



The Regional Municipality of Durham

Works Committee Agenda

Wednesday, October 4, 2023, 9:30 a.m.

Regional Council Chambers

Regional Headquarters Building

605 Rossland Road East, Whitby

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 2097.

Note: This meeting will be held in a hybrid meeting format with electronic and in-person participation. Committee meetings may be [viewed via live streaming](#).

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There are no statutory public meetings	
5. Presentations	
There are no presentations	
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There are no delegations	
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Re: Ongoing Durham Region Infrastructure Delays,
Newcastle Zone 1 Reservoir and Zone 2 Pumping Station

Recommendation: Refer to Staff for a Response

8.2 Reports

- | | | |
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| a. | Report #2023-W-38
Expropriation of Lands Required for the Whitby Zone 4
Reservoir and Pumping Station Project at 8425 Duffs Road, in
the Town of Whitby | 24 |
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Approval of Unbudgeted Project Financing for the Harwood
Avenue Water Pumping Station in the Town of Ajax and Sole
Source Procurement of Pre-purchase Equipment | 29 |

9. **Advisory Committee Resolutions**

There are no advisory committee resolutions to be considered

10. **Confidential Matters**

There are no confidential matters to be considered

11. **Other Business**

12. **Date of Next Meeting**

Wednesday, November 8, 2023 at 9:30 AM

13. **Adjournment**

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The Regional Municipality of Durham

MINUTES

WORKS COMMITTEE

Wednesday, September 6, 2023

A regular meeting of the Works Committee was held on Wednesday, September 6, 2023 in Council Chambers, Regional Headquarters Building, 605 Rossland Road East, Whitby, Ontario at 9:30 AM. Electronic participation was offered for this meeting.

1. Roll Call

Present: Councillor Barton, Chair
Councillor Marimpietri, Vice-Chair
Councillor Cook*
Councillor Crawford
Councillor Mulcahy
Councillor Nicholson*
Councillor Yamada
Regional Chair Henry
***denotes Councillors participating electronically**

Also

Present: Councillor McDougall
Councillor Schummer*

Absent: None

Staff

Present: M. Barta, Systems Support Specialist, Corporate Services – IT
E. Baxter-Trahair, Chief Administrative Officer
S. Ciani, Committee Clerk, Corporate Services – Legislative Services
C. Dunkley, Director of Corporate Infrastructure and Strategic Business Services, Works Department
A. Evans, Director of Waste Management Services
B. Holmes, General Manager, Transit
M. Hubble, Director of Environmental Services
J. Hunt, Regional Solicitor/Director of Legal Services, Corporate Services – Legal Services
R. Jagannathan, Acting Commissioner of Works
J. Kilgour, Director of Emergency Services
J. Paquette, Manager of Communications, Corporate Communications
L. Saha, Manager of Waste Services
K. Smith, Committee Clerk, Corporate Services – Legislative Services
N. Taylor, Commissioner of Finance
P. Veiga, Manager of Waste Management Operations

V. Walker, Committee Clerk, Corporate Services – Legislative Services

2. Declarations of Interest

There were no declarations of interest.

3. Adoption of Minutes

Moved by Councillor Marimpietri, Seconded by Councillor Crawford,
(67) That the minutes of the regular Works Committee meeting held on
Wednesday, June 7, 2023, be adopted.

CARRIED

4. Statutory Public Meetings

There were no statutory public meetings.

5. Presentations

There were no presentations heard.

6. Delegations

There were no delegations heard.

7. Waste

7.1 Correspondence

There were no communication items considered.

7.2 Reports

There were no Waste Reports considered.

8. Works

8.1 Correspondence

A) Correspondence received from the Municipality of Clarington, dated June 13, 2023, re: Newtonville Road Pilot Project

Moved by Councillor Marimpietri, Seconded by Councillor Mulcahy,
(68) That the correspondence received from the Municipality of Clarington,
dated June 13, 2023, regarding the Newtonville Road Pilot Project be
referred to staff for a report.

CARRIED

- B) Correspondence received from the Township of Cramahe, dated June 29, 2023, re: Amendments to the Highway Traffic Act
-

Discussion ensued regarding a report being brought to a Works Committee meeting in 2024 with respect to the pros and cons of the Region potentially taking over the Automated Speed Enforcement (ASE) program; alternate suppliers for the program; the added element of the move to an administrative penalty system as opposed to the court system; and if there is an interest for the Region to take over the ASE program on both regional and local roads.

Moved by Councillor Marimpietri, Seconded by Councillor Mulcahy,
(69) That the correspondence received from the Township of Cramahe, dated June 29, 2023, regarding amendments to the Highway Traffic Act be referred to Council without a recommendation.

CARRIED

8.2 Reports

- A) Declaration of Lands as Surplus and Approval to Transfer the Surplus Lands to the City of Pickering as Part of a Site Plan Agreement (2023-W-33)
-

Report #2023-W-33 from R. Jagannathan, Acting Commissioner of Works, was received.

Moved by Regional Chair Henry, Seconded by Councillor Mulcahy,
(70) That we recommend to Council:

- A) That Part 1 on 40R-32220, being part of PIN 26402-0094 located on the northwest corner of Fifth Concession Road and Sideline 16, in the City of Pickering, Regional Municipality of Durham, be declared as surplus to Regional Municipality of Durham requirements;
- B) That the Regional Municipality of Durham's solicitors be authorized to complete the transfer of lands as described in Recommendation A) of Report #2023-W-33 of the Acting Commissioner of Works, having an estimated value of \$420,400, to the City of Pickering for a nominal sum and waive all other requirements under By-law #52-95; and
- C) That authority be granted to the Commissioner of Works to execute any documents necessary to complete the conveyance to the City of Pickering.

