrimental effects to the lower Rat Creek water quality and subsequent Whitemud River water quality were based upon a very limited amount of water quality data. As indicated in previous correspondence, the preferred approach is not to have in-stream structures but off-stream reservoirs for irrigation proposals. .../4

I also have a concern with the strength awarded to the interpretation of water quality presumed to occur in Rat Creek during summer through the use of surrogate streams such as the Boyne and Cypress rivers. Use of surrogate streams are often sometimes the only way to get some idea of what might be the expected water quality in a nearby stream that has no data. However, the weight that was granted to this interpretation must be more carefully considered. The effects from similar local geological or soil characteristics may be interpreted with some confidence, but the occurrence of anthropogenic activities (even ones that seem similar) must be viewed with caution. Even some data such as sulphate concentrations between the two surrogate streams had considerable variability. Sulphate values during the 1990s in the Boyne and Cypress rivers were usually < 180 mg/L and > 300 mg/L, respectively. As well, not all anthropogenic activities between areas are the same or occur with the same intensity so influences to water quality can be distinctively different.

Manitoba Environment has a historical water quality station on the Whitemud River at PTH 16 bridge at Westbourne (WQ0197; 1973 – 1999), and a site on the Assiniboine River near the Portage Diversion entrance (WQ0014; 1965 - 1999). There is also a sampling location on Pine Creek (WQ1690; 1996 – 1999 summer data) which is a small tributary entering the Whitemud River upstream of Westbourne. I think water quality data from these areas would have provided more valuable insight into possible impacts because of their closer proximity to the project location. Rat Creek flows into the Whitemud River approximately 8 km (as the crow flies) downstream of WQ0197 and is within one to two kilometres of the Whitemud River for most of that distance. WQ0014 would better reflect the quality of Assiniboine River water diverted into the Portage Diversion since it is at the forebay of the Diversion entrance. There is considerable potential for the Assiniboine River quality between WQ0009 at Brandon and the Portage

Diversion to be different because of natural and man made influences over the relatively long distance between these two locations. For example, the total aluminum concentration during April 1998 for WQ0009 (Assiniboine at Brandon) was listed in this report as being 10 mg/L. Meanwhile, the total aluminum concentration at WQ0014 (Assiniboine River near the Portage Diversion) during April 1998 was 30 mg/L.

Following are some further examples of where I do not agree or have reservations with some of the interpretations of water quality:

Page 37 – one sample in March 1999 is too limited to be considered as representing Rat Creek water quality for the whole spring period.

Page 37 - I have concerns that there is an assumption Rat Creek water quality will not be impacted based upon this one spring sample and surrogate July and August data from the Boyne and Cypress rivers. I do not agree with the comment under the heading “**General Water Quality**” that “*Since the spring flow in Rat Creek is diluted with a higher water volume, it is unlikely that phosphorus concentrations in Rat Creek during the summer months will be below Assiniboine River concentrations, but will likely be comparable or higher.*” Depending upon the stream and year, phosphorus may be higher in spring even though one presumes dilution should reduce the concentration. Spring runoff water can also pick up nutrients from the landscape and carry them to streams. Some of our streams have spring phosphorus values that can be 2 – 3 times higher than summer values. Rat Creek phosphorus may be more closely related to the Whitemud River and Pine Creek than the Boyne or Cypress rivers. Pine Creek and Whitemud River total phosphorus concentrations during summer tended to range between 0.05 – 0.2 mg/L or were four to two times less than the spring time value (0.458 mg/L) found in Rat Creek. .../5

Page 39 – I do not support the notion that Assiniboine River water may improve total dissolved solid (TDS) concentrations in Rat Creek during summer based upon the assumption made. Only the Cypress River TDS concentrations seem to be generally higher than the Assiniboine River at Brandon. A quick view of Pine Creek (WQ1690), the Whitemud River (WQ0197) and the Assiniboine River near the Portage Diversion (WQ0014) indicated that TDS in the Pine and Whitemud rivers appeared slightly lower than the Assiniboine River values.

