

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: City of Steinbach
PROPOSAL NAME: Steinbach Water Supply System
CLASS OF DEVELOPMENT: Two
TYPE OF DEVELOPMENT: Transportation/Transmission - Pipelines
CLIENT FILE NO.: 5403.00

OVERVIEW:

The Proposal was received on March 31, 2009. It was dated March 30, 2009. The advertisement of the proposal was as follows:

“A Proposal has been filed by the City of Steinbach to increase the volume of municipal water usage from 1,818 cubic decametres/year to 2,000 cubic decametres/year, using the existing municipal well field at 515 Main Street in Steinbach. One of the existing wells would be sealed and replaced with an identical well adjacent to the existing location. Minor retrofits to one pump house in the well field would accommodate the well replacement. No other construction and no changes to the water treatment plant or water distribution system are planned. The additional water is projected to meet the needs of Steinbach through to 2020.”

The Proposal was advertised in the Steinbach Carillon News on April 9, 2009. It was placed in the Main, Millennium Public Library, Eco-Network and Jake Epp Public Library (Steinbach) public registries. The Proposal was distributed to TAC members on April 8, 2009. The closing date for comments from members of the public and TAC members was May 11, 2009.

COMMENTS FROM THE PUBLIC:

Frank Render

Preface

I point out that while a Provincial employee I worked on groundwater in the Steinbach area. I currently am not affiliated or work for anyone – my concern is for the development of the aquifers in the area and the groundwater supplies from them. I am also concerned about the longevity of the aquifer complex groundwater supplies developed for the region.

Comments

This request for 147 acre feet per annum of new ground water is small considering the size of the regional aquifer systems, the Carbonate Aquifer specifically, and the long term over which much more substantial water usage from the aquifer has been successful.

While the presenters calculations for increased drawdown do not indicate much increase; I have considered the prospect that the average Transmissibility of the Carbonate Aquifer under areas removed from the Town Well Field could be less than that chosen by the presenters in their drawdown calculations. Transmissibility within the Carbonate Aquifer can vary significantly from place to place. After review of the piezometric surface map for the Carbonate Aquifer shown on fig. 11 of the attached report entitled Analysis of Municipal Well Field Capacity – The City of Steinbach Well Field; I chose an average value for areas removed one quarter mile from the City well field of 50,000 USgal/ft/day. This is significantly smaller than the proponents 75,000 USg/ft/day. The calculations indicated that if this value were closer to the areal average Transmissibility the drawdown at one half mile and one mile would be increased over that shown in the reports by 0.6 and 0.5 feet respectively. Thus the drawdown values from either calculation do not indicate that much of a total drawdown increase is to be anticipated. The Theis calculations used by the presenters and myself to speculate on additional drawdown caused by the small increase in pumpage assumes, among a number of other items, that there is no recharge to the aquifer. The fluctuations in the monitoring well charts accompanying the report show periods of recharge. Also the fact that the City of Steinbach and several other major users in the area have pumped from the aquifer at over twenty times this requested increase, for several decades; without dewatering the aquifer shows that there is replenishment. Consequently even the small amounts of drawdown computed by the presenters or myself are unlikely to be actually observed. That is I do not foresee any significant drawdown problems being caused by the requested additional pumpage.

The groundwater analysis document has a number of recommendations. These appear to me to be valid recommendations. From the viewpoint of the Province of Manitoba and the City of Steinbach undertaking the recommendations oriented towards better understanding the aquifer system would be especially appropriate.

The recommendation calling for a new back up City of Steinbach water supply well removed from the vicinity of the present well field is most appropriate.

I recommend that with respect to the aquifer monitoring within the Park that in addition to keeping the present Carbonate Aquifer monitoring well a separate monitoring well be established solely into the underlying Winnipeg Sandstone Aquifer.

I recommend that the Province of Manitoba make, as soon as feasible, an accurate determination of the amount of ground water recharge to the aquifer system that feeds the aquifers underlying the Steinbach area.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Sustainable Resource & Policy Management Branch

The Sustainable Resource & Policy Management Branch recommends that the City of Steinbach (Steinbach) monitor the effects of the drawdown of their increased water supply on Balsam Willow Proposed Ecological Reserve (PER) - approximately 14 kilometres northeast of Steinbach – throughout the license period and provide their findings to Manitoba Conservation and the Protected Areas Initiative periodically. Any adverse effects that may occur from the increased water uptake should be mitigated to ensure this ecologically valuable wetland remains intact.