CARRIED

- B) Delegation of Authority for the Execution of Agreements related to the Memorandum of Understanding Established for the Lake Ontario Water Quality Forecasting System (2023-W-34)
-

Report #2023-W-34 from R. Jagannathan, Acting Commissioner of Works, was received.

Moved by Regional Chair Henry, Seconded by Councillor Mulcahy, (71) That we recommend to Council:

That Regional Council delegates authority to the Commissioner of Works to execute any necessary documents or agreements related to the Memorandum of Understanding with the Regional Municipality of Peel and the City of Toronto for the governance structure and cost-sharing for the implementation of the Credit Valley-Toronto and Region-Central Lake Ontario Source Protection Plan, subject to the satisfaction of the Regional Solicitor.

CARRIED

C) Declaration of Lands as Surplus and Approval to Convey the Surplus Lands to the Adjacent Landowner as part of a Land Exchange for Regional Requirements (2023-W-35)

Report #2023-W-35 from R. Jagannathan, Acting Commissioner of Works, was received.

Moved by Regional Chair Henry, Seconded by Councillor Mulcahy, (72) That we recommend to Council:

- A) That portions of the properties municipally known as 27 Gibb Street, 31 Gibb Street, 35 Gibb Street, 39 Gibb Street, 43 Gibb Street, and 47 Gibb Street, in the City of Oshawa, legally described as Parts 2, 3, 6, 7, 10, and 11 on Registered Plan 40R-32022 and property municipally known as 40 Quebec Street in the City of Oshawa, legally described as Part Lot 58 Plan 47 Oshawa; Part Lot 59 Plan 47 Oshawa As In D473512 City of Oshawa and identified by PIN 163660144, be declared surplus to Regional Municipality of Durham requirements;
- B) That Regional Municipality of Durham staff be authorized to enter into a Land Exchange Agreement with the adjacent property owner, 1816629 Ontario Inc. under the following terms:
 - i) The Regional Municipality of Durham will transfer the lands described in Recommendation A) above and having an estimated market value of \$1,286,500, to 1816629 Ontario Inc. for fair market value;
 - ii) 1816629 Ontario Inc. will transfer lands legally described as Part 13 on Registered Plan 40R-32022 and property municipally known as 273 Simcoe Street South in the City of Oshawa, legally described as Part Lot 30 E/S Simcoe Street Plan H50005 Oshawa; Part Lot 30 W/S Celina Street Plan H50005 Oshawa As In D411598 (Secondly &

Thirdly) City of Oshawa and identified by PIN 163490036 and having a Fair Market value of \$1,577,900 to the Regional Municipality of Durham;

- iii) The Regional Municipality of Durham will pay the amount of \$291,400 to 1816629 Ontario Inc. as compensation to account for the difference in the value of the lands associated with the land exchange; and
 - iv) The Regional Municipality of Durham will pay a further amount of \$1,172,452 to 1816629 Ontario Inc. as compensation for the reconfiguration of the parking impacted by the Region's requirement;
- C) That the requirements of Sections 3 and 4 (1) of Regional Municipality of Durham By-law #52-95 be waived to facilitate the land exchange between the Regional Municipality of Durham and 1816629 Ontario Inc.; and
- D) That the Commissioner of Works be authorized to execute all documents associated with this land exchange.

CARRIED

- D) Approval to Award Sole Source Maintenance Service and/or Parts Supply Agreements Negotiated for Equipment Installed at Various Water Pollution Control Plants and Sanitary Sewage Pumping Stations throughout Durham Region (2023-W-36)
-

Report #2023-W-36 from R. Jagannathan, Acting Commissioner of Works, was received.

Moved by Regional Chair Henry, Seconded by Councillor Mulcahy, (73) That we recommend to Council:

- A) That staff be authorized to negotiate and award sole source agreements for maintenance service and/or parts supply for the existing equipment installed as components of various Water Pollution Control Plants and Sanitary Sewage Pumping Stations throughout Durham Region as listed below, with terms not to exceed five years;
- B) That financing for the sole source maintenance service and/or parts supply agreements be provided from the Regional Municipality of Durham's approved annual Sanitary Sewerage Operations Budget at an estimated annual cost of approximately \$6,450,000;
- C) That the negotiated sole source agreements be awarded as follows:

Authorized Supplier	Manufacturer	Estimated Annual Costs (excluding HST)

Alfa Laval	Alfa Laval	\$125,000
Xylem	Xylem	\$800,000
C & M Environmental	Brentwood Industries/Spirac	\$300,000
ACG Envirocan Ltd	JWC	\$225,000
Directrik	Vogelsang, Hydrostal, Weir, Wemco, Trillium Pumps	\$375,000
Toshont	Toshiba	\$150,000
Thermogenics	Thermogenics	\$150,000
OVIVO	OVIVO	\$500,000
PRO Aqua	Bioseco, Schwing Bioset, Atlas Copco, Sanitaitre,	\$400,000
Evoqua	Evoqua	\$150,000
Envirocare	Envirocare	\$125,000
Arvos Group	Arvos Group	\$150,000
Veolia	Veolia	\$250,000
Syntec	Fontaine, Tidflex, Neitzch, Trueline, Valvematic, Red Valve	\$200,000
Flowpoint	Flowpoint	\$100,000
Benshaw	Benshaw	\$100,000
Schneider	Schneider	\$250,000
APG Neuros	APG Neuros	\$200,000
Howden	Turblex	\$500,000
Westech Industrial	Varec	\$150,000
KSB Pumps	KSB Pumps	\$250,000

Sulzer	Sulzer	\$100,000
Novatech	Ametek	\$200,000
Lakeside Process Controls	AMS and Valve Link Monitoring Software (Emerson), Fisher Control Valves, & Controllers, Rosemount Family of Measuring Devices	\$250,000
John Brooks	Grundfos, E-one	\$100,000
Waterloo Manufacturing	Cleaver Brooks	\$150,000
Troy-Ontor Incorporated	Auma Actuators	\$200,000
	TOTAL	\$6,450,000

and;

- D) That the Commissioner of Finance be authorized to execute the necessary maintenance service and/or parts supply agreements.

