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Groundwater resource study findings

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Flamborough Review

Protecting rural Hamilton's groundwater resources for future generations is the major goal of a $550,000 study recently completed by the City of Hamilton.

While area residents attending last Monday's public information meeting at Waterdown District High School welcomed that news, many of the close to 25 guests voiced apprehensions about how such an objective will be reached. Among them was Jack Walker, owner of Midtown Car Wash in Waterdown and a resident of Concession 11 East in Flamborough. Walker told city staff and consultants at the meeting, "I'm interested in water wells because I'm on one, I'm interested in quarries because I'm beside one (a proposed quarry site) and I'm interested in what you're going to do to protect water."

Also citing misgivings about the proposed 150-hectare (380-acre) quarry was Everett Dansereau, who lives on Centre Road just north of Concession 10. "I want to know what the hell is going to happen to our well water and also about the noise pollution" that neighboring residents expect if the quarry proposal is approved, he said.

Water experts at the meeting said data collected through the Groundwater Resources and Wellhead Protection Partnership Study will help determine the quarry's impact on private water wells in the area. Although quarries are known to use large quantities of water in their operation, consulting hydrogeologist

David Charlesworth, project director with Charlesworth and Associates, said he couldn't say how big an impact the proposed quarry would have until he knew its size and how much water it will use. "I think it's likely it will be a small impact on wells in Carlisle (and area) but I need more information," he said.

Mark Bainbridge, project manager from Hamilton's public works department, said the data collected from the study will be used "to provide information to people making the decisions" about development proposals throughout Hamilton.

Hydrogeologist Helen Jackson, project manager of the Toronto-based consulting company SNC Lavalin Engineers and Constructors, noted that the study collected data on 18,000 water wells in the study area and a five-kilometre buffer surrounding it. It also looked at groundwater resources in Freelton, Carlisle, Lynden and Greensville, Flamborough communities which are fed by city-owned water wells.

The study, which has been under way for the past two years, provides a greater understanding of regional groundwater occurrence and flow, Jackson said. "We looked at ground topography and bedrock surface, the direction of groundwater flow and areas of groundwater recharge, she added.

Various maps were displayed on information boards throughout the auditorium and several residents paused to examine them thoroughly, ask questions of the consultants and make comments. The maps depicted areas of aquifer vulnerability to possible contaminants, the sites of Wellhead Protection Areas (WPAs), as well as the sites of various operations with water-taking permits, including greenhouses, quarries and golf courses.

Murray Charlton, a resident of Concession 5 East, told consultants there is a need for more detailed information about groundwater resource supply, demands for water, and the ability of the water table to naturally replenish itself. He expressed concerns about increasing pressures to withdraw water without knowing if there is sufficient ability to restock it.

Water-taking permit applications (currently frozen until the end of year while the provincial government reviews them) are a concern, Charlton said. And water pressures from development in the Carlisle are also a source of worry for nearby rural residents who depend on private wells for their water, he added.

Charlesworth replied that one of the study's recommendations calls for the collection of additional groundwater level data which will represent "a snapshot" of actual water levels in wells within specific groundwater model domains (i.e. areas containing municipal wells). This data willt hen be used to update groundwater models.

Other key recommendations of the study include: keeping reliable records of groundwater abstraction from all wells within the study area that have been issued a water-taking permit; developing a groundwater management strategy for the city that addresses WPAs and areas having a medium or high intrinsic susceptibility to contamination , as is the case for much of Flamborough's groundwater; using groundwater models to determine the likely effects of increased groundwater abstraction as a result of proposed new wells, increased pumping rates or the development of quarries which require de-watering; inculding groundwater protection policies in the city's Official Plan; and initiating public edcuation programs to ensure that information about WPAs, areas with high susceptibility indices and spills contingency plans are widely disbursed.

The final report, expected to be compiled before the end of June, will be presented to the Ministry of the Environment (MOE) for approval. For more information, visit the city's webstie at www.hamilton.ca/water and click on the Groundwater Study link under "What's New."