For your information:

- The Balsam Willow PER is an Area of Special Interest being considered for protection and addition to Manitoba's network of protected areas. Protected areas are legally designated areas that do not allow logging, mining, or hydro electric development, oil or gas development, or any other activities that may adversely affect habitat.
- The Balsam Willow PER lies approximately 14 km northeast of Steinbach's municipal well field at (30-7-8E and N ½ of 19-7-8E). Any activity affecting the surface or ground waters flowing into and out of the bog may adversely affect it, compromising its ecological integrity and the reasons for which this site is being considered for protection.
- The PER contains three plant species of concern in Manitoba: a grass (*Torreychloa pallida*), bog goldenrod (*Solidago purshii*) and slender agalinis (*Gerardia tenuifolia*), a member of the figwort family; and provides breeding habitat for the following bird species of interest with highly localised distributions: yellow rail (federally listed Species of Special Concern), American bittern, and LeConte's sparrow.
- The *Wetland Protection and Restoration Initiative*, announced in the 2008 Throne Speech, recognizes the enormous value of wetlands for biodiversity, for retaining nutrients, for regulating prairie water tables and for reducing greenhouse gas emissions. Recent studies value the services provided by these wetlands as high as \$24,330 per hectare per year.

Disposition:

Comments were forwarded to the proponent for information and addressed by the proponent.

Parks and Natural Areas Branch

No comments.

Manitoba Water Stewardship

As a general statement, the current groundwater development for the City and abstractions from other users do not appear to exceed the local sustainable withdrawal from this part of the Carbonate aquifer and we don't expect the rather small increase in pumping being proposed will result in significant additional regional effects.

Nonetheless, the long-term sustainability of an aquifer or portion of an aquifer can only be evaluated through appropriate monitoring so it is essential that comprehensive local and regional monitoring be carried out over the long term. This is particularly important in this area because there are multiple users and information on cumulative groundwater use is not available. Some local drawdown impacts may also occur which will require mitigation so a formal monitoring and mitigation plan should be part of any licence.

A few other comments and questions are provided below:

1. A uniform aquifer transmissivity of 75,000 USGPD/ft (page 14) was assumed to carry out all the Environment Impact Evaluation. Based on Appendices F (Friesen Pumping Test analysis, 2008) and C (Reid Crowther 36 hours Pumping Test analysis, 1998), it appears that this transmissivity is above the average value for this area. A sensitivity analysis should also have been included to evaluate pumping impacts (regionally and drawdowns in the pumping wells) based on a transmissivity value at the lower end of the current estimates. This may indicate larger drawdown near the pumping wells than the current analysis.
2. The proposed groundwater monitoring relies heavily on existing provincial observation wells. Since the objectives of provincial monitoring may not coincide with the needs of the City in the future, it would be useful for the City to come to a written agreement with the province with regard to continued operation of the existing provincial wells so that long-term monitoring capacity is guaranteed.
3. It is predicted that the water requirement will be 1,620 acre-feet/year for 2020. The prediction is based on the assumptions of 2.4% population increase and 350 L/d per capita of water consumption (Appendix I). The actual average water consumption is 355 L/d per capita in 2008; it is 388 L/d in 2007 and 394 L/d in 2006. It is 415 L/d from 1976 to 2005. The predicted average water consumption of 350 L/d per capita from 2009 to 2020 is an ambitious number, does the City of Steinbach have a plan to educate the residents to use water so efficiently or the City will implement price leverage or other methods to get to the target?
4. It may be valuable for the City of Steinbach to do a public consultation / open house to let the surrounding groundwater users know about the upgrade project. Given the unknowns in predicting impacts, it is possible that some remediation work will be needed in the future and it may be best for adjacent users to be aware of this at the development stage.

On page 14, Friesen states that Friendly Family Farms Limited operated without an active water rights licence during their entire duration of operation. In actuality, Friendly family farms held three water rights licences (66-04, 77-61, & 94-15) through out its operations. The project file was archived upon plant closure. Similarly, Friesen states that Granny's Poultry Co-operative Limited never obtained licensing from Manitoba Water Stewardship. It should have been noted that, while Granny's has not obtained a licence, an application has been submitted.

Disposition:

Comments will be forwarded to the proponent for information and can be addressed via licence conditions.

The information regarding Friendly Family Farms Limited and Granny's Poultry Co-operative Limited will be forwarded to the proponent as information.