Some additional comments are as follows:

Table 5 – Footnote 5 – As indicated in the review of the Upper Rat Creek proposal submitted previously, I think the condensed definition in Category C on the Table 5 has lost the meaning from the Manitoba Surface Water Quality (MSWQ) objective description. My take on the MSWQ objectives description of Category C is “*to ensure long term protection of permanent irrigation installations on coarse soils, up to 20 years protection for temporary irrigation installations on medium to fine soils, and only short term protection for medium to fine and fine textured soils.*” The definition presented here seems to be a duplicate of Category B definition with some minor rearranging

of words. This footnote occurs on tables 6, 8, and tables in Appendix 1 as well.

Table 11 – There needs to be more water quality monitoring than suggested if this project were to proceed. In conjunction with the bi-weekly monitoring of phosphorus and fecal coliform bacteria, a more detailed sampling of diverted water from the intake, the Rat Creek site near Macdonald, a site just upstream of the last weir, and a site located just downstream of the last weir on Rat Creek should be collected every two weeks during the pumping period to determine if negative impacts are occurring. This type of monitoring should include variables such as pH, conductivity, TDS, suspended solids, ammonia, nitrate-nitrite, total and dissolved phosphorus, sulphate, manganese, iron, and aluminum.

There is the potential for increases in variables such as iron, phosphorus, and sulphate. There is an objective for protection of aquatic life for iron concentrations. Iron values during June – August in the Assiniboine River near the Portage Diversion (WQ0014) have only occasionally been elevated above the objective value (1.0 mg/L), although the value in July 1998 was 2.84 mg/L. As was mentioned in the report, settling of suspended solid material would likely occur behind the small dams and since iron and phosphorus are often associated with suspended soils these variables may also accumulate in these areas. Material settled out in sediments may not be a problem with well-oxygenated conditions during open water periods. However, in a relatively shallow river such as the lower Rat Creek, depleted oxygen conditions during winter or early spring can cause iron and phosphorus to be released. Increases in phosphorus will not directly affect aquatic life, but can trigger more frequent and more severe algae blooms. Because algae species that produce toxins might also occur, there should also be some consideration to collect toxic algae samples from some of the reservoir areas during algae bloom occurrences.

Recommendations from the Sustainable Production Evaluation Interview (SPEI) sheets should be followed if irrigation is undertaken by the different operations. Although the SPEI sheets indicated the groundwater hazard is low to medium, there is still a concern with the potential for groundwater contamination. Comments on page 43 under the heading

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“**Faurschou Land**” were a little confusing when it was stated that “*although nitrate soil concentrations were high, the high plasticity silty clay unit detected at this location will restrict migration of soil nitrate impact to the water table,*” and then a couple of sentences later it states that “*These results indicate the downward migration of nitrate-nitrite N which may pose a threat to groundwater quality.*” As mentioned in the report, some of the elevated nitrate N values were probably localized, but these elevated values do indicate the need for proper and better management.

Based upon the SPEI sheets and summary in Table 4, most producers appear to be soil testing frequently enough for adequate monitoring and to be able to prevent over applications of fertilizer. However, producers that are only soil testing in the potato year should also soil test in the following year.

These operators or CMRML should also maintain these soil test records and have them available upon request. If nitrate N problems do begin to show in the soil samples, deep nitrate testing should also be done each year until the problem has been corrected.

Disposition:

These comments were referred to the Proponent's consultants for response.

**Historic Resources Branch**

No concerns.

**Mines Branch**

No concerns.

**Community Economic Development**

No concerns other than with a small area in NW 35-12-8W, which is not designated or zoned for agricultural use. This area comprises the hamlet of Macdonald. It is designated "Village Centre in the Development Plan and is zoned "General Development" in the Zoning By-law. It would be inappropriate for this area to be included in the irrigation proposal.

Disposition:

As the land noted is not owned by the Proponent's members, this land is not part of the area proposed for irrigation.