CARRIED

- E) Additional Financing for Property Acquisition and Utility Relocations for the Intersection Improvement Project at Rossland Road (Regional Road 28) and Garden Street, in the Town of Whitby (2023-W-37)

Report #2023-W-37 from R. Jagannathan, Acting Commissioner of Works, was received.

Moved by Regional Chair Henry, Seconded by Councillor Mulcahy,

(74) That we recommend to Council:

- A) That Regional Council authorize additional funding for property acquisition and utility relocations for the Rossland Road and Garden Street Intersection project, in the amount of \$810,000; and
- B) That the additional funding be provided by reallocation of financing from approved projects as follows:

	Residential DC	Commercial DC	Industrial DC	Roads Capital Reserve	Developer Funding	Total
	\$	\$	\$	\$	\$	\$

Project ID R1620 Rossland Road and Garden Street	939,600	113,400	24,300	422,700	-	1,500,000
Total Approved Financing	939,600	113,400	24,300	422,700	-	1,500,000
Project ID R1103 Simcoe Street and Conlin Road	85,467	13,858	-	62,751	-	162,076
Project ID R1403 Reg. Rd. 23 and Reg. Rd. 12 Roundabout	201,416	28,591	4,616	90,900	-	325,523
Project ID R0203 Bloor Street from Merritt Street to Ritson Road	115,528	32,051	-	34,887	-	182,465
Contribution from Landowner for Storm Sewer Extension	-	-	-	-	18,267	18,267
Funding at the discretion of the Commissioner of Finance	132,189	7,747	-	-	-	139,936
Additional Roads Financing	534,600	82,246	4,616	188,538	-	810,000
Total Revised Financing	1,474,200	195,646	28,916	611,238	18,267	2,328,267

CARRIED

9. Advisory Committee Resolutions

There were no advisory committee resolutions to be considered.

10. Confidential Matters

There were no confidential matters to be considered.

11. Other Business

11.1 Curbside Giveaway Day

R. Jagannathan announced that the Region's new fall Curbside Giveaway Day will be held on September 16, 2023, with a rain date of September 23, 2023.

A. Evans advised that the Curbside Giveaway Day is a pilot project organized in co-operation with the local area municipalities, where residents can place unwanted items in good condition on their curb for anyone to pick up in order to reduce the amount of garbage going to disposal by giving away unwanted items.

In response to a question from the Committee regarding whether a two-week cycle of tonnage reports could be made available to see if there was a diversion of waste going to disposal, R. Jagannathan and A. Evans confirmed that would be one way of monitoring the success of the pilot project, as well as completing before and after surveys for those that participated in the program.

11.2 Bus Rapid Transit

In response to a question from the Committee regarding when an update on the Bus Rapid Transit (BRT) system would be provided to Council, R. Jagannathan advised that a presentation will be planned for the Transit Executive Committee (TEC) or a standing committee in the near future.

12. Date of Next Meeting

The next regularly scheduled Works Committee meeting will be held on Wednesday, October 4, 2023 at 9:30 AM in Council Chambers, Regional Headquarters Building, 605 Rossland Road East, Whitby.

13. Adjournment

Moved by Councillor Mulcahy, Seconded by Councillor Crawford,
(75) That the meeting be adjourned.

CARRIED

The meeting adjourned at 9:45 AM

Respectfully submitted,

D. Barton, Chair

S. Ciani, Committee Clerk

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 3540.



The Regional Municipality of Durham Report

To: Works Committee
From: Acting Commissioner of Works
Report: #2023-WR-7
Date: October 4, 2023

Subject:

Update on the Regional Landfill Mining Program Pilot

Recommendations:

That the Works Committee recommends to Regional Council that this report be received for information.

Report:

1. Purpose

1.1 The purpose of this report is to inform Regional Municipality of Durham (Region) Council of the intent to defer further consideration of the landfill mining program as a mitigative measure to reduce methane emissions from the Region's landfill sites until the conclusion of the biocover pilot that is currently underway at the Oshawa Landfill.

2. Background

2.1 The decomposition of organic material generates Landfill Gas (LFG). LFG is composed of 50 percent methane (CH₄), 50 percent carbon dioxide (CO₂) and a small amount of non-methane organic compounds (NMOCs). According to the United States Environmental Protection Agency (U.S. EPA), methane is considered a 28 to 36 times more potent greenhouse gas (GHG) than carbon dioxide over a 100-year period. This ratio measurement indicates the global

warming potential of different GHGs compared to that of carbon dioxide over a specified time frame.

- 2.2 LFG generated at the Region's seven landfill sites passively vents from the landfill surface to the atmosphere. There are currently no engineered controls in place to treat methane emissions. Traditional treatment can involve the extraction of LFG through a series of vertical wells or horizontal collection trenches connected to a blower/flare system where the methane component of the LFG is captured. From this point, the gas can be flared or upgraded to a renewable natural gas.
- 2.3 The Region undertook an LFG Production and Collection Feasibility Study at the Brock landfill site in 2009. The report from the study indicated that given the small size of the landfill and the low LFG production, operating a collection and control system for effective flaring/combustion would be difficult and operation would be intermittent. Assuming the same site constraints exist at all the Region's landfill sites due to similar or more challenging site characteristics and site histories, staff continue investigating alternative methods and technologies to mitigate LFG emissions, including monitoring evolutions in flaring technology, landfill mining and biocover applications.

