



Hamilton

Carlisle EA Newsletter #1

August 2013

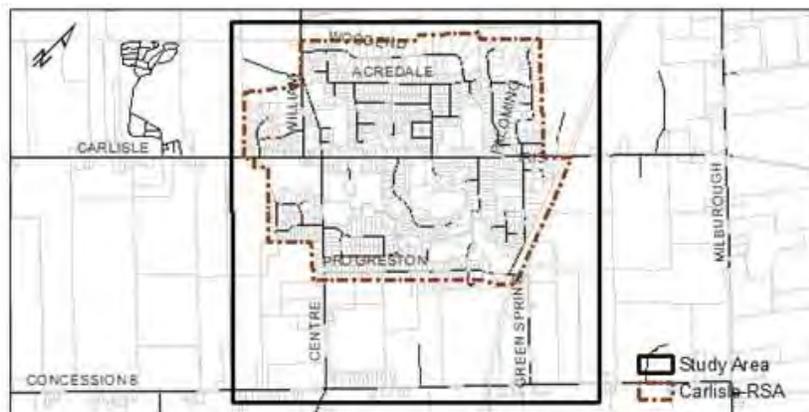
Project Rationale

The City of Hamilton (City) has initiated a Schedule 'C' Municipal Class Environmental Assessment (EA) study to identify a new water supply source and water storage facility to better accommodate the water demands for the Carlisle Rural Settlement Area (RSA). The purpose of this Class EA is to identify and evaluate alternative solutions to achieve the increased system capacity, treatment and storage to meet the long-term needs of the Community of Carlisle.

A new water storage facility is required to ensure that Carlisle has Ministry of Environment directed storage capacity to meet:

- Water supply redundancy for fire flows and peak demands;
- Increased demand to RSA build-out; and
- The gradual transfer of private well supply users to the municipal system.

The boundary of the RSA is defined as a red dashed line in the map below.



How Did We Get Here?

The City assumed responsibility for the maintenance and operation of water systems abandoned by residential developers. Over the years with increased development within the Carlisle RSA, the City has had to address new and very stringent legislation that the Ministry of Environment has enacted to ensure municipal water supplies meet the quantity and quality to protect public health and reasonable usage expectations. Municipal systems must have the capacity to address fire protection requirements. Since the Walkerton Inquiry, the Ontario Water Resources Act has also been updated and the Safe Drinking Water Act (2003) and the Clean Water Act (2006) have provided the framework for applicable legislation.

The Carlisle RSA is serviced primarily (73% of households) through four communal groundwater production wells (FDC01, FDC02, FDC03R and FDC05) with the remainder being serviced by private wells (27% of households). Two other groundwater production wells used previously, FDC03 and FDC04, have since been decommissioned. Storage is provided by an elevated tank with a capacity of 1,400 cubic metres (m³).

The Carlisle communal system has historically experienced high per capita water demands during the summer, often exceeding Ministry of Environment (MOE) Design Guidelines. In the summer of 2002, the well production system was unable to meet peak demands. This event resulted in a mandatory total outdoor watering ban. Further bans and restrictions have since been imposed and continue to be applied as required.

In 2004, as a result of identification of problems and opportunities for water quality and quantity in the Carlisle system, the City of Hamilton commissioned a Water Supply Master Plan and Municipal Class Environmental Assessment (MCEA) for the Carlisle RSA. The Plan examined a number of supply alternatives, including implementation of a water conservation program (WCP), connection to a City water distribution system, and development of a new groundwater supply.

The WCP was offered to Carlisle residents in the spring and summer of 2004 and involved a number of different initiatives including public education, irrigation staggering, consumption reduction incentives and rewards for water conservation. Despite 2006 and 2008 being amongst some of the wettest years observed in the past two decades, the per capita consumption rate in Carlisle has increased since the initiation of the 2004 WCP. Summer water use appears to be more directly correlated with precipitation levels. It was apparent that conservation measures alone would not meet Carlisle's future water needs. The community requires additional storage capacity to meet water supply redundancy for fire flows and peak demands, increasing demand with RSA build-out, and the gradual transfer of the remainder of existing private well supply users to the municipal system.

Existing storage requirements for the Carlisle Water Supply System were assessed using the Ontario Ministry of the Environment (MOE) Design Guidelines which include fire, emergency, and equalization storage. It was determined that additional supply capacity will be required in the long term with the complete build-out and gradual transfer of all private well users (27% of households) to the municipal system.

