



Hamilton

Public Works Department

Memorandum

Date: 10 February 2006 **File No.:** 2.1.2

To: Councillor Margaret McCarthy
Ward 15, City of Hamilton

From: Jim Harnum, Senior Director
Water and Wastewater Division

Subject: **Hydrogeological Investigation: Flamborough Springs Well Report**

Further to the request to provide the timeline and substance of the Water & Wastewater (WWW) Division's actions and activities, please refer below:

- **December 14, 2005** – WWW Received Notification of Application for PTTW from MOE
- **December 14, 2005** – WWW reviewed application and responded with email and signed fax indicating specific concerns with respect to potential impacts on the City's Freelton Wells. City requests response confirming attendance to this concern.
- **December 23, 2005** – Councillor McCarthy requests MOE confirmation of receipt of WWW response.
- **January 3, 2006** – Councillor McCarthy requests extension to January 15th deadline to review PTTW Hydrogeological report by Terraprobe just received. Extension to January 30th granted by MOE. Copy of Terraprobe report forwarded to WWW.
- **January 10, 2006** – Plant Capital and Planning received Terraprobe report, reviewed and discussed response internally. Decision to have any municipal well impact issues reviewed by independent hydrogeological expertise and to coordinate any further source protection-related issues with Halton Region Conservation Authority (HRCA)
- **January 16, 2006** – Discussions held with Bill Blackport (WWW's retained hydrogeologist) regarding preliminary review of Terraprobe report. Bill suggests there may be legitimate concerns for GUDI (Groundwater Under Direct Influence of surface water) impacts on Freelton wells and this has not been addressed in Terraprobe report. Bill also indicates that the piezometer investigations undertaken by Terraprobe are not as extensive as would be warranted and that the Terraprobe interpretations may not be fully representative for potential surface water impacts – HRCA should be concerned and involved.

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Letter report will be prepared by Bill Blackport for WWW regarding preliminary findings and recommendations and available by February 1, 2006.

- **January 18, 2006** – Discussion with Bob Edmondson and David Gale of HRCA. HRCA indicated that they had not yet viewed Terraprobe report. Preliminary findings of Bill Blackport and current scope of WWW review were described. HRCA agreed that they will review report and that a coordinated effort to respond to MOE will be undertaken with the City.
- **January 19, 2006** – WWW apprised of January 18 MOE notification to Flamborough Springs that current PTTW only will be renewed, directive issued to conduct broader consultation with City and community if expanded taking is to be pursued by the proponent; submission of consultation plan and timeframe required by March 15, 2006. Response to MOE on Flamborough Springs' intentions required by January 31, 2006.
- **January 30, 2006** – Bill Blackport provides preliminary comments on Terraprobe report and PTTW application. Summary points provided are:
 1. The Freelon municipal wells are approximately 2 kilometres from the Flamborough Springs well and are outside the 1 kilometre study area.
 2. A wellhead capture area was characterized for the Freelon well FDF01 (SNC-Lavalin, 2005). The Flamborough Springs well is outside of the predicted capture zone.
 3. Both the Flamborough Springs well and the Freelon wells appear to be obtaining groundwater from approximately the same depth.
 4. It is not known what modifications will occur to the overall aquifer flow system under combined pumping or whether the capture zones of the Flamborough Springs well and the Freelon well will overlap.
 5. Some of the water level data from the mini piezometers (MP3, MP4) appears to indicate a connection to ground surface.
 6. The potential for water quantity interference to the municipal well is likely minimal given the aquifer characteristics.
 7. The potential for cross contamination exists due to the possible connections to ground surface, potential overlapping drawdown cones and the fracture nature of the rock.

Bill concludes with a recommendation of directing the (Terraprobe) consultant to the material in the (City's) SNC Lavalin report and the GUDI reports done for the city on the Freelon wells (Jagger Hims 2002, 2003) to provide an assessment on this possibility. It would likely be most efficient to have a technical meeting with the consultant to clarify and explore these issues further.

- **January 30, 2006** – Halton Conservation issues for our review a 4 page draft memorandum of concerns related to Flamborough Springs proposal and Terraprobe report. City staff and Halton reiterate intent of mutual coordination on source water issues.
- **January 31, 2006** – Halton Conservation issues notice of concern to MOE regarding PTTW and Terraprobe's findings.

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- **February 8, 2006** – Meeting confirmed for February 14 with City WWW Staff, Bill Blackport, Flamborough Springs and Terraprobe to be in attendance. Agenda to include the review of Terraprobe's report, Blackport findings, and further approaches to addressing the City's issues and the concerns raised.

WWW staff will be better informed with respect to the intentions of Flamborough Springs and their MOE-directed consultation efforts subsequent to the meeting of February 14. If it is the intent of Flamborough Springs to continue with the current PTTW application, they must outline their public and City consultation plans to the MOE by March 15, 2006. We will keep you informed with respect to the outcomes of the February 14 meeting and as the matter develops further.

Jim Harnum, C.Tech, PMP
Senior Director
Water and Wastewater Division

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Scott Stewart, General Manager, Public Works Department