3. Landfill Mining

- 3.1 Landfill mining involves excavating and screening waste and recyclable material from the soil contained in the landfill. For older, smaller landfill sites where waste was minimally compacted during disposal, buried waste can account for up to 40 percent to 50 percent by volume of the landfill airspace, with the remaining volume occupied by daily, interim, and final cover soils. Typically, screened waste from the landfill is placed back into the landfill and compacted to a smaller volume to reclaim disposal capacity; however, in keeping with the Region's primary objective to reduce methane emissions from its landfill sites, the waste screened from the Region's landfill mining operation in 2019 at the Blackstock Landfill site in the Township of Scugog was transported off-site to a transfer station for mixing with curbside waste prior to processing at the Durham York Energy Centre (DYEC). The non-combustible fraction of the screened landfill waste was transferred to another landfill for disposal. Removal of the screened waste eliminates the source of the methane generation from the landfill and lowers the methane emission rate.

- 3.2 Excavation work and waste screening were completed on January 24, 2019, at the Blackstock Landfill. Lessons learned from this project informed the preliminary investigative work and budgeting for a potential landfill mining project at other Regional landfill sites. The Scott Landfill site located in the Township of Uxbridge was identified as the next preferred site for a potential landfill mining project.
- 3.3 This report is a follow-up to the Works Committee's request to provide periodic updates on the assessment work being undertaken.

4. Biocover Applications

- 4.1 A biocover is an enhanced natural landfill cap system designed to increase the methane oxidation rate that naturally occurs in soil landfill covers. The final cover at older landfill sites typically consists of layers of soil and topsoil. A biocover consists of a layer of gravel or other inert material overlain by a mixed layer of compost and sand. The gravel layer facilitates the flow of landfill gas to the sand/compost layer, where naturally occurring bacteria in the soil/compost layer oxidize methane at a much higher rate than within a comparable soil layer. The bacteria convert methane into carbon dioxide, which has significantly less impact as a greenhouse gas. Typically, biocover systems would be placed in sections over areas of the landfill with the highest rates of methane emissions at the surface.
- 4.2 Biocover systems are an emerging technology within the waste management industry. As they are biologically active systems, site-specific considerations related to climate (rainfall, temperature, etc.) are essential in assessing potential effectiveness.
- 4.3 Environment and Climate Change Canada has been seeking input from interested parties on the development of new federal regulations under the Canadian Environmental Protection Act (CEPA) to reduce landfill methane emissions. According to Federal guidelines, biocover is identified as a methane emission control approach. However, the Region-owned closed landfill sites will not be captured under the proposed regulations.

5. Previous Reports and Decisions

- 5.1 The biocover pilot at the Oshawa landfill site was identified as a key initiative to reduce corporate GHG emissions in [Report #2021-A-3](#) Section 4.1 d.

5.2 An update on the Blackstock landfill mining pilot project was received by Council on February 14, 2020 ([Report #2020-INFO-9](#)).

6. Scott Landfill Site

6.1 The Scott Landfill is located on Part Lot 24, Concession 5, near the intersection of Zephyr Road and Concession Road 6, in the Township of Uxbridge. The site was operated by the Township of Scott from about 1965 to 1973. The Region assumed operation of the site in 1974 under an Environmental Compliance Approval (ECA) Number A3900801. The site reached its maximum capacity in 1995 and was closed. The placement and grading of a final cover with topsoil and seeding was completed in 1996.

6.2 The initial ECA permitted the use and operation of a four-acre landfill site for the disposal of domestic waste and non-hazardous industrial waste from agricultural operations. The Region currently owns this section of the site. The Region obtained approval in 1985 to extend the waste footprint to the north by 2.3 acres through an amendment to the ECA. The northern section of the Landfill is privately owned.

6.3 The estimated methane emissions from the Scott Landfill site for 2021 is 1,211 tonnes (t) reported as CO₂ equivalents, with a slight decrease for each subsequent year as the waste in the landfill further degrades. The combined reported emissions for 2020 from the Region's landfill sites are 43,100t CO₂e or 25 percent of the Region's corporate total GHG emissions.

6.4 Since groundwater monitoring began at the site in 1986, selected constituent concentrations within the groundwater at the monitoring wells have fluctuated or been stable, with no apparent increasing or decreasing trends and no significant concerns noted with the overall landfill condition.

7. Preliminary Sub-surface Investigations – Scott Landfill

7.1 In December 2019 and May 2020, sub-surface investigations involving a geophysical survey, shallow test pits, and borehole drilling were conducted at the Scott Landfill site to evaluate the vertical and horizontal extent of the waste and waste composition. The study area was limited to the southern section of the Landfill owned by the Region. Access to the northern section of the Landfill was not available at the time of the study.

- 7.2 Based on a geophysical survey and 16 test pits, the landfill cover was observed to range in thickness from 0.3 metres (m) to 1.9 m with an average thickness of 1 m over an estimated surface area of 12,000 m² (2.97 acres). The thickness of the waste mound was inferred from the findings of five boreholes advanced in the study area. The thickness of the waste varied from 3.1 m to 10.3 m, with an estimated average of 5.7 m. The estimated volume of the Region-owned section of the Landfill is 68,400 m³.
- 7.3 Assuming an area of 2.3 acres (9,300 m²) based on aerial imagery and an average waste thickness of 5.7 m, consistent with the southern portion, the landfill volume of the northern section of the site would be approximately 9,964 tonnes (53,000 m³).
- 7.4 The information above would correspond to a total landfill airspace volume of 121,400 m³. Based on similar site characteristics, with 40 percent of the volume containing waste and a waste density of 0.47 tonnes per cubic metre, the total estimated amount of waste at the Scott Landfill is 22,823 tonnes. For comparison purposes, the total amount of waste mined from the Blackstock Landfill was 4,796 tonnes and required 286 trips using standard roll-off containers to transport the waste to the transfer station.

