

CORPORATION OF THE MUNICIPALITY OF BAYHAM

STAFF REPORT

TO: Mayor & Members of Council
FROM: Kyle Kruger, Administrator
SUBJECT: MOE Order - Richmond Water System

DATE: January 28, 2010
FILE:
NUMBER: E2010-02

Purpose

This report is to further to the final Order issued by the Ministry of the Environment regarding the Richmond Water System.

Background

Council will recall considering the Notice of Intention to Issue an Order pursuant to the Safe Drinking Water Act received October 30, 2009. The Notice advised the MOE intended to order the Municipality to take charge of and operate the Richmond well supply and distribution system by January 4, 2010. As an alternative, the Municipality could submit a plan for implementing connection to the current municipal system, supplying the Richmond system with water from the municipal system, or establishing a new municipal drinking water system in Richmond.

The Municipality provided its written response by the established December deadline, which proposed the Municipality decline operation of the system, and allow Richmond Community Water Inc. to continue operating the system. The Municipality would undertake to complete planning and implementation of a recommended solution regarding source water and treatment. The intent would be for the system to remain under the current ownership. A follow-up meeting was held with MOE representatives in early January. In October, Council also approved retaining Stantec Engineering to assist in responses to MOE and preparation of the Implementation Plan.

The Municipality received the final Order from the MOE via email January 20th, 2010. Several of the municipal suggestions, particularly in the more technical areas, have been incorporated. For example, the original Notice provided that the Municipality (as the operator) would be required to prepare an Engineering Report on the system - such report would have been redundant given the need to address the treatment system. This has been addressed in the final Order.

Insofar as one of the key issues - ownership and operation of the system, the MOE has not come as far as we had asked, however the final order is an improvement from the initial notice. The original MOE position was that the Municipality would operate the system and upon completion of the Plan for treatment, become owner and operator. Though the final Order does provide that the Municipality operate the system by March 2010, it also allows the Municipality to determine the owner and operator upon implementation of the Plan. In exchange though, the Order is specific that the Municipality operate the system with municipal staff during this "interim" period.

Staff Comments

Council had previously approved proceeding with the preparation of the Plan to comply with the Order, with the assistance of Stantec. This Plan is presented to Council in a separate report. In regard to this order itself, staff note two general options that are available:

Option 1 - Appeal all or part of the MOE Order

The Municipality does have the option of appealing the order or specific portions of the order to the Environmental Review Tribunal (within 15 days of service). Initial legal comment indicates little chance of success in an overall appeal. Staff have not sought legal comment regarding appeal of specific portions only.

Option 2 - Assume operations and improvements as per the Order

The Order provides that the Municipality assume all daily operations of the system utilizing trained municipal staff by March 1, 2010. In addition, a Plan to implement improvement to the treatment/supply must also be prepared, and implemented no later than December 30, 2011. As has been previously mentioned, in order to undertake operations, current staff would be required to obtain certification respecting treatment. Staff have taken steps to complete the required training and exams to meet the March 1st MOE deadline. Additionally staffing needs are impacted. It is estimated that an average four hours per day additional staff time is required to complete operational and maintenance requirements in compliance with regulations (based on current source water and treatment processes). This does not include general repairs, locates, weekend requirements or time needed to examine and implement any system improvements. At minimum, one part-time operator will be required to fulfill this need. It should be noted that utilizing volunteer operators did not appear to be a viable option regardless of the MOE Order provisions.

Staff have held preliminary discussions with CUPE regarding this and other staffing options and impacts on the collective agreement. Further discussions will be required with CUPE to finalize any arrangements.

Other issues

The MOE has made some steps to try to address questions regarding liability, as the current system is under an advisory and is identified as deficient. Staff may need to further clarify any need for relief from regulations pursuant to section 117 of the Safe Drinking Water Act and several other items such as DWQMS and source water protection under the Clean Water Act.

As well, given the advisory in place and MOE concerns, the Municipality should examine other issues such as restrictions on new development for the area.

Lastly, for information, staff did complete and file application under the CAF program for improvements to the Richmond treatment system. It is anticipated we will hear results sometime in February.

Summary

Subject to any appeals directed by Council, in order to comply with the Order, the Municipality needs to put in place the staffing and operational arrangements to operate the Richmond system by March 1, 2010. As well, the production and implementation of a Plan regarding water supply and treatment is required (separate report to be prepared).

