

## **SUMMARY OF COMMENTS/RECOMMENDATIONS**

**PROPONENT:** MIDDLECHURCH HOME OF WINNIPEG

**PROPOSAL NAME:** MIDDLE CHURCH HOME OF WINNIPEG  
**WASTEWATER TREATMENT PLANT**

**CLASS OF DEVELOPMENT:** CLASS 2

**TYPE OF DEVELOPMENT:** WASTEWATER TREATMENT

**CLIENT FILE NO.:** 4114.00

### **BACKGROUND**

Two proposals have been filed with the Department of Environment on September 11 and September 29, 1996 respectively by Cochrane Engineering Inc., on behalf of the Middlechurch Home of Winnipeg. The first proposal which has now been withdrawn related to the upgrading of the existing wastewater treatment plant located at 280 Balderstone Road, River Lot 18 in the Rural Municipality of West St. Paul. The proposal was advertised for public comments and copies were forwarded to members of the Interdepartmental Technical Advisory Committee (TAC) for their comments. The following actions were taken with respect to the first proposal:

- Date of receipt of Proposal - September 11, 1996
- Date of the Proposal - September 10, 1996
- Names of newspapers in which Proposal was advertised
  - Winnipeg Free Press - Wednesday, September 25, 1996
- Public Registry Locations
  - Main Registry
  - Manitoba Eco-Network
  - Centennial Public Library
- Closing Date for Public Comments  
October 11, 1996
- Date when Proposal was sent to TAC and closing date for response from TAC  
September 20, 1996 and October 11, 1996 respectively.

### **BRIEF DESCRIPTION OF THE FIRST PROPOSAL**

The existing wastewater treatment plant has been operating since 1987 under a City of Winnipeg wastewater discharge Licence. The wastewater treatment plant has been experiencing frequent hydraulic shock loading problems, especially during periods of high spring run-off and heavy rainfall. The problems have resulted in an impairment of the quality of the sewage effluent being released to the Red River.

In order to improve the effluent quality and eliminate the problem of hydraulic overloading, the proponent proposed the following corrective measures:

- modifying the wastewater collection system by preventing storm water discharges to the treatment plant and diverting backwash water from the softeners at the water treatment plant to the sewage effluent outfall pipe;
- installing a new pre-treatment (flow equalization) system;
- increasing the hydraulic capacity of the existing Sequencing Batch Reactor;
- installing a new U.V System; and
- installing a separate aerated sludge storage tank to hold the excess biosolids produced in the SBR process.

**COMMENTS RECEIVED FROM THE PUBLIC REGARDING THE FIRST PROPOSAL:**

None

**COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:**

**Water Quality Management Branch**

- The Branch supported the use of U.V as the disinfecting technology. However, it recommended periodic cleaning and maintenance of the disinfecting system, and the monitoring of fecal coliform bacteria for the first year on a monthly basis.
- The Branch also recommended that the treatment system be designed to nitrify the effluent to achieve NH<sub>3</sub> -N concentration of < 1 mg/L throughout the operating year.

**Air Quality Management Section**

- The Section recommended that in light of the plant's location next to a senior citizen's home, the draft odour nuisance clause developed by the Department's Odours-in-Air Committee be included in the Environment Act Licence for the operation of this plant.

**PUBLIC HEARING:**

There has been no request for a Public Hearing.

**RECOMMENDATIONS:**

Based on the review of the original proposal by Manitoba Environment and members of TAC, the following recommendations were made for the first proposal:

1. Calculations have been made to determine whether the un-ionized ammonia portion of the total ammonia for the worst case scenario of 10 mg/L, will exceed the water quality objective. The results indicate that the objective will not be exceeded. There is no further need to pursue the concern expressed by the Water Quality Branch's request for an NH<sub>3</sub>-N concentration of < 1mg/L throughout the operating year.
2. The Proponent should provide information regarding the disposal and method of treatment of biosolids from the SBR tank.
3. The Proponent should provide information regarding the design of the UV system including the following:
  - the peak wet weather flow to be disinfected;
  - the UV absorbance based on the proposed concentrations of dissolved organic matter and suspended solids;
  - the UV dose;
  - the number of modules;
  - the number of lamps;
  - the number of banks; and
  - the number of channels.
4. The Licence for the construction and operation of this plant should not be issued until the Proponent submits the design plans for the wastewater treatment system (approximately (6 copies).
5. Following an acceptance of the design plans, the proponent should be issued a Stage 1 Licence to construct the plant.
6. On the basis of the successful completion of the construction works, the Proponent should be issued a Stage 2 Licence to operate the plant.
7. All other concerns and recommendations can be addressed in the operating Licence for this plant.