**Highway Planning and Design**

No objection to this development. The following comments are offered for consideration. The buried pipeline running from the pumps and intake on the Portage Diversion to Mount Pleasant Drain is located adjacent to the Trans Canada Highway. The proponent is expected to meet or exceed certain standards when working adjacent to a provincial road or highway. For example, highway traffic control standards must be met, and rights-of-way, ditch and drainage patterns must be restored to a satisfactory condition. An underground agreement is required for placing any pipelines on or adjacent to department rights-of-way. Furthermore, if there are any plans to release water into the ditches of the Trans Canada Highway prior to the installation of the pipeline, the proponent may be requested to enter into an agreement to cover potential liability issues. The department's contact in this regard is the regional Technical Services Engineer in Portage la Prairie.

Disposition:

These comments will be forwarded to the Proponent's consultant for information.

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**Medical Officer of Health - Central Region**

Health concerns are: adequate protection of groundwater, and assessing how this project fits in with the overall plan for surface water management in this area, additional impacts the development may have on the Macdonald water supply, which already has elevated nitrates (over 10 mg/L), and mold due to increased basement dampness/wetness in Macdonald. If the project will

contribute to dampness problems in basements, some restrictions need to be placed on the licence. Since the flood of 1997, a greater understanding has been developed of the chronic health effects that result from ongoing exposure to molds.

**Disposition:**

Groundwater protection is addressed in the Proposal and can be addressed through licence conditions involving monitoring. With respect to an overall water management plan for rural Manitoba, the Water Resources Branch of Manitoba Natural Resources is leading initiatives to develop basin wide plans for water management. The Proponent of this Proposal is one of a large number of stakeholders involved in these initiatives. Additional impacts on the Macdonald water system can be addressed through licence conditions involving monitoring. Concerns over mold in basements are difficult to attribute to the project. Basement seepage and moisture problems have existed in Macdonald for some time. The possible impacts of the project on basements in Macdonald was discussed in some detail in the Proposal. This assessment determined that a slightly elevated water level in the creek during the irrigation season would not significantly contribute to wetness problems in view of the difference in elevation between the creek and the floor levels of the basements.

**Agriculture**

1) On page 16, it is recognized that Red River (Rr) and Morris (Mo) soils are rated poor for irrigation. On page 45 it is noted that these soils are located on SW7-12-7W and SE7-12-7W. Footnote 3 to Table 2 (in reference to these 2 parcels) states “should not be part of irrigation project due to texture and salinity concerns”. This is again recognized on pages 6 and 7 of the Sustainable Production Evaluation Interview (Faurichou Farms Ltd.) **However**, on both page 45 and page 7 of the Interview it also states “should be used for irrigation only during dry springs for pedigreed seed Canola or grasses to provide seedling germination and emergence.” There is clearly a contradiction here. Irrigating soils rated as poor for irrigation suitability is not a recommended practice.

2) On page 43 it is recognized that two parcels of land (SE12-12-8W and SW35-12-8W) have nitrate levels that exceed those outlined in the Livestock Manure and Mortalities Management Regulation under the Environment Act. These same levels as used in this Regulation are viewed as guidelines for acceptable soil nitrate levels under all management practices by Manitoba Agriculture. Table 13 clearly indicates SE12-12-8W (MW5) contains **excessive** level of nitrate in the top 1.8 meters Appendix H indicates an excessive but in the 65-75 cm depth of SW35-12-8W. I would recommend that, particularly for SE12-12-8W irrigation **NOT** be approved until nitrate levels been reduced to acceptable values through the use of a deep rooted perennial crop or any other practice that removes the nitrate before it leaches further.

3) On page 46 and Appendices G and H, the presence of salinity is identified on NW15-13-8W (MW4), SE12-12-8W (MW5), SW35-12-8W and NE26-12-8W. Data for SW35-12-8W indicates significant salinity to depth. Areas containing soils that are saline should not be considered for irrigation since the salinity will limit crop production; salinity reflects impeded drainage which could indicate that waterlogging and saturated soil conditions could exist during the growing season and limit crop production and,



irrigating saline soils can result in the increase in the area of salt affected soil and the overall level of salinity in the root zone of the soil.