8. Cost Estimates

- 8.1 Based on final costing from the Blackstock Landfill mining project and estimated waste tonnages as described in Section 7, the preliminary estimated cost for landfill mining at the Scott Landfill site, including consulting fees, preliminary site work, excavation and screening, site restoration and grading, and haulage and disposal of the screened waste (overs) from the Scott Landfill site to an engineered landfill site is approximately \$6.9 million. The cost estimates do not include costs associated with purchasing the northern section of the waste footprint or costs related to access rights to that property. Excavated waste from the Blackstock Landfill was sent to DYEC for processing; however, there is limited capacity at the DYEC, which will result in additional disposal costs for any future landfill mining projects.

Table 1 Estimated Costs

ITEMS	COST
General Items: Bonds, insurance, Soil Erosion Plans, Health and Safety Plans, etc.	\$361,000
Site Preparation Items: Clearing, well decommissioning, relocation of services	\$27,000
Earthwork Items: Excavation, screening and materials management	\$2,663,000
Haulage and Disposal	\$2,739,000
Site Restoration Items: Topsoil supply and application, hydroseeding, erosion controls	\$360,000
Consulting: Work Plan, ECA amendment application, oversight during screening operations	\$400,000
Contingency	\$350,000
Total cost	\$6,900,000

9. Biocover Systems

- 9.1 In conventional landfill soil covers, methane and oxygen may appear at the same depth due to the natural production of methane from the waste and diffusion of oxygen from ambient air. At this depth and under certain environmental conditions, a suitable habitat is established for methanotrophic bacteria present in the soil to oxidize methane into carbon dioxide before the gas passively vents into the atmosphere. U.S. EPA has adopted a default value of 10 percent for methane oxidation for conventional soil/clay landfill covers.
- 9.2 In recent years, laboratory-scale and pilot-scale studies have been conducted to assess methane oxidation rates within layers of various organic materials placed over a methane source. The studies indicate that alternative organic materials used in place of traditional clay/soil landfill covers generate significantly higher methane oxidation rates.

- 9.3 Construction of one 'biofilter' and one 'biowindow' at the Oshawa Landfill site was completed during Q2/Q3 2023. With a biofilter, the gravel and compost layers are placed in a rectangular open-top structure, and the gas is conveyed to the structure through piping from three gas wells. A biowindow is constructed by removing a small section of the existing landfill cover and replacing it with gravel and compost/sand layers. With a biowindow, methane is oxidized as it migrates from the waste through the biocover layers. The monitoring period for the pilot period is scheduled for 18 months. Methane measurements at various intervals will be compared to baseline methane data to assess the performance of the pilot-scale biocover. The primary objectives of this pilot are to identify the methane oxidizing material and site-specific environmental conditions that provide and sustain the highest possible oxidation rates of methane gas passively venting from the site.
- 9.4 Any full-scale biocover system at a Regional site would require preliminary methane monitoring, construction of multiple biofilters or biowindows, retaining a consultant for engineering, permitting, construction oversight, and ongoing monitoring. The required sizing of the systems will be assessed following the completion of the pilot to generate specific cost estimates, but initial estimates indicate increased cost effectiveness, especially at larger sites.
- 9.5 The application of biocover systems presents opportunities to reduce methane emissions from closed landfill sites using a naturally occurring biological process without disturbing in-place waste, using repurposed materials such as compost and implementing a viable low-cost alternative to mechanical landfill gas extraction systems that may not operate efficiently at the Region's older closed landfill sites.

10. Next Steps

- 10.1 Following the conclusion of the biocover pilot monitoring period, further evaluations to assess the feasibility and effectiveness of larger scale applications will be conducted. This evaluation will assist in the determination of suitable applications to other landfill sites.

11. Relationship to Strategic Plan

11.1 This report aligns with and addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

- Environmental Sustainability Goal 1.4: Demonstrating leadership in sustainability and addressing climate change.

12. Conclusion

12.1 Based on the preliminary sub-surface investigations at the Scott Landfill, the estimated amount of waste is approximately 22,800 tonnes.

12.2 The estimated total cost to complete mining is \$6,900,000. This estimate assumes that all screened waste from the site would have to be hauled for disposal at an engineered landfill.

12.3 With biocover applications, the waste remains in place and is not disturbed; the reduction in methane emissions is achieved through the oxidation of methane through natural, biological processes as the landfill gas passes through the biocover systems placed on the landfill surface.

12.4 The application of biocover systems will present opportunities to reduce methane emissions without excavation and screening of the waste for disposal/processing off-site and provide a viable non-intrusive alternative to mechanical landfill gas extraction systems that may not operate efficiently at the Region's landfill sites.

12.5 Given the ongoing emergence of new technologies and changing regulatory framework within the sector, staff will defer the implementation of further landfill mining projects until the completion of the Oshawa biocover pilot.

12.6 Staff will continue to monitor and assess other emerging approaches to LFG monitoring and control.

12.7 This report has been reviewed by the Finance Department.

12.8 For additional information, please contact Andrew Evans, Director, Waste Management Services, at 905-668-7711 extension 4102.