Mines Branch

No concerns.

Historic Resources Branch

No concerns with regard to this project's potential to impact heritage resources.

If at any time however, significant heritage resources are recorded in association with these lands during development, the Historic Resources Branch may require that an acceptable heritage resource management strategy be implemented by the developer to mitigate the affects of development on the heritage resources.

Disposition:

Comments will be forwarded to the proponent for information.

Community Planning Services Branch

The affected land is in the SE ¼ 35-6-6 EPM at 515 Main Street in the City of Steinbach. The subject land has been the site of the municipal well field since 1956. In 2006, the City applied for a new Water Rights Licence from Manitoba Water Stewardship to increase the maximum rate of diversion. The increase is expected to allow an adequate water supply for the growth in residential housing in the City.

According to the report submitted by Friesen Drillers Ltd. the average growth rate for the past 8 years is approximately 2.4%. Data from Statistics Canada suggests that the growth rate is slightly higher – averaging 3.1% per year from 1996 to 2006.

The land is designated mostly "Open Space" according to the City of Steinbach Development Plan. The western portion of the parcel is designated as Central Business District and the eastern portion is designated as Residential. The development plan also address water supply in Section 11 and states that "aquifers should be managed in a manner that does not deprive existing users of their water supply and avoids detrimental effects on groundwater potential available to the City." The report provides information

on the predicted environmental impact of an increase in groundwater removal and no significant changes from the current state of the aquifer are predicted.

The subject parcel is zoned “O” Open Space according to the City of Steinbach Zoning By-law. Public works are a permitted use. The Zoning By-law does not indicate minimum site area and site width for uses in this zone.

The proposed increase in municipal water usage is in keeping with the intent and policies identified in the City of Steinbach Development Plan and requirements of the City of Steinbach Zoning By-law. As the proposal is meant to accommodate population growth to 2020, our office does express a concern regarding the statistics used and the actual rate of growth. However, our office does not object to the proposal.

Manitoba Infrastructure and Transportation

No concern.

Canadian Environmental Assessment Agency

I have completed a survey of federal departments with respect to determining interest in the project noted above. 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.

ADDITIONAL INFORMATION:

Additional information that addresses TAC comments on the Balsam Willow Proposed Ecological Reserve (PER) was received on June 4, 2009, as follows:

We have read the comments from the technical advisory committee regarding the Balsam Willow Proposed Ecological Reserve, and the potential for impacts from the increased use of water supply for the City of Steinbach well field. We have attached 4 drilling logs from properties immediately surrounding this proposed ecological reserve. These logs were obtained from Manitoba Water Stewardship’s GWRILL database (May, 2008 edition). The drilling logs show that the carbonate bedrock aquifer lies at a depth of approximately 125 to 160 feet below grade in this area. Further, several layers of lacustrine/fluvial sand and gravel, along with a very thick sequence of glacial drift are known to overly the bedrock in this area. Static water levels in the carbonate aquifer were noted to vary from 24 to 32 feet below grade, according to the logs. Through a review of the logs, it can be assumed that the carbonate aquifer is confined in this area, and separate from the shallow, overburden groundwater system. Calculating the potential impact from the increase of water supply, assuming a transmissivity of approximately 75,000 U.S.G.P.D./ft. after one year provides about 0.4 feet of additional static water level decline in the carbonate aquifer at this location as a result of the City of Steinbach wells. The shallow groundwater would still be

influenced by seasonal and climatic effects. Installing a monitoring well into the carbonate aquifer in the area would not be expected to show measurable drawdown resulting from the City wells due to the large number of private, agricultural, and other users. The monitoring well would indicate normal static water level fluctuations resulting from seasonal and climatic effects, along with the use of water supply for such things as local agricultural/hog barn operations, along with Granny's Poultry in Blumenort. The increased use of water supply from the carbonate aquifer would not be expected to have an impact on this proposed ecological reserve, since the aquifer is confined in this location, and separate from the shallow, overburden groundwater system.

PUBLIC HEARING:

As no public concerns were identified, a public hearing is not recommended.

RECOMMENDATION:

All provincial comments received on the Proposal can be addressed as licence conditions, or have been forwarded to the Applicant's representative for information. 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 Eastern Region.

PREPARED BY:

Holly Poklitar

Environmental Assessment and Licensing - Environmental Land Use Section

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Telephone: (204) 945-8702 Fax: (204) 945-5229

E-mail: holly.poklitar@gov.mb.ca