A Stage 1 Licence No. 2236 S1 was issued to Middlechurch Home of Winnipeg on December 5, 1996 for the following:

1. To divert the backwash water from the softeners to the effluent outfall line;
2. To construct a new equalization tank as a component of the pre-treatment facility subject to specified limits, terms and conditions; and
3. Decommissioning the existing pre-treatment facility.

## **DISCUSSION**

No action was taken by the proponent to implement the Stage 1 Licence

## **NEW PROPOSAL**

The new proposal filed on September 29, 1997, involves upgrading the existing wastewater collection system and replacing the existing treatment plant with the construction of a new extended aeration package sewage treatment plant with adequate capacity to accommodate an enhanced housing project on site.

The construction of an equalization tank to obviate any shock loads on the treatment process would form part of the new treatment plant.

The new plant will be located on the same site as the existing plant (280 Balderstone Road, River Lot 18 in the Rural Municipality of West St. Paul).

The following actions were taken with respect to the new proposal:

- Date of receipt of Proposal - September 29, 1997
- Date of the Proposal - September 23, 1997
- Names of newspapers in which Proposal was advertised
  - Winnipeg Free Press - November 5, 1997
- Public Registry Locations
  - Main Registry
  - Manitoba Eco-Network
  - Centennial Public Library
- Closing Date for Public Comments  
December 1, 1997
- Date when Proposal was sent to TAC and closing date for response from TAC

October 31, 1997 and December 1, 1997 respectively.

- The Proponent was advised in a letter dated October 9, 1997 by the Director, Environment Act, that due to priorities, Manitoba Environment was unable to process or review the Proposal in the time requested by the Proponent.

To assist the Proponent, the Director approved the construction and operation of the Development pending the completion of the review. The Proponent was also advised in the letter under reference that when a Licence is issued, Middlechurch Home will be required to comply with the Licence requirements.

### **COMMENTS RECEIVED FROM THE PUBLIC**

None

### **COMMENTS RECEIVED FROM THE MEMBERS OF THE TECHNICAL ADVISORY COMMITTEE**

#### **1. The Department of Natural Resources**

The Manitoba Surface Water Quality objectives will be exceeded for ammonia, cadmium and silver in the backwash water discharge.

#### **2. Manitoba Urban Affairs**

Manitoba Urban Affairs has no objection to the proposed Development

### **3. Historic Resources Branch**

The Historic Resources Branch has no concerns with regards to the project's potential to impact heritage resources.

### **4. Environment - Water Quality Management Branch**

The Water Quality Branch has indicated that it has no concerns with the presence of ammonia in the treated effluent, as there is adequate dilution available in the river under Q7-10 conditions.

### **Disposition of Comments from the Department of Natural Resources**

The Consultant was requested to submit a response addressing the concerns of the Department of Natural Resources with regard to the presence of cadmium in the backwash water discharge.

The Consultant has adequately addressed the concerns of the Department of Natural Resources in a letter dated January 29, 1998.

In addition, the Chemical Analysis Reports submitted by the Consultant at Appendix F of the proposed alteration, indicate a concentration of .003 mg/L for cadmium and silver in the backwash water. Under Q7-10 flow conditions, there is adequate dilution in the river to mitigate any adverse impact of these parameters on the aquatic environment of the river.

### **Recommendations**

1. A Licence should be issued for the operation of the upgraded wastewater treatment system.
2. Stage 1 Licence No. 2236 S1 issued on December 5, 1996 should be rescinded.

Municipal and Industrial Approvals Section

February 16, 1998.

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