Respectfully submitted,

Original signed by:

Ramesh Jagannathan, M.B.A, M.Eng., P.Eng., PTOE
Acting Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer

Clarington

If this information is required in an alternate format, please contact the Accessibility Co-ordinator at 905-623-3379 ext. 2131

September 26, 2023

B. Bridgeman, Commissioner of Planning and Economic Development
Region of Durham
Via Email: brian.bridgeman@durham.ca

To Brian Bridgeman:

Re: Ongoing Durham Region Infrastructure Delays, Newcastle Zone 1 Reservoir and Zone 2 Pumping Station

File Number: PG.25.06

At a meeting held on September 25, 2023, the Council of the Municipality of Clarington approved the following Resolution #PD-061-23:

Whereas on October 25, 2022, the Minister of Municipal Affairs and Housing, issued a Minister's Order to 29 large and rapidly growing Ontario municipalities, including Clarington, to sign a Housing Pledge in order to meet the Provincial Government's target of providing 1.5 million new homes in the next decade (Province ERO bulletin No. 019-6171); and

Whereas on February 27, 2023, Clarington Council passed a resolution that the action items in Report PDS-009-23 be endorsed as Clarington's Housing Pledge to support the acceleration of housing supply in Ontario; and

Whereas the action items in Report PDS-009-23 include support of Infrastructure Master Planning: working with Durham Region to align land use planning and infrastructure planning to maximize the efficiency of servicing secondary plan areas to support the construction of new homes;

Now therefore be it resolved that Council consider Advancing the Zone 1 Reservoir and Zone 2 Pumping Station in Newcastle;

That the Region of Durham report back to Clarington on regional timelines related to advancing the Zone 1 Reservoir and Zone 2 Pumping Station in Newcastle; and

That a copy of the Council resolution be forwarded to the Regional Municipality of Durham and the Durham Region area municipalities for information.

Yours truly,



John Paul Newman
Deputy Clerk

JPN/lp

- c: Susan Cassel, City Clerk, City of Pickering
- Nicole Cooper, Director of Legislative & Information Services, Town of Ajax
- Alexander Harras, Regional Clerk, The Regional Municipality of Durham
- Christopher Harris, Town Clerk, Town of Whitby
- Becky Jamieson, Director of Corporate Services/Municipal Clerk, Township of Scugog
- Fernando Lamanna, Clerk/Deputy CAO, Township of Brock
- Debbie Leroux, Director of Legislative Services/Clerk, Township of Uxbridge
- Mary Medeiros, City Clerk, City of Oshawa
- C. Salazar, Director of Planning and Infrastructure Services
- N. Zambri, Senior Planner

If this information is required in an accessible format, please contact 1-800-372-1102 ext. 3540.



The Regional Municipality of Durham Report

To: Works Committee
From: Acting Commissioner of Works
Report: #2023-W-38
Date: October 4, 2023

Subject:

Expropriation of Lands Required for the Whitby Zone 4 Reservoir and Pumping Station Project at 8425 Duffs Road, in the Town of Whitby

Recommendations:

That the Works Committee recommends to Regional Council:

- A) That authority be granted to Regional Municipality of Durham (Region) staff to initiate expropriation proceedings where necessary for the property requirements at 8425 Duffs Road, located at the southeast corner of Duffs Road and Myrtle Road West (Regional Road 5), in the Town of Whitby, as depicted in Attachment #1 and such other property requirements as may be determined and identified by Regional staff for the Whitby Zone 4 Reservoir and Pumping Station Project;
- B) That authority be granted to the Regional Clerk and Regional Chair to execute any notices and forms as may be statutorily mandated by the *Expropriations Act*, R.S.O. 1990, c. E.26 to give effect to Recommendation C) in this report, including the Notices of Application of Approval to Expropriate;
- C) That authority be granted to Regional staff to serve and publish Notices of Application for Approval to Expropriate the property requirements as described in Recommendation A) of this report and to forward to the Ontario Land Tribunal any requests for hearing received, to attend the hearings to present the Region's position, and to present the Ontario Land Tribunal's recommendations to Regional Council for consideration; and

- D) That all agreements successfully negotiated and reports required for amicable property acquisitions and all agreements and reports required for settlements pursuant to the *Expropriations Act*, R.S.O. 1990, c. E.26 related to the Whitby Zone 4 Reservoir and Pumping Station Project approved in accordance with the Delegation of Authority By-law 04-2023 or by Regional Council, be deemed confidential for any reporting requirements to Regional Council pursuant to section 239 (2)(c) of the *Municipal Act, 2001*, S.O. 2001, c. 25, as it relates to a proposed or pending acquisition or disposition of land for Regional corporate purposes, and only be released publicly by the Commissioner of Works once all claims for compensation have been resolved on a full and final basis.
-

Report:

1. Purpose

- 1.1 The purpose of this report is to obtain approval to expropriate property requirements for the Whitby Zone 4 Reservoir and Pumping Station Project in the Town of Whitby (Whitby) if the Regional Municipality of Durham (Region) is unable to obtain amicable agreements through negotiations with property owners.

2. Background

- 2.1 The Region identified the site at 8425 Duffs Road at the southeast corner of Duffs Road and Myrtle Road West (Regional Road 5), Whitby, as its preferred site to acquire and build the infrastructure required for the Whitby Zone 4 Reservoir and Pumping Station Project (the "Project"). In the Municipal Class Environmental Assessment (EA) report dated May 23, 2022, 8425 Duffs Road was depicted as the preferred site for water servicing Zone 4 in north Whitby. The Region has already conducted Stage 3 and 4 archaeological studies on the required lands to make the lands usable. The project includes a new Zone 4 pumping station that will be built at the existing Zone 3 Duffs Road Reservoir site, located at 7705 Duffs Road, Whitby, to deliver water to the upper-pressure zone, Zone 4, and a feedermain connection between the preferred 8425 Duffs Road site and the new Zone 4 pumping station at the Zone 3 Duffs Road Reservoir site.

3. Property Acquisitions

- 3.1 Regional staff have identified land requirements from the property at 8425 Duffs Road, Whitby, at the southeast corner of Duffs Road and Myrtle Road West (Regional Road 5) that will be affected by this Project. The Region must acquire a portion of this property to facilitate the works. The requirements are over Parts 2

and 4 on Plan 40R-31835, an area of 28.9 acres of the overall 221.77-acre Parent Parcel (Attachment #1).