Strategic Plan Goal(s)

Goal #2 - Ensure reliable, well maintained and secure infrastructure

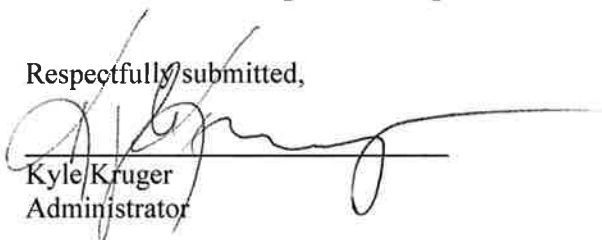
Goal #4 - Be dedicated to service excellence

Goal #5 - Develop a new and improved infrastructure network

Recommendation

THAT staff be authorized and directed to make staffing and operational arrangements to operate the Richmond Community Water System pursuant to the MOE Order dated January 20, 2010, including the recruitment of a part-time Operator.

Respectfully submitted,



Kyle Kruger
Administrator

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the Environment**
Safe Drinking Water Branch

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ORDER

Section 114 Safe Drinking Water Act
S.O. 2002, c. 32, as amended ("SDWA")

TO: The Municipality of Bayham
Municipal Office
9344 Plank Road, Box 160
Straffordville ON N0J 1Y0

Attention: Mr. Kyle Kruger, Administrator

Site Location: Richmond Community Water Inc.
9190 Richmond RD,
Richmond ON N5H 2R1

I have consulted with the Medical Officer of Health with respect to the matter of the drinking water system owned by Richmond Community Water Inc. ("Richmond Well Supply") as evidenced by the correspondence which was attached as Appendix A to the s. 114 SDWA Notice of Intent to Issue Order (a copy of the Notice is attached hereto as Appendix 1).

The above noted Notice of Intent issued under s. 114 of the SDWA on October 30, 2009 to The Municipality of Bayham ("Municipality") provided the Municipality with the opportunity to respond to the Notice in accordance with subsection 114(2) of the SDWA.

Pursuant to subsection 114(10) of the SDWA, on December 14, 2009 the Municipality provided the Director and the Medical Officer of Health with its written response to the Notice and I have reviewed and considered that response.

The Owner, as identified in the Notice, was provided with an opportunity to provide written response(s) to the Notice. No written responses were submitted by the Owner.

For the reasons set out in this Order and pursuant to my authority as set out in Section 114 of the SDWA I hereby issue this Order to the Municipality requiring it to provide the undersigned Director a written copy of a detailed plan ("Plan") for implementing one or more of the following options:

- (a) connecting the Richmond Well Supply to the Municipality's Water Distribution System while monitoring and sampling that water according to the requirements of O. Reg. 170/03, made under the SDWA ("O. Reg. 170/03");

- (b) supplying the Richmond Well Supply with water from the Municipality's Water Distribution System while monitoring and sampling that water according to the requirements of O. Reg. 170/03; or
- (c) establishing a new municipal drinking-water system to serve the residents currently served by the Richmond Well Supply.

PART 1: Legal Authority

- 1.1 This Order is issued pursuant to sections 114, 115, 117 and 162 of the SDWA, all of which are set out in Appendix B.

PART 2: Background and Reasons

- 2.1 Richmond Community Water Inc. owns the Richmond Well Supply which supplies water to a non-municipal year round residential building located approximately 50 km south-east of the City of St. Thomas, at 53853 Heritage Line Rd, Aylmer, Ontario, N5H 2R1, Municipality of Bayham ("Site"). This drinking water source is classified as ground water under the direct influence of surface water. Raw water is drawing from a ravine in an excavated area into pre-cast concrete containments lined with filter cloth clear stone. The raw water is treated via canister filtration, ultraviolet irradiation (UV) and chlorination.
- 2.2 The Richmond Well Supply is classified as a non-municipal year round residential drinking-water system under O. Reg. 170/03. It is therefore a regulated non-municipal system for the purposes of section 114 of the Act as prescribed by subsection 2 (5) of O. Reg. 171/03, made under the SDWA.
- 2.3 The Richmond Well Supply provides drinking water to a total of 50 individual houses and one (1) church within the Municipality.
- 2.4 The Richmond Well Supply consists of two artesian and surface water collection systems located in a ravine. Raw water is collected in an excavated area into pre-cast concrete containments lined with filter cloth and clear stone. The raw water flows via gravity to the lower level of the ravine and is pumped to the pumphouse. The raw is treated via canister filtration, ultraviolet irradiation (UV) and chlorination.
- 2.5 On October 1, 2007, Provincial Officer's Order No.'s 1-6AJAL; 1-6AJAO; 1-6AK62; 1-6AK5Z; 1-AK65; 1-6AK68; 1-6AK6B; 1-6AK6E were issued to Richmond Community Water Inc., requiring proper maintenance and operation of the Richmond Well Supply in accordance with O. Reg. 170/03. Attached hereto, as Appendix C, is a copy of the aforementioned Provincial Officer's Orders and accompanying Provincial Officer's Reports. The Provincial Officer's Reports, which each form part of their respective orders, noted the following contraventions as of October 1, 2007:
 - a) Failure to take raw and treated water microbiological samples in accordance with the requirements of Schedule 11 of O. Reg. 170/03;

