



Report to: General Committee

Date Report Authored: February 20, 2014

SUBJECT: AVAC (Automated Vacuum Collection) Feasibility Working Group
– Terms of Reference

PREPARED BY: Peter Loukes, Director, Environmental Services

RECOMMENDATION:

1. That the report entitled “AVAC Feasibility Working Group – Terms of Reference” be received;
2. That the attached AVAC Terms of Reference be approved and Regional Councillor Li be appointed Chair of the AVAC Feasibility Working Group with the following membership: Mayor Frank Scarpitti, Deputy Mayor Jack Heath and Councillor Alan Ho;
3. That the AVAC Feasibility Working Group provide a status update at the June 6th, 2014 General Committee meeting and table the completed study and recommendations in October 2014;
4. And that Staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

To establish an AVAC Feasibility Working Group and Terms of Reference to determine the feasibility of vacuum-pressure underground waste collection for two planned redevelopments proposed for the City of Markham.

BACKGROUND:

In North America, the collection of waste materials has historically been truck based with waste containers located in alleyways, behind buildings or curbside. In Europe and elsewhere, alternative underground waste collection systems have been used for decades. Developed in Sweden in 1961, the first AVAC (automated vacuum collection) system was installed in 1965 in the newly built residential district of Ör-Hallonbergen.

In 1974, the US Department of Housing and Urban Development installed AVAC into a new 500-unit housing project in Jersey City, NJ known as Summit Plaza. AVAC is used to manage waste material at Disneyworld Florida and multi-residential developments on Roosevelt Island in New York City.

The world’s largest AVAC system is now under construction in Saudi Arabia. The Metro-Taifun Automatic Waste Collection System, contains 74 inlet collection points linked to a 20-kilometre pipe network.

Helsinki is currently planning an AVAC system, spanning 200 hectares to service 16,000 residents, and 6,000 workplaces. There will be 350 inlet collection points, able to carry 22,000 kg of waste daily.

In Canada, the AVAC collection system planned for “La Cité Verte” in Quebec will manage three waste streams (organic, garbage and recyclables) with 48 inlets for household use and 9 inlets for commercial use.

Modern AVAC systems can be designed to accommodate up to four separate material fractions to encourage and accommodate diversion.

The AVAC system is suitable for space constrained sites, pedestrian orientated developments where there is an emphasis on the public realm. It is more cost effective to pre-install the system in new development areas. In addition, small pilots may be an option with future expansion.

Examples of developments suitable for automated collection include high density residential and commercial developments, parks, shopping centers, airports, hospitals and sports and entertainment facilities.

Markham representatives toured AVAC installations

In 2012, representatives from Markham toured several European AVAC installations. Throughout 2013, meetings sponsored by Regional Councillor Li were held with the development sector, senior staff and system vendors to review AVAC opportunities in Markham.

As a result of these meetings, it is recommended that a formal working group of Councillors and senior staff be established with a mandate to prepare a feasibility study of the environmental and design benefits and opportunity of AVAC collection systems for two planned high density, mixed use redevelopments proposed for the City of Markham:

1. Buttonville Airport Lands (Cadillac Fairview /Sifton)
2. Langstaff Redevelopment (Condor and Angus Glen Developments)

Feasibility Working Group

It is proposed that the Feasibility Working Group be Chaired by Regional Councillor Li with membership comprising Mayor Frank Scarpitti, Deputy Mayor Jack Heath and Councillor Alan Ho (Local Councilor for Buttonville) with senior staff support from Environmental Services, Development Services, Engineering and CAO's Office. Additional support, as required, will be sought from Operations, Markham District Energy, Sustainability Office and Finance Department staff. At Councils discretion, additional Coucillors may be appointed to the Working Group.

While it is anticipated that the feasibility study will take several months to complete, a status report will be presented to the June 6, 2014 General Committee with final study recommendations to be brought forward in October, 2014.

FINANCIAL CONSIDERATIONS AND TEMPLATE: (external link)

A complete financial cost/benefit analysis will be completed as part of the feasibility study including capital and operating costs and funding options for consideration.

ALIGNMENT WITH STRATEGIC PRIORITIES:

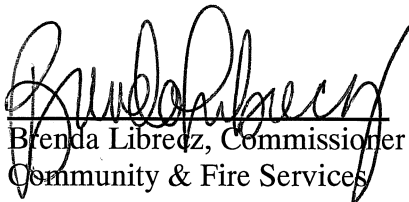
Aligns with Environmental Strategic priorities and Green Print principles.

BUSINESS UNITS CONSULTED AND AFFECTED:

It is anticipated that Operation, Markham District Energy, Sustainability, Development Services, Finance, Engineering and Legal may be consulted throughout the study process.

RECOMMENDED

BY:


Brenda Librez, Commissioner
Community & Fire Services

ATTACHMENTS:

Terms of Reference – AVAC Feasibility Working Group

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