

4 What role do the Ministry of the Environment (MOE) and the Toronto and Region Conservation Authority (TRCA) play in the requirement for testing and environmental controls?

In August 2013, Markham staff received approvals and permits from the TRCA and the Ministry of Natural Resources (MNR) to install the additional monitoring wells subject to work being completed by April 1, 2014.

5 Why is the City of Markham locating more groundwater monitoring wells?

Installation of additional monitoring wells is a typical process in brownfield site (land previously used for industrial or commercial purposes) investigation. The process continues until the boundaries of the contamination plume are identified.

Proposed wells (11 wells at 8 locations) were strategically located to assess groundwater conditions down-gradient of the Site and in the deeper aquifer.

The full extent of the contamination is not currently defined and the extra wells are required to fully understand the impact distribution of the contamination at the Site (the extent of the contamination plume).

The City needs to determine whether leachate impacts are migrating deeper into the aquifer and / or farther down-gradient and off Site.

The City needs to ensure that the landfill operates in compliance with the applicable regulatory requirements.

For more information about this program, visit Residents/Parks & Trees at markham.ca.

6 How long will it take to install the new groundwater wells?

The wells will be installed over a two to three week period beginning in late February/early March.

7 What will the installed groundwater monitoring wells look like? How big are they?

Each monitoring well is 10 cm x 10 cm at the base and varies in height from 0.7 m to 1.0 m.



If you have any questions, please contact:

Robert Penner, M. A. Sc., P.Eng.
Manager, Utilities, Survey and GIS Assets
Database, Asset Management Department
City of Markham
Tel: 905-477-7000 x 4550
rpenner@markham.ca

German Mills Meadow & Natural Habitat

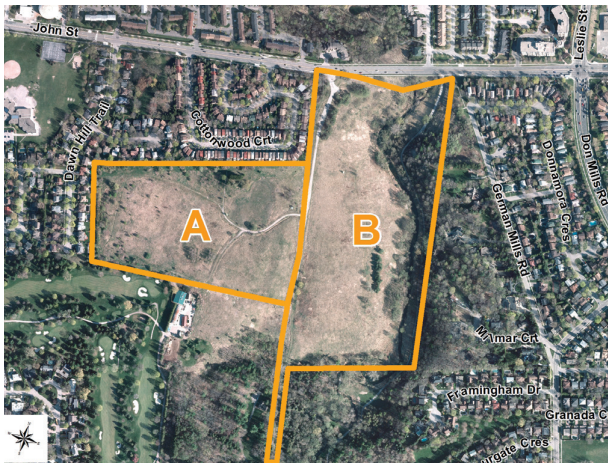
Winter 2014 Update

(formerly the Sabiston Landfill Site)



markham.ca





Located in the German Mills community – south of John Street and west of Leslie Street – within the City of Markham, the German Mills Meadow and Natural Habitat is located on the former Sabiston Landfill Site. This Landfill Site (A), which includes the East Fill Area (B), covers a total of 26 hectares.

After the Site was capped, Markham purchased the land in October 1983, and is responsible for its ongoing maintenance and monitoring.

Markham's Site Monitoring Program

The City installed a gas collection system in 1985, a methane gas monitoring program in 1999 and an environmental monitoring program in 2003. Our monitoring program currently includes:

- Gas monitoring at the north, west, and south boundaries of the site
- Seven surface water monitoring stations in German Mills Creek
- Groundwater monitoring
 - 10 locations with 10 wells
 - 2 piezometers next to the creek

The Groundwater monitoring process compares samples taken from various locations on the site:

- Background / up-gradient of the landfill
- Within the landfill and east-fill areas
- Next to German Mills Creek
- Down-gradient of the landfill area

Current Situation

Results of the City's ongoing monitoring program have indicated:

- Landfill is still producing leachate
- Groundwater quality down-gradient of the Site has higher concentrations of leachate contaminants compared to background/up-gradient levels
- There are a number of contaminants present at levels that exceed the Ministry of the Environment (MOE) Regulatory Requirements.

It is unknown how far the groundwater impacts have travelled down-gradient of the Site or deeper into the aquifer. As a result, the City's consultant has recommended the installation of 11 new groundwater monitoring wells in eight locations on the Site to assess groundwater conditions down-gradient and in the deeper aquifer. This installation work will begin in late February or early March 2014 and will take about three weeks to complete.

Frequently Asked Questions

1 The Sabiston Landfill Site has been used by residents for over 38 years without any apparent issues. Why does the City of Markham feel there are now public health and safety issues?

The latest results of the environmental monitoring indicate the level of contaminants within the Site exceed the MOE Regulatory Requirements (e.g. both dissolved Arsenic and Trichloroethane, or TCE, exceed the Requirements).

Additional data must be collected to properly define the extent of the contamination so that risks/impacts to various receivers (animal, human, environment, etc.) external to the site can be properly assessed using applicable MOE guidelines, Acts, Regulations, etc.

2 The City of Markham is using a consultant (AMEC Environment and Infrastructure) with expertise to undertake testing and analysis of the landfill area. What credentials and experience do they have?

AMEC has been actively involved in waste disposal and management for over 50 years, and possesses significant experience in all aspects of landfill engineering including feasibility studies, design, construction, operation, monitoring, closure and post-closure.

AMEC has completed engineering studies for landfills for several key organizations including the Ministry of Transportation, the Ministry of the Environment, City of Hamilton and City of Ottawa.

3 What are the environmental impacts of the installation of groundwater monitoring wells?

The City is sensitive to the natural environment and Species at Risk wildlife habitat that is present on the former Sabiston Landfill Site.

Markham staff hired Dillon Consulting, a recognized leader in the environmental monitoring industry, to prepare a full Environmental Monitoring Management Plan (EMMP) to minimize impacts to the surrounding natural environment during the well installation and ensure the site is fully restored to original condition upon completion of the work.

Dillon Consulting has indicated that if the work is carried out during the winter months, the potential of encountering or disturbing wildlife on the site is low.

The Ministry of Natural Resources has determined the well installations will not adversely affect Species at Risk such as the Eastern Meadowlark, or their habitat, as long as certain conditions are implemented.

If wildlife is encountered, the City will take appropriate actions, as recommended in Dillon's report.