- b) Failure to take lead, sodium, fluoride, trihalomethanes, nitrates and nitrites samples in accordance with the requirements of Schedule 13 and 15.1 of O. Reg. 170/03;
 - c) Failure to complete an engineering evaluation report as required by Schedule 21 of O. Reg. 170/03;
 - d) Failure to install and operate appropriate treatment equipment in accordance with Schedule 2 of O. Reg. 170/03;
 - e) Failure to provide required notifications of all adverse water quality incidents as required by Schedule 16 of O. Reg. 170/03
 - f) Failure to ensure that an operator with a valid certification conducts all operational test and duties as required by s. 11 of the SDWA ;
 - g) Failure to ensure one water sample is taken after each filter and tested immediately for turbidity as required by Schedule 2 of O. Reg. 170/03;
 - h) Failure to construct and maintain wells to prevent surface water and other foreign materials from entering the wells as required by Regulation 903 ("Reg. 903"), made under the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended ("OWRA")
- 2.6 On February 17, 2009 Elgin-St. Thomas Health Unit (ESTHU) re-issued a Drinking Water Advisory (DWA) for the Richmond Well Supply due to high nitrates. The nitrate levels at this facility continue to exceed the standard of 10 mg/L and were most recently reported to be 11.9 mg/L.
- 2.7 On May 20, 2009, the Ministry of Environment provided a Communal Drinking Water Inspection Report to the Richmond Community Water Inc. (Inspection # 1-6OR8E). The findings of the inspection found a total of eight (8) instances of non-compliances with regulatory requirements which include the following:
- 1. The owner had not updated the drinking-water system registration information to reflect pertinent changes to the profile as required by section. 10.1 of O. Reg. 170/03.
 - 2. A statement has not been prepared by a Professional Engineer nor has an exemption from Schedule 2 of O. Reg. 170/03 have neither been provided by the owner nor granted by the Ministry.
 - 3. On the date of the inspection, all treatment specified within the Engineering Evaluation Report was not in place or being used. At the time of the inspection the Engineering Evaluation Report (EER) was made available for review. However, the report did not completely fulfill the requirements of Schedule 21 of O. Reg. 170/03 and include all of the treatment equipment installed at the pumphouse.
 - 4. Required documents were not made available free-of-charge during normal business hours at a location accessible to the public as required by section 12(4) of O. Reg. 170/03.
 - 5. Sampling requirements for lead were not being met as prescribed by schedule 15.1 of O. Reg. 170/03.

6. Chlorine monitoring for secondary disinfection was not being done in accordance with Schedule 8-3 of O. Reg. 170/03.
 7. Turbidity monitoring was not being carried out in accordance with Schedule 8-4 of O. Reg. 170/03
 8. All required notifications of adverse water quality incidents were not provided to the Spills Action Centre and to the Medical Officer of Health in accordance with Schedule 16 of O. Reg. 170/03.
- 2.8 On August 11, 2009, the owner of the Richmond Well Supply failed to immediately report an adverse event (elevated turbidity) to the Medical Office of Health and the Spills Action Centre. The owner /operator decided to issue a Drinking Water Advisory to the community and made verbal notifications of the Drinking Water Advisory to all of the users of the system.
- 2.9 On August 14, 2009, a site visit was conducted by Provincial Officer/Drinking Water Inspector, Jim Miller of the Ministry of the Environment's London District Office. This visit was conducted as follow-up to the most recent adverse event (elevated turbidity) and to ensure that all monitoring sampling and recording conditions had been met.

During the site visit an inspection was conducted of the source water collection area located east of the pumphouse in a ravine. Visual observations found debris (burnt garbage, plastics and yard waste) above the Richmond Well Supply's raw water source (infiltration gallery) creating potential for contamination of the source water of unknown type and quantity (See Appendix D for photographs of observed debris). Additionally, it was found that an excessive amount of erosion (clay/sand) from the upper ravine had migrated toward the area of the unsecured filter collection system. The site visit revealed site conditions that may result in bacterial and chemical contamination of the raw water supplying the system and cannot be mitigated by the treatment system which is in place.

- 2.10 A review of the Hydrogeological assessment for the Richmond Well Supply was conducted. It was found that the consultant provided Well Head Protection recommendations up to and including acquiring an alternate drinking water source for the consideration of the owner.

The consultant also provided additional minimum recommendations for the existing infiltration galleries which have not been implemented by the owner and includes the following:

- The slope above the water collection point needs to be stabilized to prevent any movement of soil and debris into the water collection area.
- Fence off area to limit access.
- Conduct additional chemical sampling to monitor impacts from road salt, fertilizer and septic systems.
- Clean and maintain filter collection system.