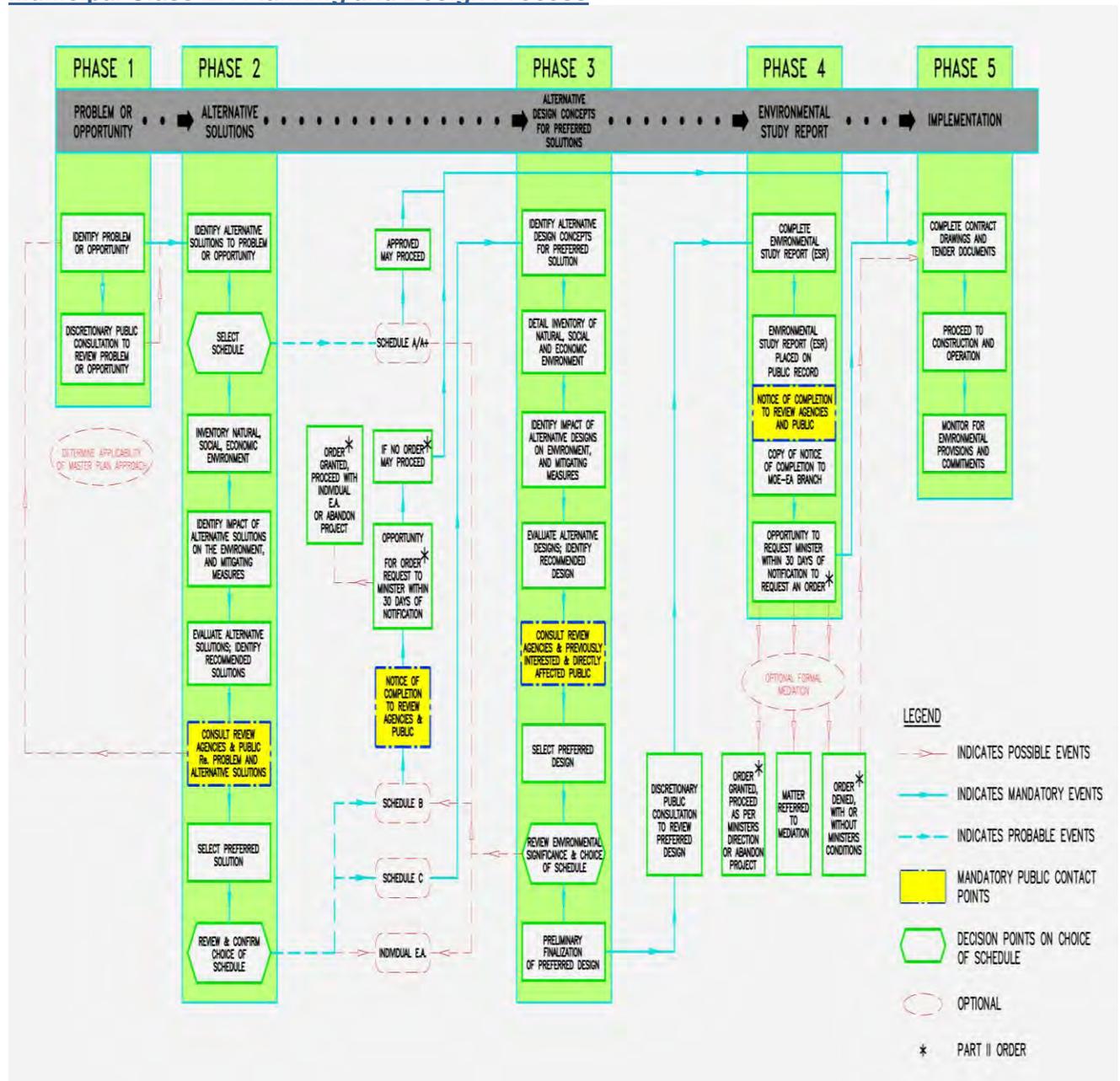
Subsequent to an in-depth technical, environmental, and financial analyses, and public consultation with Carlisle residents on these issues, preferred water supply alternatives were identified. It was concluded that the construction of a new well and elevated water storage facility would ensure Carlisle has sufficient water capacity to meet the future demands of the community.

Several studies independently identified three potential sites for future production wells, with one site being the most preferred. The City does not own any land in the preferred area and therefore will be required to purchase property for a new well, pumphouse, and water storage facility. Prior to land purchase, confirmation of the source supply is required through completion

of a hydrogeological investigation. This investigation will be commencing in September and will help establish a suitable location for a new well, pumphouse, and water storage facility.

The City is following the requirements of the Municipal Class Environmental Assessment (MCEA) Planning and Design Process (see below). The Class EA planning process allows for the integration of sound engineering judgement, prudent long term planning, and protection of all aspects of the environment (natural, social, economic and cultural). This includes consultation with the public and affected agencies to obtain comments and input, ensure regulatory compliance, and systematically substantiate the selection of a preferred alternative. The City typically exceeds the minimum requirements for public consultation as prescribed by the MCEA process. A Project Notice of Commencement was advertised in the Hamilton Spectator and Flamborough Review on May 3rd and May 10th 2013.

Municipal Class EA Planning and Design Process



Upcoming Events

- **August** – An advertisement will be placed in the Flamborough Review seeking volunteers to join the project Community Liaison Committee.
- **September 19th** – A pre-drilling meeting will be held in Carlisle with the residents residing in the vicinity of the drilling site. This venue will provide a forum for information, dialogue and discussion prior to the commencement of the drilling program.
- **September/October 2013** - The first phase of the hydrogeological investigation will involve the installation of a 6 inch diameter test well into the bedrock, followed by a 24-hour pumping test. At present, the City is awaiting a Permit-to-Take-Water (PTTW) from the Ministry of Environment. Once the required PTTW is in place, the City will commence exploratory testing on public lands in a preferred area outside the boundary of the RSA. Prior to drilling, a private well monitoring survey will be conducted in order to provide baseline water level and water quality data, as well as to secure the participation of other well owners. Private wells and the City's monitoring well network will be logged before, during and after the pump test.
- **October/November 2013** – Once the first phase of the hydrogeological investigation has been completed, a public meeting will be held and again include residents who property is in close proximity to the site. This will provide a forum for the City to share the test results as well as establish further dialogue with the local residents.

Questions?

For further information or if you wish to provide input regarding this project, please contact:

Sharon MacPherson-Németh, B.Tech, C.E.T., PMP
Project Manager
Infrastructure & Source Water Planning
City of Hamilton
77 James Street North, Suite 400
Hamilton, ON
L8R 2K3
Phone: 905-546-2424 ext. 2087
Email: Sharon.MacPherson-Nemeth@hamilton.ca