- 3.2 The Region and the property owners commissioned third-party appraisal reports to determine the fair market value and compensation for the lands. Negotiations with the property owners are ongoing.
- 3.3 While the Region attempts to obtain land requirements through amicable negotiations, there are situations where negotiations become lengthy, or an agreement cannot be reached with the property owners. Where lengthy negotiations are not an option due to project timelines or an agreement cannot be reached with the landowners, Regional staff may need to consider the option to commence the expropriation process to complete the project in a timely manner.

4. Conclusion

- 4.1 Regional staff will continue to negotiate with the property owners to acquire the necessary lands. Should these negotiations fail, this approval will permit staff to commence expropriation proceedings to ensure the timelines are met, allowing the projects to proceed to construction.
- 4.2 Should Regional staff exercise the option to commence expropriation pursuant to the authority being sought through this report, staff will seek further authority from Regional Council to expropriate the property requirements and proceed to serve notices on affected property owners as mandated by the *Expropriations Act*, R.S.O. 1990, c. E.26.
- 4.3 This report has been reviewed by Legal Services – Office of the CAO.
- 4.4 For additional information, contact Christine Dunkley, Director, Corporate Infrastructure and Strategic Business Services, at 905-668-7711 extension 3475.

5. Attachments

Attachment #1: Location Map

Respectfully submitted,

Original signed by:

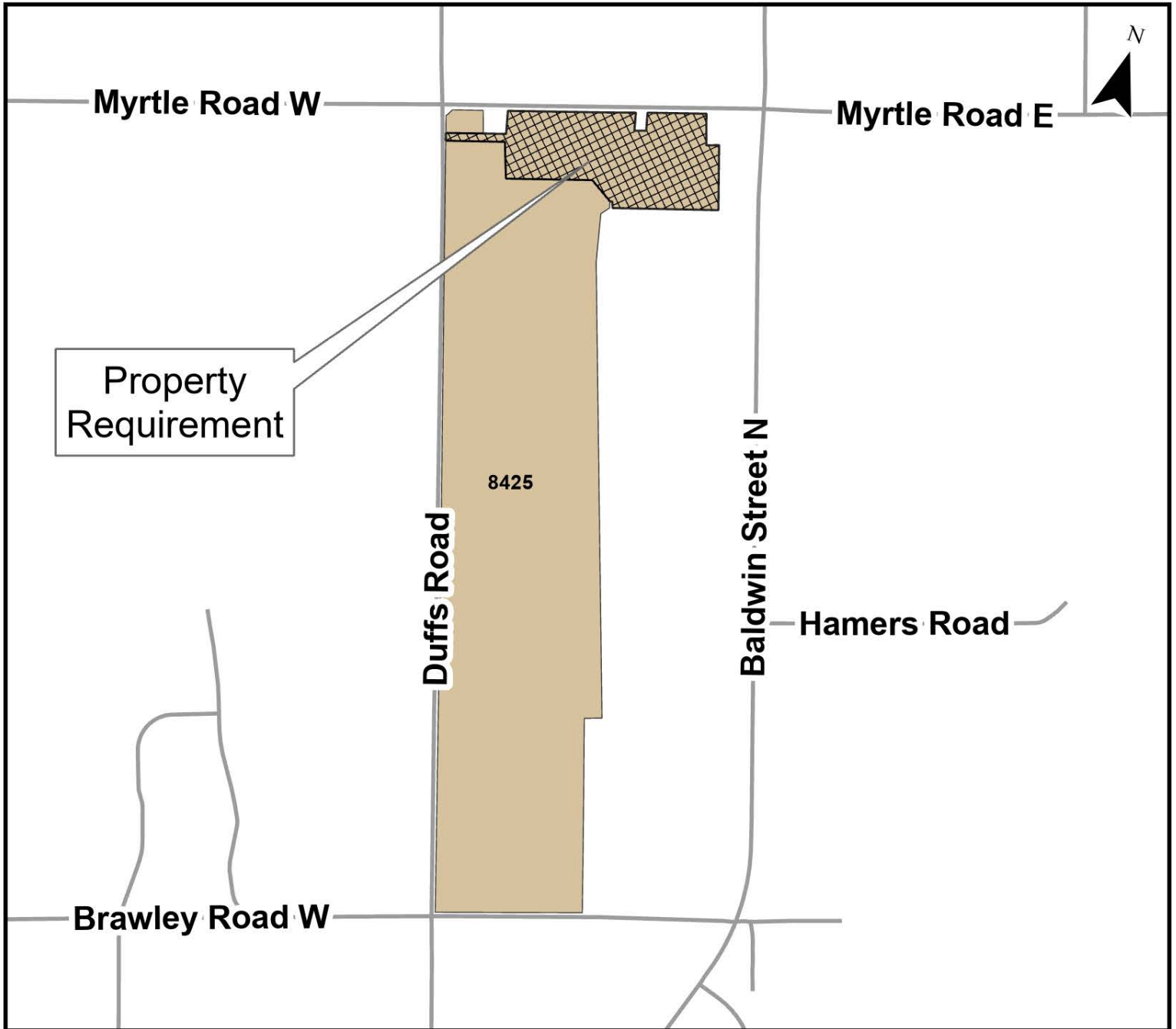
Ramesh Jagannathan, MBA, M.Eng., P.Eng., PTOE
Acting Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer

Attachment #1 - Location Map for the Whitby Zone 4 Reservoir and Pumping Station Project



Part of Lots 21 and 22, Concession 8 Town of Whitby

GIS Data: Produced by Durham Region, 2023.
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-  Property Requirement
-  8425 Duffs Road
-  Durham Roads





The Regional Municipality of Durham Report

To: Works Committee
From: Acting Commissioner of Works
Report: #2023-W-39
Date: October 4, 2023

Subject:

Approval of Unbudgeted Project Financing for the Harwood Avenue Water Pumping Station in the Town of Ajax and Sole Source Procurement of Pre-purchase Equipment

Recommendations:

- A) That the Works Committee recommends to Regional Council that unbudgeted capital financing in the amount of \$350,000* for the pre-purchase of equipment for the Harwood Avenue Water Pumping Station in the Town of Ajax be approved;
- B) That financing for the unbudgeted capital for the pre-purchase of equipment for the Harwood Avenue Water Pumping Station in the Town of Ajax be provided at the discretion of the Commissioner of Finance;
- C) That staff be authorized to negotiate and award a sole source agreement for the supply of Gould pump model 3410 L for Pump#2 from an authorized distributor for the selected Gould Pump make/model in the amount not greater than \$200,000*; and
- D) That the Commissioner of Finance be authorized to execute the necessary documents for the sole source agreement.