**Disposition:**

Additional information on agronomic practices was provided by the project consultants. A meeting was also held to discuss the issues involved. Participants in the meeting included PFRA, the project's agronomic consultant (AXYS Agronomics), and staff of the departments of Agriculture and Food and Conservation.

**Natural Resources**

The proponent should consider whether temperature differences between the source and the receiving body would be detrimental to amphibians and other wildlife living in and along the receiving water bodies. Fish mortality from thermal shock occurs when water temperatures change or differ by a minimum of 4 degrees. Water temperatures should be recorded once an hour throughout the proposed comparison before the irrigation project begins. The possibility that irrigation runoff contaminants will adversely impact riparian and aquatic habitats downstream has not been discussed.

Riffles should be constructed in a manner that minimizes erosion and sedimentation and are best constructed in the fall after leaves have fallen from vegetation and the ground is partially frozen. The use of retaining walls in riffles is not supported, as the rocks tend to pull away from the wall and/or settle below the top of the wall. It is anticipated that fish passage over the weirs may be difficult. The proponent should be required to monitor adult and juvenile fish passage and in the event that fish are unable to pass a weir, further modifications to weir design may be required. Rockfill area A should have a minimum depth of 0.3 metres.

Pump intake design and construction should be in accordance with DFO's fish screening guidelines. Instream construction should not take place between April 1 and June 15 of any year. To minimize erosion and downstream sedimentation, all instream construction should occur during low flow periods. Streambanks should be stabilized immediately after construction. If drain maintenance work is intended on Rat Creek, the Proponent should advise Fisheries Branch staff prior to carrying out the work. Pump installation plans for the Portage Diversion should be reviewed by Central Region engineering staff prior to pump installation. This installation will be supervised by regional staff.

Further comments were also provided dated October 26, 1999: The Water Resources Branch is not prepared to issue any additional licenses to withdraw water from the diversion until the impact on the facility has been assessed, necessary repairs and alterations have been completed and an acceptable method of operation has been agreed upon. Discussions with the proponent have been initiated in this regard. If the number of quarter sections irrigated in a given year increases there is potential to impact the hydrology by raising the water table in the immediate area. All wells that could be affected by increased contamination should be sampled for bench mark chemistry. The locations of the shallow sand aquifers should be mapped on the fields that are to be

irrigated. At least four recording water table observation wells should be strategically placed to observe the water table conditions in the area. At least 12 water chemistry observation wells removed from the residential and farmstead areas should be established throughout the project. These should be established as soon as it is evident that the project will proceed. Once the project is underway, water quality should be monitored at strategic residential wells and the observation wells once a year.

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**Disposition:**

Additional information concerning thermal effects of the proposed diversion on aquatic life was requested from the Proponent. Additional information was also requested regarding a monitoring program. Other comments can be addressed as licence conditions.

**Canadian Environmental Assessment Agency** An environmental assessment under The Canadian Environmental Assessment Act will be conducted by PFRA. Natural Resources Canada, Fisheries and Oceans and Environment Canada have offered to provide specialist advice in accordance with Section 12(3) of the Act.

**Fisheries and Oceans** Lower Rat Creek provides fish habitat for a number of valuable fish species, thus the project has the potential to negatively impact on fish and fish habitat. The proposal stated that pumping for irrigation would be during July and August, but also stated the potential for earlier pumping to augment spring flows to enhance fish survival in Lower Rat Creek. This is an option worth exploring further, however water temperature may differ significantly between Lower Rat Creek and the Assiniboine River Diversion, and pumping could be detrimental to fish survival due to thermal shock. Prior to approving spring pumping to enhance flows for fishery concerns, it is recommended that a two year study be undertaken to compare water temperature between the Diversion and Lower Rat Creek. Water temperature monitoring is also recommended to assess the effectiveness of the proposed ramping of flows designed to avoid thermal shock during July and August pumping, or whether the ramping schedule should be re-designed. The temperature monitoring program should be discussed with and approved by DFO and the Fisheries Branch three months prior to the first pumping season.

Instream weirs should be constructed with v-notches as shown in Figure 5 of the Proposal. The use of wooden retaining walls is not recommended for riffle construction due to long term maintenance requirements. The proponents should contact the Fisheries Branch for advice on riffle designs to best provide for upstream and downstream fish passage. Weir locations should be monitored for upstream and downstream fish passage. Should significant fish stranding occur, modifications to the weirs would be required, including reducing the height of the v-notches. A fish passage monitoring program should be submitted to DFO and the Fisheries Branch for review and approval three

months before the first field season following construction of the weirs. A report on fish passage should be required within two months of the first pumping season.

Once the issues of water temperature and fish passage are resolved, the project is not likely to cause significant adverse effects on fish and fish habitat after the implementation of appropriate mitigation measures as follows: 1. No instream activities related to the construction of the pump access ramps and instream weirs should take place within the period of April 1 to June 15 of any year. All instream construction should be conducted during periods of low flow to minimize the erosion and downstream sedimentation within Rat Creek. 2. All streambanks should be stabilized immediately after construction to prevent erosion and sedimentation. The access ramps should be constructed of clean material, large enough to withstand the erosive power of peak flows in the Portage Diversion and Rat Creek. The access ramps and pads should be inspected annually by the proponent and any required annual maintenance should be performed immediately.

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3. Pumping for irrigation is proposed for July and August. Since northern pike in this region have grown to 100 mm by this time of the year, the intake screening should be designed to protect 100 mm anguilliform fish. Approach velocities should be less than 0.065 m/s. Should pumping occur earlier in the year, please notify DFO as screens may require modification. 4. Pumping from the Assiniboine River Diversion should not occur below any minimum instream flow level once it has been established by Manitoba Natural Resources.

Disposition:

These comments can be addressed as licence conditions.

### **PUBLIC HEARING:**

No members of the public commenting on the Proposal requested a public hearing. A public hearing is not recommended.

### **ADDITIONAL INFORMATION:**

The Proponent's consultants provided several additional information items:

1. Letter of October 8, 1999 from KGS Group - Addendum concerning Rat Creek summer water quality.
2. Letter and report of October 8, 1999 from KGS Group – Addendum concerning soil survey in the project area.
3. Letter of October 14, 1999 from KGS Group – Addendum concerning baseline soil sampling for Faurichou Farms.
4. Letter of November 15, 1999 from AXYS Agronomics – Response to Manitoba Agriculture and Food's comments on soil suitability and nutrients.

5. Letter of November 26, 1999 from KGS Group – Response to residents’ concerns about well water quality.
6. Letter of December 3, 1999 from KGS Group – Response to residents’ concerns about basement wetness.

Copies of items 1 and 4-6 are attached. Copies of items 2 and 3 have been provided directly to Manitoba Agriculture and Food for review. The additional information is sufficiently complete to indicate that the concerns identified during the environmental assessment of the project can be addressed through licence conditions and monitoring. A comprehensive monitoring program will be required to verify the projections made in the Proposal and additional information. This program would include quality and quantity monitoring of diverted water and natural water conditions adjacent to the creek. Specific monitoring would also be designed to address the concerns of local residents regarding water quality and flooding by groundwater.

**RECOMMENDATION:**

Most comments received on the Proposal have been addressed by the additional information provided or can be addressed through licence conditions. Many of the concerns can be addressed through a detailed monitoring plan. The approval of the Water Resources Branch for the project pursuant to The Water Rights Act will require an agreement with the Proponent respecting the use of the Portage Diversion channel. It is

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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. The Draft Licence should not be finalized until the necessary agreement with the Water Resources Branch has been obtained. Once the Licence is finalized, its enforcement should be assigned to the South-Central Region.

**PREPARED BY:**

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December 23, 1999

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