Report

1. Purpose

1.1 The purpose of this report is to:

- a) Obtain Regional Municipality of Durham (Region) Council approval for unbudgeted capital funding to pre-purchase equipment (pumps and valves) for the Harwood Avenue Pumping Station; and
- b) Obtain authorization to negotiate a sole source contract for the supply of equipment for the Harwood Avenue Water Pumping Station (WPS).

1.2 Dollar amounts followed by an asterisk (*) are before applicable taxes.

2. Background

2.1 The Harwood Avenue WPS services the Pickering/Ajax water distribution system pressure zones 1 and 2 and supports the transfer of treated water between the Pickering/Ajax and the Whitby/Oshawa/Courtice distribution systems.

2.2 The Region must replace Pump #2 and #8 to handle increased demands from anticipated population growth in Pickering, and the interconnection with the Whitby/Oshawa/Courtice system pumps are reaching the end of their useful lives. Their replacement will provide an opportunity to improve system stability and security.

2.3 Pump #2 will be replaced with an identical pump as Pump #1 within the Harwood Avenue WPS and will be used to pump water to the Whitby/Oshawa/Courtice system.

2.4 Pump #8 will be replaced with an identical pump as Pump #5 within the Harwood Avenue WPS and will be used to pump water to the Westney Reservoir.

2.5 The pump replacements require the simultaneous replacement of their butterfly valves and motorized actuators.

2.6 As part of consistent efforts to achieve service excellence in treated water supply in Pickering/Ajax and Whitby/Oshawa/Courtice, the replacement of Pump #2 and Pump #8, along with their motorized butterfly valves at Harwood Avenue WPS, was assessed by reviewing conditions for safe water supply, operational and maintenance needs.

2.7 Staff recommends that Pump #2 be replaced with Goulds pump model 3410L.

3. Previous Reports and Decisions

3.1 There have been no previous reports related to this project.

4. Sole Source Justification

4.1 Replacing Pump #2, located at Harwood Avenue WPS, will ensure a continuous secure water supply for the Pickering/Ajax system and accommodate the increased demand on the system from the completion of the Seaton and other developments. These improvements will also provide reliability for the Harwood Avenue WPS to transfer treated water to the Oshawa-Whitby system during ongoing construction at the Whitby Water Supply Plant.

4.2 Due to the limited installation space, the existing piping arrangement, and instrumentation compatibility at Harwood Avenue WPS, the pump selected meets these requirements without major design and infrastructure improvements. Installing the specialized equipment will promote asset longevity and reduce unplanned facility maintenance events as the equipment is known already to operators, and the equipment is proven to be functioning well within the working conditions at the existing pumping station.

4.3 Replacements with new pumps and valves already in use at the station will also allow for the interchangeability of parts and reliable maintenance consistent with existing mechanical and electrical equipment.

4.4 Staff estimates that the cost for supply of the selected make and model for Pump #2 should not exceed \$200,000*.

5. Financial Implications

5.1 Section 14.2.2 of the Region's Budget Management Policy requires the approval of the Treasurer, CAO, the applicable Standing Committee and Regional Council for unbudgeted capital expenditures in excess of \$50,000.

5.2 Financing for the pre-purchase of equipment for the Harwood Avenue Water Pumping Station in the Town of Ajax, estimated at \$350,000, will be funded at the discretion of the Commissioner of Finance.

5.3 Section 7.2 of the Region's Purchasing By-law permits:

- The sole sourcing of goods and services under specific circumstances, including where additional deliverables were not included in the initial procurement and where a change of supplier is not recommended due to compatibility/continuity concerns and cost impacts; and
- The acquisition of goods and services through sole source negotiations under specific circumstances outlined in Appendix 'C'. Section 1.1 of Appendix 'C' permits negotiations for goods or services to be supplied only by a particular supplier if no reasonable alternative or substitute goods exist due to the absence of competition for technical reasons.

5.4 The Region's Purchasing By-law also requires Regional Council approval for any negotiated purchases of \$100,000 and greater in value.

6. Relationship to Strategic Plan

6.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:

- a) Service Excellence Goal 5.1: Optimize resources and partnerships to deliver exceptional quality services and value; and
- b) Service Excellence Goal 5.2 Collaborate for a seamless service experience.

7. Conclusion

7.1 Staff recommends the approval of unbudgeted capital financing of \$350,000* for the pre-purchase of equipment for the Harwood Avenue Water Pumping Station in the Town of Ajax.

7.2 Further, staff recommends that authorization for the sole source contract for the pre-purchase of equipment be approved.

7.3 This report has been reviewed by the Finance Department, and the Commissioner of Finance concurs with the financial recommendations.

7.4 For additional information, contact: Mike Hubble, Director, Environmental Services, at 905-686-7711 extension 3460.

Respectfully submitted,

Original signed by:

Ramesh Jagannathan, MBA, M.Eng., P.Eng., PTOE
Acting Commissioner of Works

Original signed by:

Nancy Taylor, BBA, CPA, CA
Commissioner of Finance/Treasurer

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer