



The Regional Municipality of Durham

Works Committee Agenda

Council Chambers
Regional Headquarters Building
605 Rossland Road East, Whitby

Wednesday, January 12, 2022

9:30 AM

Please note: In an effort to help mitigate the spread of COVID-19, and to generally comply with the directions from the Government of Ontario, it is requested in the strongest terms that Members participate in the meeting electronically. Regional Headquarters is closed to the public, all members of the public may [view the Committee meeting](#) via live streaming, instead of attending the meeting in person. If you wish to register as a delegate regarding an agenda item, you may register in advance of the meeting by noon on the day prior to the meeting by emailing delegations@durham.ca and will be provided with the details to delegate electronically.

1. Roll Call

2. Declarations of Interest

3. Adoption of Minutes

A) Works Committee meeting – December 8, 2021

Pages 4 - 20

4. Statutory Public Meetings

There are no statutory public meetings

5. Delegations

There are no delegations

6. Presentations

- 6.1 Christine Roarke, HDR Inc. and Angela Porteous, Supervisor, Waste Management Services, re: Long-Term Waste Management Plan 2021 Consultation, Final Long-Term Waste Management Plan 2021 to 2040 and first Five-Year Action Plan (2022-WR-1) [Item 7.2 A)]

7. Waste

- 7.1 Correspondence

- 7.2 Reports

- A) Long-Term Waste Management Plan 2021 Consultation, Final Long-Term Waste Management Plan 2021 to 2040 and first Five-Year Action Plan (2022-WR-1) 21 - 131

8. Works

- 8.1 Correspondence

- 8.2 Reports

- A) Expropriation of Lands Required for the Proposed Regional Road 4 Rehabilitation Project East of Langmaid Road in the Municipality of Clarington (2022-W-1) 132 - 137
- B) Declaration of Lands as Surplus and Memorandum of Understanding with the Township of Scugog for Regional Land Requirements (2022-W-2) 138 - 143
- C) Tender Award and Additional Financing for Regional Municipality of Durham Contract D2021-19 for Road Rehabilitation on York Durham Line (Regional Road 30) from Wagg Road to Aurora Road (York Regional Road 15), in the Township of Uxbridge (2022-W-4) 144 - 147
- D) Additional Financing for Unbudgeted Capital Projects Declared as Emergencies (2022-W-5) 148 - 153

9. Advisory Committee Resolutions

There are no advisory committee resolutions to be considered

10. Confidential Matters

10.1 Reports

- A) Confidential Report of the Commissioner of Works –
Litigation or Potential Litigation, including matters
before Administrative Tribunals with respect to Contract
D2016-34, Whites Road and Kingston Road BRT Lane
Widening in the City of Pickering and Mediated
Settlement of all Outstanding Claims (2022-W-3) Under Separate Cover

- B) Confidential Report from the Commissioner of Works –
Advice that is subject to solicitor-client privilege,
including communications necessary for that purpose,
as it relates to a settlement proposal regarding frontage
and connection charges being imposed for the
construction of a watermain on Range Road, Lake
Ridge Road South, and Ontoro Boulevard, in the Town
of Ajax (2022-W-6) Under Separate Cover

11. Other Business

12. Date of Next Meeting

Wednesday, February 2, 2022 at 9:30 AM

13. Adjournment

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The Regional Municipality of Durham

MINUTES

WORKS COMMITTEE

Wednesday, December 8, 2021

A regular meeting of the Works Committee was held on Wednesday, December 8, 2021 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 Mitchell, Chair
Councillor Marimpietri, Vice-Chair
Councillor Barton, left the meeting at 12:20 PM
Councillor Crawford
Councillor McLean
Councillor John Neal
Councillor Smith
Regional Chair Henry

Also

Present: Councillor Collier
Councillor Drew, left the meeting at 12:02 PM
Councillor Grant, attended the meeting at 9:46 AM and left the meeting at 10:58 AM
Councillor Pickles
Councillor Wotten, left the meeting at 11:54 AM
Councillor Yamada

Staff

Present: E. Baxter-Trahair, Chief Administrative Officer
G. Anello, Director of Waste Management
C. Bandel, Deputy Regional Clerk
D. Beaton, Commissioner of Corporate Services
J. Demanuele, Director of Business Services, Works Department
P. Gee, Manager, Transportation Infrastructure
W. Holmes, General Manager, DRT
J. Hunt, Regional Solicitor/Director of Legal Services, Corporate Services – Legal Services
R. Inacio, Systems Support Specialist, Corporate Services – IT
S. Kemp, Manager, Traffic Engineering and Operations
N. Pincombe, Director, Business Planning & Budgets
J. Presta, Director of Environmental Services
S. Siopis, Commissioner of Works
N. Taylor, Commissioner of Finance
R. Walton, Regional Clerk/Director of Legislative Services

L. Fleury, Legislative Officer and Deputy Clerk Pro Tem, Corporate Services –
Legislative Services

2. **Declarations of Interest**

Councillor Marimpietri made a declaration of interest under the Municipal Conflict of Interest Act, later in the meeting, with respect to Item #8.2 F) Report #2021-W-51 re: Works Department – 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets, specifically Appendix B Sections 123, 129, 130 and 139, Appendix C Sections 80 and 122, and Appendix D Sections 17, 39, 69 and 80. He indicated that he has family members who own property and reside within areas potentially affected.

3. **Adoption of Minutes**

Moved by Councillor Marimpietri, Seconded by Councillor Barton,
(111) That the minutes of the regular Works Committee meeting held on
Wednesday, November 3, 2021, be adopted.

CARRIED

4. **Statutory Public Meetings**

There were no statutory public meetings.

5. **Delegations**

- 5.1 Greg Gordon, Energy from Waste-Waste Management Advisory Committee (EFW-WMAC) Chair, and Phil Haylock, Energy from Waste-Waste Management Advisory Committee (EFW-WMAC) Vice-Chair, re: EFW-WMAC Annual Report and 2021-2022 Workplan [Item 7.2 A)]

Greg Gordon, Chair, Energy from Waste-Waste Management Advisory Committee (EFW-WMAC) appeared with respect to the EFW-WMAC Annual Report and 2021-2022 Workplan. A copy of the Annual Report was sent to the Committee members prior to the meeting.

G. Gordon advised that there are nine members on the EFW-WMAC Committee. He outlined topics that have been considered by the Committee at their meetings including:

- March 25, 2021 Scheduled Meeting Q1:
 - Durham Region's 2021 Solid Waste Management Budget
 - Durham Region's Annual Waste Management Reports
 - Durham Region's Organics Management Project
 - Extended Producer Responsibility
 - Durham York Energy Centre (DYEC) – tour to be arranged once in-person meetings resume

- May 25, 2021 Scheduled Meeting Q2:
 - Election of Chair and Vice-Chair
 - Draft Waste Plan for Durham Region's Long-Term Waste Management Plan (LTWMP) (2021 to 2040)
 - Draft work plan
 - Updates on Organics Management Project and Extended Producer Responsibility
 - Overview of DYEC operations

- September 28, 2021 Scheduled Meeting Q3:
 - Update on LTWMP
 - Updates on Organics Management Project, Extended Producer Responsibility and DYEC

- October 14, 2021 Special Meeting Q3:
 - Additional input session for LTWMP and EFW-WMAC workplan
 - Motions carried with respect to: Battery Collection Containers, Electronic Item Collection and Organics Management in New Developments.

- November 23, 2021 Scheduled Meeting Q4:
 - Update from Chair and Vice-Chair on the EFW-WMAC Annual Report
 - Update on Organics Management Project, Extended Producer Responsibility and DYEC

G. Gordon responded to questions from Committee members.

Moved by Councillor McLean, Seconded by Councillor Smith,
(112) That the order of the Agenda be altered to consider Item #7.2 A) Report 2021-WR-11 re: Energy from Waste-Waste Management Advisory Committee 2021 – 2022 Workplan, at this time.

CARRIED

7.2 Reports

A) Energy from Waste-Waste Management Advisory Committee 2021 – 2022 Workplan (2021-WR-11)

Report #2021-WR-11 from S. Siopis, Commissioner of Works, was received.

Moved by Councillor McLean, Seconded by Councillor Smith,
(113) That we recommend to Council:

- A) That the Energy from Waste-Waste Management Advisory Committee's 2021 – 2022 Workplan, as outlined in Attachment #1 of Report #2021-WR-11 of the Commissioner of Works, be approved; and

- B) That a copy of Report #2021-WR-11 be forwarded to the Municipality of Clarington for information.

CARRIED

5.2 Wendy Bracken, Durham Resident, re: Memorandum from Susan Siopis dated December 8, 2021 regarding the Motion Related to AMESA Q2 Quarterly Report [Item 7.1 B)]

Wendy Bracken appeared with respect to the Memorandum from Susan Siopis, dated December 8, 2021, regarding the Motion Related to AMESA Q2 Quarterly Report [Item 7.1 B)].

W. Bracken stated that dioxans and furans emissions reporting is extremely important. She added that twice a year stack tests are insufficient, the May 2016 exceedance demonstrated this, and ambient air monitoring is only done 4% of the time. She stated that dioxin/furan emission problems are what shuttered many incinerators in the 1990's, and added that Canada is a signatory to the Stockholm Convention working towards "virtual elimination" of these persistent organic pollutants.

W. Bracken advised that she previously appeared before the Works Committee on November 3rd to bring forward the issue of 4 plus years of dioxin/furan monitoring not being provided and that the issue remains unaddressed. She stated that changes were made to AMESA monitoring that affect collection moving forward and it is impossible to determine what changes have been made and whether they are appropriate. She added that no validation protocol has been provided.

W. Bracken advised that at the November 3rd Committee meeting she requested that staff be directed to:

- Provide all raw data and all underlying reports needed to make this
- Provide complete description of sampling methodology and whether results include all materials in all parts of the AMESA sampling system including probe and nozzle
- Ensure the report and underlying reports are signed and that everything is in writing; and
- Post the missing AMESA data for years 2015 to 2019

W. Bracken stated that a motion was brought forward at the November 3rd meeting with respect to her concerns, which was amended. She also expressed concerns that Works Committee members are under the impression that all requested reports with signatures are provided through the Annual Report, which they are not, and the AMESA data for 2015 – 2019 data doesn't exist.

Moved by Councillor John Neal, Seconded by Councillor Smith,
(114) That W. Bracken be granted a one time two-minute extension to finish her delegation.

CARRIED ON THE FOLLOWING
RECORDED VOTE:

Yes

Councillor Crawford
Regional Chair Henry
Councillor Marimpietri
Councillor John Neal
Councillor Smith
Councillor Mitchell, Chair

No

Councillor Barton
Councillor McLean

Members Absent: None

Declarations of Interest: None

W. Bracken stated her opinion that the AMESA issues need to be fixed, including:

- Attaching the monthly underlying reports, including laboratory results and AMESA flow document reports, signed by experts with necessary credentials
- Providing the data validation protocol
- Providing the sampling methodology
- Providing the AMESA monthly data for years 2015 to 2019
- Durham should be receiving AMESA monthly lab results; and
- Independent and expert review of all AMESA decisions around sampling and reporting is necessary.

5.3 Linda Gasser, Whitby Resident, re: Memorandum from Susan Siopis dated December 8, 2021 regarding the Motion Related to AMESA Q2 Quarterly Report [Item 7.1 B)]

Linda Gasser appeared with respect to the Memorandum from Susan Siopis, dated December 8, 2021, regarding the Motion Related to AMESA Q2 Quarterly Report [Item 7.1 B)].

L. Gasser stated that the issues around AMESA reporting, raised at the November 3rd meeting, are not a reconsideration of previous decisions by Council and should not be characterized as such. She added that there are new issues and concerns with respect to the staff reports produced after March and June 2021.

L. Gasser stated that there have been efforts to constrain dioxin and furan monitoring and reporting and added specific examples including: shutting off the ambient air monitoring during commissioning, closed Council meetings, not providing AMESA data for years 2015 – 2019, and reporting only unverifiable monthly summaries for 2020 and Quarters 1 and 2 of 2021.

L. Gasser expressed concerns that:

- There are no signatures on AMESA quarterly reports
- The December 8th memo repeats contents of previous staff reports and does not address central concerns
- Lack of transparency is being justified by saying that AMESA is not required for compliance and therefore does not require external expert oversight
- Voluntary source test is not required for compliance, yet it is conducted and reviewed by qualified external consultants and reported with supporting documentation provided; and
- June 2021 staff Report #2021-WR-10 described components of AMESA data collection and described calculations to arrive at summaries.

L. Gasser stated that a protocol was developed by staff and Covanta to serve as a guidepost, and she questioned who made those decisions.

L. Gasser stated that licensed engineers involved in AMESA reporting have ethical and professional obligations including holding paramount the safety, health and welfare of the public and the protection of the environment. She added that the possible consequences should be presented if engineering decisions or judgements are overruled or disregarded.

Moved by Councillor John Neal, Seconded by Councillor Smith,
(115) That L. Gasser be granted a one time two-minute extension to finish her delegation.

CARRIED

L. Gasser stated that AMESA data has not been provided from 2015 to 2019 and is of the opinion that this is unacceptable. She asked that staff be directed to produce accurate and verifiable signed AMESA reports on the dioxins and emissions from the DYEC.

Moved by Councillor McLean, Seconded by Councillor Barton,
(116) That the order of the Agenda be altered to consider Item #7.1 B) Memorandum from S. Siopis, Commissioner of Works, dated December 8, 2021, re: Motion Related to AMESA Q2 Quarterly Report, at this time.

CARRIED

7.1 Correspondence

- B) Memorandum from Susan Siopis, Commissioner of Works, dated December 8, 2021, re: Motion Related to AMESA Q2 Quarterly Report

Staff responded to questions with respect to whether W. Bracken and L. Gasser have had opportunities to discuss their concerns with staff; the differences between ambient air monitoring and AMESA monitoring; and whether the AMESA data could be included in reports as requested by the delegates.

Staff provided details on the oversight at the DYEC and noted that experts independently review data, reporting is provided as directed by Council and in addition to what is required for compliance. In response to a request from Councillor John Neal, S. Siopis advised that staff names could be added to the Quarterly reports.

Moved by Councillor McLean, Seconded by Councillor Barton,
(117) That the memorandum from S. Siopis, Commissioner of Works, dated December 8, 2021 re: Motion Related to AMESA Q2 Quarterly Report be received for information.

CARRIED ON THE FOLLOWING
RECORDED VOTE:

Yes

No

Councillor Barton
Councillor Crawford
Regional Chair Henry
Councillor Marimpietri
Councillor McLean
Councillor Smith
Councillor Mitchell, Chair

Councillor John Neal

Members Absent: None

Declarations of Interest: None

6. Presentations

- 6.1 John Presta, Director, Environmental Services, re: 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets (2021-W-51) [Item 8.2 F]

N. Pincombe, Director, Business Planning & Budgets, provided introductory remarks and noted that the proposed business plans and budgets for the Water Supply and Sanitary Sewerage Systems provide for base pressures, key strategic investments, Council priorities and accommodate ongoing legislated and regulatory changes. She confirmed that the Works portion of the budget aligns with what will be presented to the Finance and Administration Committee next week.

John Presta, Director, Environmental Services, provided a presentation with respect to the 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets. Highlights of his presentation included:

- Sanitary Sewerage System
- Water Supply System
- 2021 Water Supply and Sanitary Sewerage Accomplishments
 - Service improvements
 - Customer service
- 2022 Sanitary Sewerage Proposed Expenditures and Financing
- 2022 Water Supply Proposed Expenditures and Financing
- 2022 Proposed Staffing
- Staffing Trending 2012 – 2021
- 2022 Water Supply and Sanitary Sewerage Priorities and Highlights
- 2022 Priorities and Highlights Major Project – Sanitary Sewerage
 - Duffin Creek Water Pollution Control Plant
 - Phosphorous Optimization Implementation Plan and Outfall
 - Newcastle Water Pollution Control Plant – Capacity Re-rating 4 MLD to 7 MLD
 - Water Street Sanitary Sewage Pumping Station – Expansion/Replacement
- 2022 Priorities and Highlights Major Project – Water Supply
 - Zone 1 Feedermain from Whitby Water Supply Plant to Thornton Road Whitby/Oshawa
 - Whitby Water Supply Plant – Expansion from 109 MLD to 218 MLD
 - Liberty Street Zone 1 Reservoir, Zone 2 Water Pumping Station, Municipality of Clarington
 - Port Perry Water Storage Facility – additional capacity 2.8 ML and watermain
- 2022 Priorities and Highlights Major Project – Water Supply and Sanitary Sewerage
 - Oshawa Water Supply Plant – Rehabilitation of the Filters 1 to 6, Oshawa
 - Courtice Feedermain and Sanitary Trunk Sewer Phase 3
 - Watermain Replacement on Brown St. from Queen St. to Victoria St., Municipality of Clarington
- 2022 Potential Risks and Uncertainties

- 2022 Initiatives to Modernize and Find Service Efficiencies
- 2022 Innovation and Collaboration
- Future Budget Pressures

Staff responded to questions with respect to the status of various projects including: the Sun Valley Cooperative water supply, the Gibb/Olive alignment, the Hunt Street extension, the Sunderland water supply storage facility and Sunderland/Cannington sewage treatment plant, and the Newcastle water supply plant. Staff responded to additional questions with respect to design standards for water storage reservoirs, the proposed water and sewer rate increases for 2022, and whether there will be options presented to mitigate any increases; and consultation on the MOU with the Mississaugas of Scugog Island First Nation.

Staff responded to additional questions regarding whether there are options to advance projects sooner, such as the Hunt Street extension, and recover the costs through Development Charges. Staff advised that they could informally consult on this matter, but a more substantive request would require a formal motion.

Moved by Councillor McLean, Seconded by Councillor Smith,
(118) That the order of the Agenda be altered to consider Item 8.2 F) Report #2021-W-51 re: Works Department – 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets, at this time.

CARRIED

At this point in the meeting Councillor Marimpietri made a declaration of interest under the Municipal Conflict of Interest Act with respect to Item 8.2 F) Report #2021-W-51 re: Works Department – 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets, specifically Appendix B Sections 123, 129, 130 and 139, Appendix C Sections 80 and 122, and Appendix D Sections 17, 39, 69 and 80. He indicated that he has family members who own property and reside within areas potentially affected.

8.2 Reports

F) Works Department – 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets (2021-W-51)

Report #2021-W-51 from S. Siopis, Commissioner of Works, was received.

Moved by Councillor McLean, Seconded by Councillor Smith,
(119) That we recommend to the Finance and Administration Committee for subsequent recommendation to Regional Council:

That the Works Department's portion of the 2022 Water Supply System and Sanitary Sewerage System Business Plans and Budgets be approved.

CARRIED LATER IN THE MEETING ON A RECORDED VOTE

(Appendix B Sections 123, 129, 130 and 139, Appendix C Sections 80 and 122, and Appendix D Sections 17, 39, 69 and 80 were Divided from the Remainder and Voted on Separately)

Appendix B Sections 123, 129, 130 and 139, Appendix C Sections 80 and 122, and Appendix D Sections 17, 39, 69 and 80 were divided from the main motion (119) of Councillors McLean and Smith and CARRIED ON THE FOLLOWING RECORDED VOTE:

Yes

No

Councillor Barton
Councillor Crawford
Regional Chair Henry
Councillor McLean
Councillor John Neal
Councillor Smith
Councillor Mitchell, Chair

None

Members Absent: None

Declarations of Interest: Councillor Marimpietri

Councillor Marimpietri declared a conflict of interest on this item earlier in the meeting and did not vote on the matter.

The main motion (119) of Councillors McLean and Smith [with the exception of Appendix B Sections 123, 129, 130 and 139, Appendix C Sections 80 and 122, and Appendix D Sections 17, 39, 69 and 80] was then put to a vote and CARRIED ON THE FOLLOWING RECORDED VOTE:

Yes

No

Councillor Barton
Councillor Crawford
Regional Chair Henry
Councillor Marimpietri
Councillor McLean
Councillor Smith
Councillor Mitchell, Chair

Councillor John Neal

Members Absent: None

Declarations of Interest: None

7. Waste

7.1 Correspondence

- A) Correspondence received from the Town of Ajax, dated November 24, 2021, re: Reducing Litter at “Super” Community Mailboxes

Moved by Councillor McLean, Seconded by Councillor Crawford,
(120) That the correspondence received from the Town of Ajax, dated November 24, 2021 re: Reducing Litter at “Super” Community Mailboxes be referred to staff.

CARRIED

- B) Memorandum from Susan Siopis, Commissioner of Works, dated December 8, 2021, re: Motion Related to AMESA Q2 Quarterly Report

The Memorandum from Susan Siopis, Commissioner of Works, dated December 8, 2021, re: Motion Related to AMESA Q2 Quarterly Report matter was considered earlier in the meeting. See Item 7.1 B) on page 7.

7.2 Reports

- A) Energy from Waste-Waste Management Advisory Committee 2021 – 2022 Workplan (2021-WR-11)

Report #2021-WR-11 from S. Siopis, Commissioner of Works was considered earlier in the meeting. See Item 7.2 A) on pages 3 and 4.

8. Works

8.1 Correspondence

- A) Correspondence received from the City of Oshawa, dated November 25, 2021, re: Durham Region’s Proposed Study of the Current Policy/Practice for Streetlighting on Regional Roads

Moved by Councillor Barton, Seconded by Councillor Smith,
(121) That the correspondence from the City of Oshawa dated November 25, 2021 re: Durham Region’s Proposed Study of the Current Policy/Practice for Streetlighting on Regional Roads be received for information.

CARRIED

8.2 Reports

- A) Expropriation of Lands Required for the Proposed Manning-Adelaide Connection Project, in the Town of Whitby/City of Oshawa (2021-W-46)

Report #2021-W-46 from S. Siopis, Commissioner of Works, was received.

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

- A) That authority be granted to Regional Municipality of Durham staff to initiate expropriation proceedings where necessary for the property requirements related to the proposed Manning Road-Adelaide Avenue (Regional Road 58) Connection project (Project) in the Town of Whitby and the City of Oshawa as depicted in Attachment #1, Attachment #2, and Attachment #3 of Report #2021-W-46, and as such other property requirements as may be determined and identified by Regional Municipality of Durham staff for the 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.I. 1990, c. E.26* to give effect to Recommendation C) of Report #2021-W-46, including the Notices of Application of Approval to Expropriate;
- C) That authority be granted to Regional Municipality of Durham staff to serve and publish Notices of Application for Approval to Expropriate the property requirements as described in Recommendation A) of Report #2021-W-46, and to forward to the Chief Inquiry Officer/Ontario Land Tribunal any requests for hearing that is received, to attend the hearings to present the Regional Municipality of Durham's position, and to present the Inquiry Officer's recommendations to Regional Council for consideration; and
- D) That despite seeking approval to commence expropriation pursuant to the recommendations in Report #2021-W-46, that should amicable agreements be reached for any required property acquisitions that such agreements and reports required for settlements pursuant to the *Expropriations Act RSO 1990, c. E.26* related to the Manning Road-Adelaide Avenue (Regional Road 58) Connection Project that are approved in accordance with the Delegation of Authority By-Law 29-2020, that they remain confidential in accordance to Section 239 (2)(c) of the Municipal Act, 2001 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 compensation claims have been resolved on a full and final basis, for the Manning Road-Adelaide Avenue (Regional Road 58) Connection Project where appropriate.

CARRIED

- B) Extension of Lease Agreement with 447110 Ontario Limited for premises occupied by Social Services Department, Income and Employment Support Division at 126, 138, and 140 Commercial Avenue, in the Town of Ajax (2021-W-47)

Report #2021-W-47 from S. Siopis, Commissioner of Works, was received.

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

- A) That the extension of Lease Agreement with 447110 Ontario Limited, for premises located at 126, 138, and 140 Commercial Avenue in the Town of Ajax, containing approximately 1,660.59 square metres (17,875 square feet) of office space be approved with the following terms and conditions:
- i) The term is for a period of five years commencing January 1, 2022 and ending December 31, 2026;
 - ii) The annual rental rate for the five-year term is \$160,875.00* based on a rate of \$96.88* per square metre (\$9.00* per square foot) per annum;
 - iii) The Regional Municipality of Durham will continue to be responsible for all operating costs for the leased premises including utilities, janitorial services, security, and its proportionate share of common area maintenance costs;
 - iv) The Regional Municipality of Durham will remain responsible for its proportionate share of property taxes which is estimated to be \$42,918 per annum;
 - v) The Regional Municipality of Durham will have the option to extend the lease for an additional five years, under the same terms and conditions subject to the rental rate being negotiated, as well as the option to terminate the lease after three years; and
- B) That the Regional Chair and Clerk be authorized to execute all documents associated with this Lease Agreement.
(* before applicable taxes

CARRIED

- C) Amendment and Extension of Lease Agreement with 2381502 Ontario Inc., Operating as Midtown Centre for Premises occupied by Social Services Department, Income & Employment Support Division, located at 200 John Street in the City of Oshawa (2021-W-48)

Report #2021-W-48 from S. Siopis, Commissioner of Works, was received.

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

- A) That the Amendment and Extension of Lease Agreement with 2381502 Ontario Inc., for premises located at 200 John Street in the City of Oshawa, containing approximately 1,755.21 square metres (18,893 square feet) of office space and 235.87 square metres (2,540 square feet) of storage space be approved with the following terms and conditions:
- i) The term is for a period of five years commencing January 1, 2022 and ending December 31, 2026;
 - ii) The annual rental rate for the five-year period is \$282,502* based on a rate of \$150.69* per square metre (\$14.00 per square foot) per annum for the office space, and \$76.21* per square metre (\$7.08* per square foot) per annum for the storage space;
 - iii) The Regional Municipality of Durham will be responsible for all operating costs for the leased space including utilities, security and its proportionate share of the common area maintenance costs;
 - iv) The Regional Municipality of Durham will remain responsible for its proportionate share of property taxes which is estimated to be \$32,185 per annum;
 - v) The Regional Municipality of Durham have the option to renew the lease for an additional two years subject to the same terms and conditions save and except the rental rate to be negotiated, upon providing six months prior written notice; and
- B) That the Regional Chair and Clerk be authorized to execute all documents associated with this Lease Agreement.
(* before applicable taxes

CARRIED

- D) Approval of Lease Agreement with Whitby Professional Centre for use by the Health Department, Located at 10 Sunray Street, Unit 23, in the Town of Whitby (2021-W-49)
-

Report #2021-W-49 from S. Siopis, Commissioner of Works, was received.

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

- A) That the Lease Agreement with Whitby Professional Centre, for premises located at 10 Sunray Street, Unit 23, in the Town of Whitby, containing approximately 255.95 square metres (2,755 square feet) of office space be approved with the following terms and conditions:

- i) The lease term is for three years, two and a half months commencing January 15, 2022, and ending March 31, 2025;
 - ii) The annual rental rate for the lease term is \$48,000.00* based on a rate of \$4,000.00* per month;
 - iii) The lease is based on a gross rate that includes the Region's proportionate share of realty taxes, condominium fees, building insurance, utilities, and management fees in any;
 - iv) The Regional Municipality of Durham will have the option to renew the lease for an additional two years subject to the same terms and conditions save and except the rental rate to be negotiated, upon providing six months prior written notice; and
- B) That the Regional Chair and Clerk be authorized to execute all documents associated with this Lease Agreement.
(* before applicable taxes

CARRIED

E) Unbudgeted Capital Acquisition of Vehicle and Equipment Training Simulators (2021-W-50)

Report #2021-W-50 from S. Siopis, Commissioner of Works, was received. Staff responded to questions with respect to whether operator training on vehicle simulators could result in reductions in insurance costs.

Moved by Councillor Marimpietri, Seconded by Regional Chair Henry, (126) That we recommend to Council:

- A) That the unbudgeted capital acquisition of two vehicle and equipment training simulators and ancillary equipment with an estimated value of \$650,000 be approved; and
- B) That financing for the unbudgeted capital acquisition of the vehicle and equipment training simulators and ancillary equipment be provided from surplus funds available from the provision for Technical Training within 2021 Works Department Business Plans and Budgets for Depot Operations (funded proportionally in accordance with the 2021 budget between General Tax, Water Supply and Sanitary Sewer) in the amount of \$650,000.

CARRIED

F) Works Department – 2022 Water Supply and Sanitary Sewerage Systems Business Plans and Budgets (2021-W-51)

Report #2021-W-51 from S. Siopis, Commissioner of Works, was considered earlier in the meeting. See Item 8.2 F) on pages 9 and 10.

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 Pre-Serviced Lands

Councillor Marimpietri raised concern with respect to making changes to project priority when it comes to servicing land as there are plans that may be predicated on these approvals. He requested that any thought of changing the priority level of projects be given careful consideration.

11.2 Lease Agreements

Councillor John Neal questioned why some lease agreements require the Region to pay a portion of property taxes and some do not and whether there was a policy at the Region on this. Staff responded that each lease is different and there is no set policy.

11.3 Automated Speed Enforcement (ASE) Payments

Councillor Collier questioned where the funds go from ASE payments received through the POA. N. Taylor advised that it is difficult to determine how the revenue is split at this time, and added that she could determine how much has been spent on the tickets to-date and provide some statistics for next week's Finance and Administration Committee meeting.

S. Siopis added that there are regular reports made on the ASE/RLC projects and she will let Councillor Collier know when the next one will be available.

11.4 Expropriations: Manning/Adelaide Connection and Brock/Bayly Intersection

Councillor Yamada questioned whether discussions had been had with residents regarding expropriations that may be required for the Manning/Adelaide connection project. Staff advised that discussions are ongoing and that the recommendations in Report #2021-W-46 are part of a routine procedure should expropriations be required.

Councillor Crawford questioned the status of land acquisitions at the intersection of Brock Road and Bayly Street.

12. Date of Next Meeting

The next regularly scheduled Works Committee meeting will be held on Wednesday, January 12, 2022 at 9:30 AM in Council Chambers, Regional Headquarters Building, 605 Rossland Road East, Whitby.

13. Adjournment

Moved by Councillor John Neal, Seconded by Councillor Marimpietri, (127) That the meeting be adjourned.

CARRIED

The meeting adjourned at 12:35 PM

Respectfully submitted,

D. Mitchell, Chair

L. Fleury, Legislative Officer and Deputy Clerk Pro Tem

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: Commissioner of Works
Report: #2022-WR-1
Date: January 12, 2022

Subject:

Long-Term Waste Management Plan 2021 Consultation, Final Long-Term Waste Management Plan 2021 to 2040 and first Five-Year Action Plan

Recommendation:

That the Works Committee recommends that Regional Council endorse the final Long-term Waste Management Plan 2021 to 2040 and the first Five-Year Action Plan.

Report:

1. Purpose

1.1 This report presents the final Long-term Waste Management Plan and Five-Year Action Plan for Regional Council endorsement to guide waste management decisions, budgets, and programs through to 2040.

2. Background

2.1 At its meeting of January 30, 2019, Regional Council directed staff to begin developing an updated Long-term Waste Management Plan 2021 – 2040 (Waste Plan) as part of the 2019 Solid Waste Management Servicing and Financing Study.

2.2 In 2019, Regional staff developed a scope of work and obtained consulting services to lead consultation and drafting efforts for the Waste Plan.

2.3 Waste Plan development kicked-off in early 2020 with a consultation plan that included several in-person events with Regional and local area municipality staff,

Regional advisory groups and the public. Due to the COVID-19 pandemic, all consultation efforts were moved to online engagement and virtual events.

2.4 Following consultation in the spring, summer and early fall 2020, the draft Guiding Principles, vision statement and objectives were revised and presented to Regional Council for approval in January 2021.

2.5 Regional Council approved the following five Guiding Principles:

- a. Emphasize rethink, reduce and reuse principles as the first steps in reducing waste generation.
- b. Deliver cost effective waste management services to a rapidly growing and diverse population.
- c. Work with producers of designated products and packaging to implement “Extended Producer Responsibility” and adjust Region waste programs as required.
- d. Apply innovative approaches to Region waste streams to manage them as resources in a circular economy.
- e. Demonstrate leadership in sustainability to address the climate crisis by reducing greenhouse gas emissions from waste management activities.

2.6 The Regional Council approved the vision for the Waste Plan as:

- a. Together, with our residents, we will reduce the amount of waste we create and manage the generated waste as a resource. We will build an innovative system, balancing financial needs and environmental sustainability.

2.7 Regional Council approved five objectives for the Waste Plan:

- a. Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle and Recover) and the Region's waste management programs and services;
- b. Reduce the quantity of waste we create;
- c. Increase diversion of waste from disposal and support the Circular Economy;
- d. Support the Region's greenhouse gas reduction and climate change mitigation efforts; and
- e. Protect or improve water, land, and air quality in Durham Region.

3. Previous Reports and Decisions

- 3.1 The 2019 - Solid Waste Management Servicing and Financing Study (Report #2019-COW-30) directed staff to obtain consulting services and commence development of a Long-term Waste Management Plan 2021 to 2040 with a draft vision to continue and enhance the reduce, reuse and recycle principles and to incorporate using waste as a resource as a foundation of the plan.
- 3.2 The Solid Waste Management: 2020 Strategic Issues and Financial Forecast (Report #2020-COW-3) described the guiding principles for the Waste Plan and identified in general terms the consultation planned for 2020.
- 3.3 The Long-term Waste Management Plan 2021-2040 Development Schedule (Report #2020-INFO-26) provided Regional Council with an anticipated development schedule and milestones for the Waste Plan consultation and drafting.
- 3.4 The Long-term Waste Management Plan 2020 Consultation, Vision and Objectives (Report #2021-WR-1) provided Regional Council with a summary of the consultation to date and presented revised Guiding Principles, vision and objectives for the Waste Plan for approval.
- 3.5 The Long-term Waste Management Plan 2021-2040 Consultation Update (Report #2021-INFO-62) provided Regional Council with a summary of the spring 2021 survey results. The survey was conducted to obtain early input from the public on the targets and actions that should be considered in the Waste Plan.
- 3.6 The Consultation Summary for the Long-term Waste Management Plan 2021-2040 (Report #2021-INFO-121) provided Regional Council with a summary of the consultation efforts on the Waste Plan that began in 2020 and continued through the fall of 2021. In total over 4,000 stakeholder contacts were made.

4. Consultation

- 4.1 In 2021, phase two of the Waste Plan consultation focused on the proposed targets and actions. Details of the full consultation for the Waste Plan were provided in Report #2021-INFO-121 and a graphical consultation summary is also provided as Attachment #1 to this report. A general summary of comments received during phase two consultation is provided below.

- 4.2 Waste Management staff suggested collaborations with volunteer and charitable organizations in the Region on waste diversion efforts. Staff also confirmed the 2018 waste audit provides the most current and detailed waste composition data. Staff also suggested exploring options to return closed landfills managed by the Region to a naturalized state.
- 4.3 Local area municipality and Regional staff identified increasing subscribers to the Waste App, Reduce and Reuse messaging and Waste App enhancements as areas for collaboration. Accessibility of waste management programs and services was identified as an area with few existing programs available at the local municipality level.
- 4.4 Regional Advisory Committee members had suggestions for carbon offset measures and ways to encourage more curbside diversion. Committee members also want to ensure the public is informed of progress on actions. The Five-Year Action Plan includes proposed annual and five-year reporting on progress toward targets and actions.
- 4.5 Two public surveys were conducted in phase two of the Waste Plan consultation. A spring survey including questions on how the public learns about waste management programs, what type of programs the public is more interested in using and how accessibility of waste management facilities could be improved. Responses to the spring 2021 survey were incorporated into the proposed actions. Details of this survey were reported to Regional Council in Report #2021-INFO-62.
- 4.6 A second public survey was included with the online open house launched on September 19, 2021. Survey feedback included support for a 20 per cent per capita reduction in waste disposal over the next 20 years, support for the addition of a Reduce and Reuse webpage on Durham Region's website and support for initiatives to use alternative, low carbon fuels in the contracted waste collection vehicles. The feedback received was used to set the five-year waste reduction and diversion goals in the first Five-Year Action Plan and to prioritize other proposed actions.
- 4.7 A Virtual Town Hall was held on October 19, 2021. Questions received at the Town Hall included what considerations will determine where new Waste Management Facilities are constructed and if the Region would be setting a waste per capita metric. The waste metrics proposed for use in the Waste Plan are detailed below in section five.

4.8 During 2021, over 41 public emails were received to the Waste Plan email address. The emails expressed support for existing waste management programs, suggestions for improvements and the need for clarification on how to access waste management services that are not weekly or bi-weekly curbside services. Suggestions for consideration in the Waste Plan include ideas for expanding curbside collection, enhancing the Green Bin by including diapers or pet waste and suggestions for greenhouse gas reduction.

5. Waste Diversion Rate

5.1 Historically, the Region has measured progress towards waste reduction with an annual waste diversion rate. The waste diversion rate is calculated based on annual Blue Box, Green Bin organics, leaf and yard waste, and garbage collection data submitted to the Resource Productivity and Recovery Authority (RPRA). All municipalities in Ontario that operate a Blue Box program submit data to RPRA where it is combined with RPRA-determined credits for programs like backyard composting and grasscycling to generate an annual waste diversion rate.

5.2 A significant portion of the waste diversion rate is the Blue Box material that is diverted from garbage. Since the Region has historically and currently operates the Blue Box program, this data is readily available for waste diversion rate calculation.

5.3 With the advent of Extended Producer Responsibility (EPR) in Ontario and the new Blue Box Regulation, the Region will no longer be responsible for collecting Blue Box material and the producers, who will become responsible for collection, processing and recycling, will not be required to track Blue Box tonnages for individual municipalities. The Region will no longer know the quantity of Blue Box material collected from residents at curbside since it is not a regulatory requirement for producers to track.

5.4 After July 1, 2024, when the Region transition's the Blue Box program to EPR, the waste diversion rate will no longer be comparable to historical diversion rates since it will no longer contain Blue Box tonnage data.

5.5 As part of the Waste Plan development, staff have proposed new metrics to measure progress toward reducing the quantity of waste generated in Durham Region. These metrics include:

- a. Kilogram per capita garbage generation;
- b. Kilogram per capita reduction of avoidable food waste in the Green Bin; and

- c. Kilogram per capita increase in Green Bin organics diversion.
- 5.6 Goals for the reduction or increase in kilograms per capita are outlined in the first Five-Year Action Plan (Action Plan). These goals will be reviewed as part of the action plan review and updated for subsequent Action Plans moving forward.
- 5.7 To support the transition to these new waste reduction targets, a waste audit program will be developed to regularly look at a sample of waste generated and measure the weights outlined above. The waste audit program will allow staff to track progress toward these initial targets and set new targets when appropriate.
- 6. Waste Plan Targets and Actions**
- 6.1 The Long-term Waste Management Plan 2021 to 2040 is provided as Attachment 2. The Waste Plan provides background information on the progress the Region has made since its first Long-term Waste Management Strategy Plan in 2000 and details the status of waste management currently in Ontario and Durham Region.
- 6.2 The Regional Council approved Guiding Principles, vision and objectives are contained in the Waste Plan document and will remain constant throughout the 20-year life of the Waste Plan. These will guide staff efforts on targets and actions to achieve the Waste Plan objectives.
- 6.3 Proposed targets, measurements and actions to work toward the objectives are detailed in the Waste Plan. Targets and actions outline specific steps the Region will take to encourage residents to apply rethink and reduce to generate less waste. Actions to better measure and reduce greenhouse gas generation associated with waste management activities and efforts to make waste management programs and facilities more accessible to residents are also described.
- 6.4 Each target has a measurement metric to be used to track progress. Input received during consultation resulted in adjustments to the proposed measurement metrics to better reflect stakeholder opinions.
- 6.5 Actions to support the targets are divided into short, mid and long-term actions. There are many short-term actions listed that will be the focus of staff work over the next five years. A five-year review cycle is part of the Waste Plan and will allow development of new targets and actions throughout the 20-year Waste Plan period to continue moving the Region toward its objectives.

6.6 For easy reference, the following tables provide a list of the targets and actions associated with each Regional Council approved objective. The short-term actions are in Table 1 and mid to long-term actions are in Table 2. A fulsome description of the actions can be found in the attached Waste Plan.

Table 1: Objectives, Targets and Short-term Actions

Objective 1: Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region's waste management programs and services.	
Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media.	
1A1	Work with schools to provide educational content and increase rethink and reduce activities.
1A2	Transition to a central access point for residents to obtain waste management information.
1A3	Increase Waste app subscribers.
1A4	Add a dedicated section to the Region's webpage on Reduction and Reuse.
1A5	Investigate the feasibility of including locations of donation centres on the Waste app.
1A6	Develop digital and/or in-person educational opportunities.
1A7	Identify additional languages for publications, P&E materials and outreach events.
Objective 2: Reduce the quantity of waste we create.	
Target 2A: Support residents in making behavioural changes to reduce food waste.	
2A1	Continue with the Region's "Buy it, Eat it" food waste reduction campaign.
Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.	
2B1	Reduce quantities of materials generated such as durable goods, textiles and single-use plastics.
2B2	Develop a monitoring program to audit waste setouts and composition on a regular basis.
Objective 3: Increase diversion of waste from disposal and support the circular economy.	
Target 3A: Increase diversion of organics from disposal.	
3A1	Develop the Mixed Waste Pre-sort and Anaerobic Digestion Facility.
3A2	Launch an enhanced Green Bin program for single-family residences.
3A3	Encourage backyard composting.
3A4	Expand collection services to Regional facilities and consider service for local area municipal facilities and other institutional users (e.g. school boards).

Target 3B: Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services.	
3B1	Revise By-law to reflect new EPR programs.
3B2	Revise By-law to include a new section for the Mixed Waste Pre-sort and AD Facility.
3B3	Review options to collect waste in mid-to high density developments
Target 3C: Develop a transition plan that supports EPR programs.	
3C1	Work with producers to understand how programs will be rolled out and the impact on the Region.
3C2	Develop educational campaigns to inform residents of changes to programs.
3C3	Transition the program(s) to producers.
3C4	Explore opportunities to reuse or recycle HHW not covered under the regulations.
3C5	Assess options for the Region's recycling facility and equipment.
3C6	Evaluate if changes are required at Waste Management Facilities to adapt to EPR regulations.
3C7	Pursue options for the Region to continue to provide recycling collection service to ineligible sources.
Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.	
3D1	Continue to participate in the solid waste management committees of municipal advocacy organizations and related industry associations.
3D2	Continue to participate in consultation opportunities for proposed Federal and Provincial waste management changes.
Objective 4: Support the Region's greenhouse gas reduction and climate change mitigation efforts.	
Target 4A: Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions.	
4A1	Explore opportunities to convert collection vehicles to use alternative fuels.
4A2	Identify opportunities to convert biogas to Renewable Natural Gas at Region-owned facilities.
4A3	Identify additional methodologies to determine GHG emission reductions and avoidance.
4A4	Undertake additional analyses to review how to better recover energy resources from waste operations
Objective 5: Protect or improve water, land, and air quality in Durham Region.	
Target 5A: Optimize the operation and utilization of Waste Management Facilities.	
5A1	Explore options to optimize the Oshawa WMF (e.g., traffic flow, new indoor/outdoor facility).
5A2	Investigate options to improve waste diversion performance at WMFs.
Target 5B: Increase accessibility of waste management programs and services.	

5B1	Investigate extending the hours of operation to make access to the WMFs more convenient for users.
5B2	Assess accessibility of WMFs to ensure they are physically accessible.
Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.	
5C1	Evaluate outcome of pilot project at Oshawa Landfill for an alternative landfill cover system.

Table 2 Objectives, Targets and Mid to Long-term Actions

Objective 1: Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region's waste management programs and services.	
Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media.	
Short-term actions listed above carry forward for the life of the Waste Plan.	
Objective 2: Reduce the quantity of waste we create.	
Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.	
2B3	Evaluate partnerships with local charities.
2B4	Partner with local area municipalities on common messaging and approach to single use plastics and textiles.
Objective 3: Increase diversion of waste from disposal and support the circular economy.	
Target 3A: Increase diversion of organics from disposal.	
3A5	Expand collection services to more multi-residential buildings to divert more material.
Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.	
3D3	Advocate to the Federal and Provincial governments for new EPR programs to divert more materials from disposal.
3D4	Advocate for existing programs to be expanded (e.g., recycling, hazardous waste, electronics).
3D5	Provide comments on any proposed EPR regulations to ensure Durham Region's considerations are included.
Objective 4: Support the Region's greenhouse gas reduction and climate change mitigation efforts.	
Target 4A: Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions.	
4A5	Develop a carbon emissions management plan in partnership with the Region's Sustainability group.
4A6	Work with other Divisions to leverage the Region's buying power to develop in-house Circular Economy Initiatives.

4A7	Explore options to reduce GHGs at Waste Management Facilities (WMF) through wind/solar installations, carbon capture technologies and other methods to offset emissions.
4A8	Explore opportunities to reduce emissions from some/all fleet vehicles through alternative fuels or technologies.
4A9	Assess operational practices at WMFs that would reduce emissions from transportation.
4A10	Technology review of CO ₂ capture and utilization and/or offset options for expanded DYEC.
Objective 5: Protect or improve water, land, and air quality in Durham Region.	
Target 5A: Optimize the operation and utilization of Waste Management Facilities.	
5A3	Explore options to optimize Brock and Scugog WMFs.
5A4	Evaluate business case to develop a new WMF or smaller drop-off depots.
Target 5B: Increase accessibility of waste management programs and services.	
5B3	Explore options for assisted waste collection to help residents manage set out of materials.
Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.	
5C2	Evaluate additional options to minimize landfill GHG generation and other environmental impacts.
5C3	Evaluate potential to implement the alternative cover system at other Region-owned closed landfills.
5C4	Explore options to install solar covers at closed landfills.
5C5	Evaluate potential to utilize closed landfills for community use.
5C6	Explore options to naturalize closed landfills.

7. First Five-Year Action Plan 2022 – 2026

- 7.1 The first Five-Year Action Plan is provided as Attachment 3. The Action Plan lists the proposed Waste Plan targets and the metrics that will be used to measure progress toward achieving the targets. The targets are supported by the actions identified as short-term actions in the Waste Plan and are also listed in Appendix A of the Action Plan.
- 7.2 Staff will report annually on progress toward achieving the Waste Plan targets as outlined in the Action Plan. A detailed review of progress on all short-term actions will be completed as part of the Action Plan review that will take place every five years to inform the development of an Action Plan for the next five years.
- 7.3 Future Five-Year Action Plans may include existing actions as necessary as well as new initiatives identified as part of the Action Plan five-year review.

8. Inclusion in Regional Budgets

- 8.1 The Region's Business Plans and Budgets are a critical component of the Region's annual business planning cycle which also includes strategic planning, economic and financial forecasting, and performance measurement. The Waste Management budget is funded by property taxes, which presents both operating and capital funding requirements.
- 8.2 The actions in the Waste Plan will be considered in the Region's Waste Management business plans and budget forecasts where appropriate, as estimates during the planning stages. Implementation details will be included in the annual approved Region Budget which is publicly available.
- 8.3 Major budget impacts cannot be quantified at this time but will include the transition of the Blue Box to Extended Producer Responsibility for both operations and financing; the construction and commissioning of the Mixed Waste Pre-sort and Anaerobic Digestion Facility; launch of an enhanced Green Bin program; and the future expansion of the DYEC.

9. Relationship to Strategic Plan

- 9.1 This report aligns with/addresses the following strategic goals and priorities in the Durham Region Strategic Plan:
- a. Goal 1.2 Increase waste diversion and resource recovery
 - b. Goal 5.1 Optimize resources and partnerships to deliver exceptional quality services and value
 - c. Goal 5.4 Drive organizational success through innovation, a skilled workforce, and modernized services

10. Conclusion

- 10.1 Extensive public consultation has taken place throughout the Waste Plan development in 2020 and 2021 with over 4,000 stakeholder contacts made.
- 10.2 Achievement of the approved objectives is supported by the proposed targets and specific actions. The first Five-Year Action Plan will support the launch of the Waste Plan with the public and provide focus for staff efforts on implementing the Waste Plan.
- 10.3 For additional information, contact: Gioseph Anello, Director Waste Management Services, at 905-668-7711, extension 3445.

11. Attachments

Attachment #1: Consultation Summary

Attachment #2: Draft Long-term Waste Management Plan 2021 - 2040

Attachment #3: Draft Five-Year Action Plan 2022 - 2026

Respectfully submitted,

Original signed by:

Susan Siopis, P.Eng.
Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer



Durham Region Long-term Waste Management Plan

DRAFT - Consultation Summary



2020 Consultation (Phase One)



Planned to be in-person community engagement



Pivoted to virtual community engagement due to COVID-19 pandemic



Phase One consultation for the Waste Plan focused on the proposed Waste Plan framework (Guiding Principles, Vision & Objectives)

2021 Consultation (Phase Two)



Continued virtual community engagement due to ongoing COVID-19 pandemic



Phase Two consultation for the Waste Plan focused on the Draft targets, measurements and actions for achieving the Waste Plan objectives approved by Regional Council in January 2021



Participation in Phase Two consultation was lower than Phase One consultation which could be attributed to the timing of the survey coinciding with a wider re-opening of Ontario's economy with return to in-person work and school and a more normal after-school activity level than in phase one consultation

Ongoing Consultation



Residents can continue to provide feedback on the Waste Plan during implementation via email at WastePlan@durham.ca



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WebEx Workshops

2020 - 2021



2020

2

Webex Workshops hosted with Regional and Local Area Municipality staff

5

Presentations at Regional Advisory Committee meetings



100+

Engaged individuals



26

Follow-up surveys received

2021

2

Webex Workshops hosted with Regional and Local Area Municipality staff

5

Presentations at Regional Advisory Committee meetings



100+

Engaged individuals



Formal comments were received from the Corporate Sustainability and Finance staff at the Region, Energy from Waste-Waste Management Advisory Committee and the Municipality of Clarington.

Project Website, Email, Newspaper and Radio

2020 - 2021



2020



Developed 1 project website:
www.durham.ca/WastePlan



Established 1 project email:
WastePlan@durham.ca



2 'Ask Katherine' Newspaper Articles



Ran 72 Radio Ads

2,700

Unique pageviews on website



37

Emails received



242,950

796,619

348,100

Newspaper circulation

Digital impressions

Listeners for radio ads

2021



1 'Ask Katherine' Newspaper Article



Ran 72 Radio Ads

3,900

Unique pageviews on website



41

Emails received



242,950

250,668

348,100

Newspaper circulation

Digital impressions

Listeners for radio ads

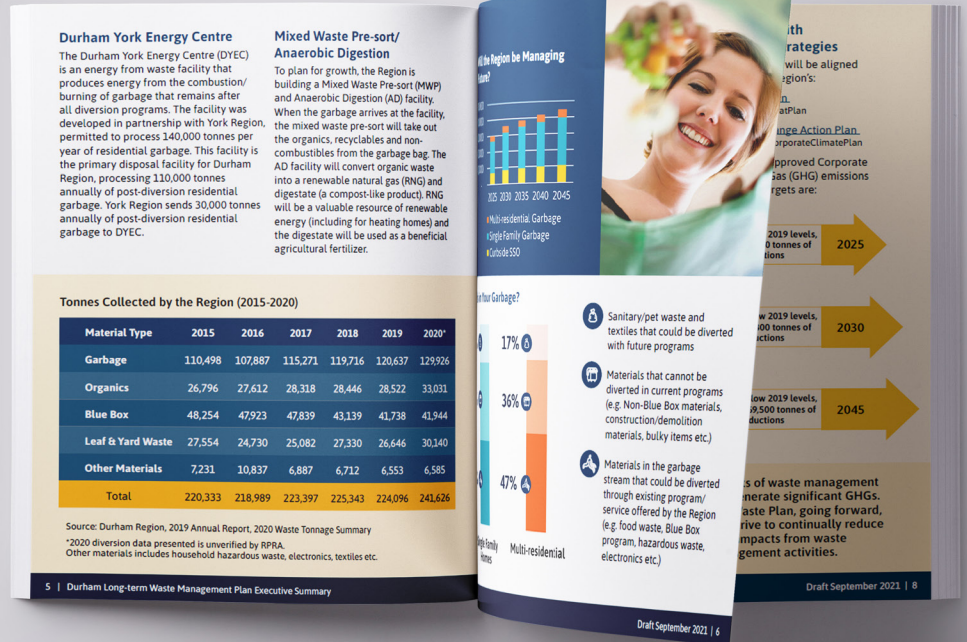
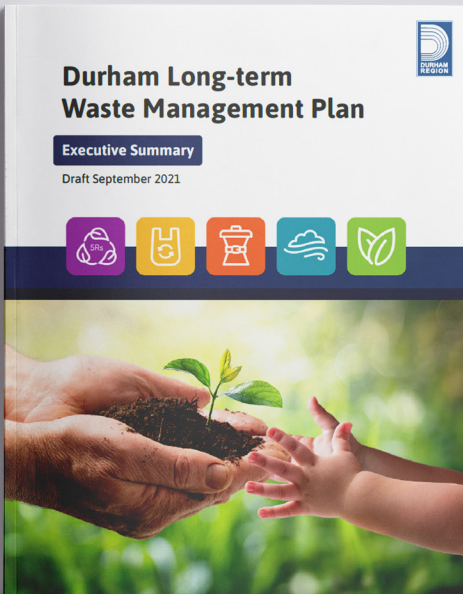
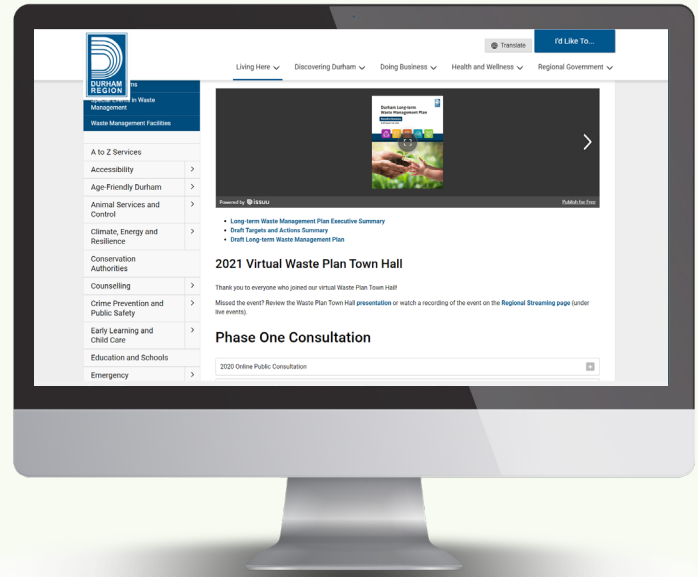


Waste Plan Documents 2020 - 2021

Coinciding with the launch of the open house, a magazine-style Waste Plan Executive Summary was posted on the Waste Plan webpage along with the full text of the Draft Waste Plan.



2,800
Views of the Waste
Plan Executive Summary



Durham York Energy Centre
The Durham York Energy Centre (DYEC) is an energy from waste facility that produces energy from the combustion/burning of garbage that remains after all diversion programs. The facility was developed in partnership with York Region, permitted to process 140,000 tonnes per year of residential garbage. This facility is the primary disposal facility for Durham Region, processing 110,000 tonnes annually of post-diversion residential garbage. York Region sends 30,000 tonnes annually of post-diversion residential garbage to DYEC.

Mixed Waste Pre-sort/ Anaerobic Digestion
To plan for growth, the Region is building a Mixed Waste Pre-sort (MWP) and Anaerobic Digestion (AD) facility. When the garbage arrives at the facility, the mixed waste pre-sort will take out the organics, recyclables and non-combustibles from the garbage bag. The AD facility will convert organic waste into a renewable natural gas (RNG) and digestate (a compost-like product). RNG will be a valuable resource of renewable energy (including for heating homes) and the digestate will be used as a beneficial agricultural fertilizer.

Tonnes Collected by the Region (2015-2020)

Material Type	2015	2016	2017	2018	2019	2020*
Garbage	110,498	107,887	115,271	119,716	120,637	129,926
Organics	26,796	27,612	28,318	28,446	28,522	33,031
Blue Box	48,254	47,923	47,839	43,139	41,738	41,944
Leaf & Yard Waste	27,554	24,730	25,082	27,330	26,646	30,140
Other Materials	7,231	10,837	6,887	6,712	6,553	6,585
Total	220,333	218,989	223,397	225,343	224,096	241,626

Source: Durham Region, 2019 Annual Report, 2020 Waste Tonnage Summary
*2020 diversion data presented is unverified by RPRA. Other materials includes household hazardous waste, electronics, textiles etc.





Social Media and Waste App Service Alerts

2020 - 2021

2020

1

Campaign



3

Waste App Service Alerts



280,839

Waste app signups

78,820

Waste app downloads

Social Media Channels:



94,300

Social media impressions

2021

1

Campaign



1

Waste App Service Alert



103,237

Waste app signups

90,174

Waste app downloads

Social Media Channels:



57,864

Social media impressions



Virtual Open House, Online Survey and Virtual Town Hall

2020 - 2021

2020

- Hosted 1 Virtual Open House
- Hosted 1 Online Survey
- Hosted 1 Live Virtual Town Hall

13,619

Users of the virtual open house



2,094

Survey responses



300+

Participants in the live town hall



2021

- Hosted 1 Virtual Open House
- Hosted 2 Online Surveys
- Hosted 1 Live Virtual Town Hall

9,357

Users of the virtual open house



3,991

Survey responses



30+

Participants in the live town hall



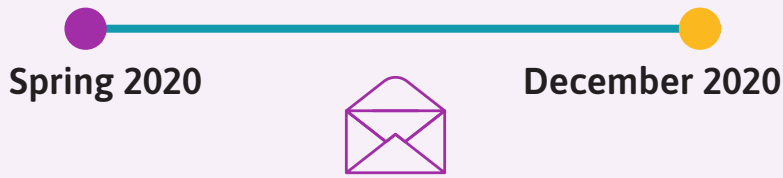


Other Correspondence

2020 - 2021

2020

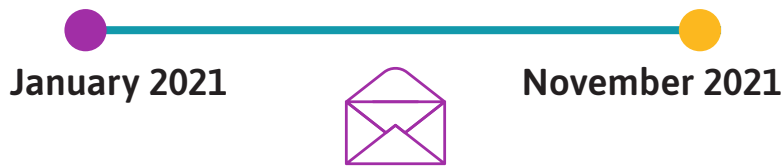
37



37 emails were received from the project start in Spring 2020 to the end of 2020.

2021

41



To date, 41 emails have been submitted between January 2021 and November 15, 2021.

This email will continue to be monitored for resident comments during the Waste Plan implementation.

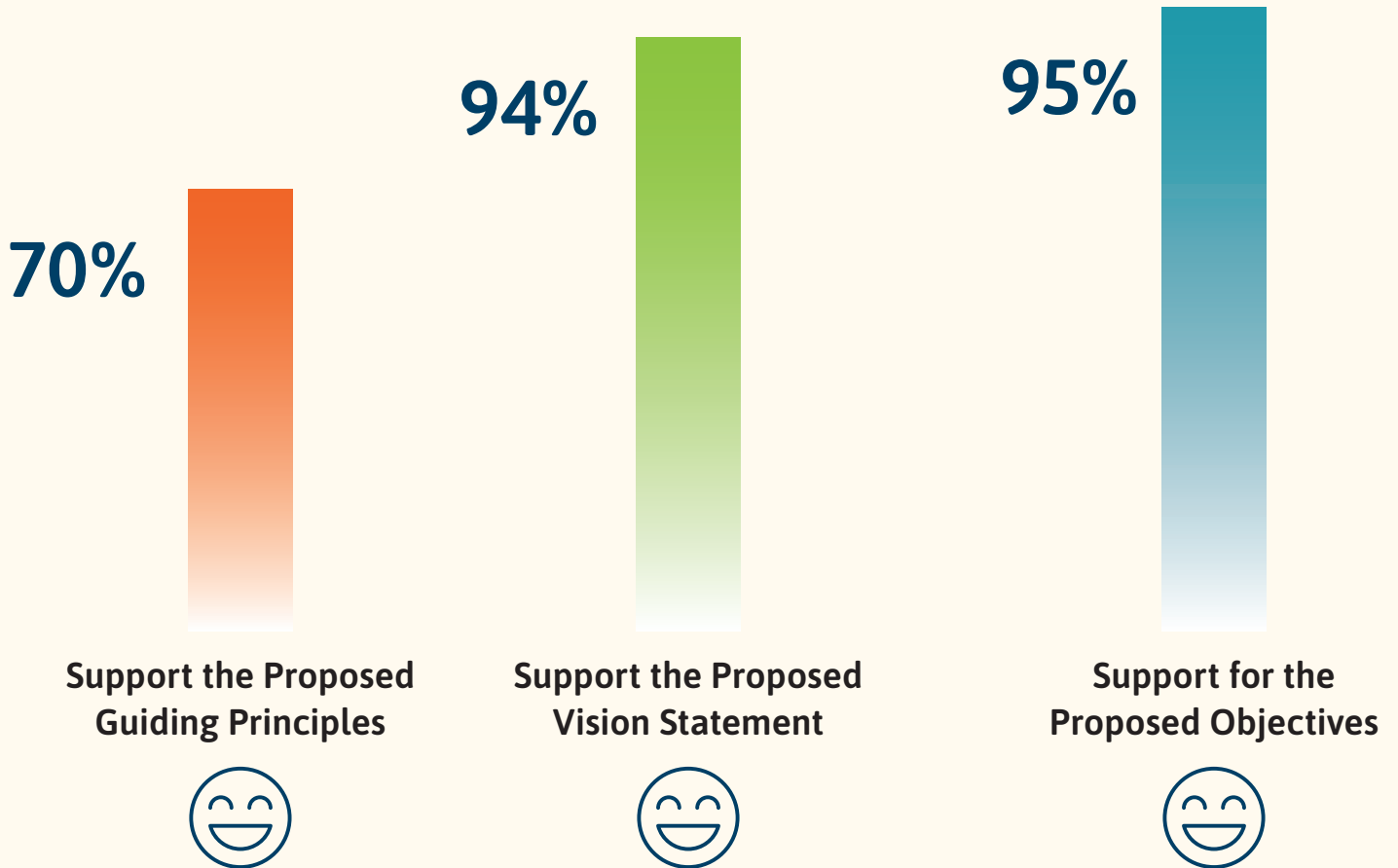




Survey Feedback on Proposed Waste Plan Framework

2020

Strong support received for the proposed Guiding Principles, Vision and Objectives





Survey Results on Draft Waste Plan 2021



79% of residents get their waste information from the Waste App.



Residents prioritized adding a reduce/reuse page on the Region's website (46%) and converting contracted collection vehicles to alternative fuels (42%).



Residents indicated a fertilizer reuse program, repair clinics, food waste avoidance and backyard composting tips would be somewhat useful (44-62%).



High level of satisfaction with current hours at WMFs and number/location of facilities (62%).



Residents support a target for reduction in garbage disposal with an almost even split between suggestions of 5%, 10% or 20% reductions over 20 years.





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Durham Region Long-term Waste Management Plan

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Glossary and Abbreviations

Glossary Term	Definition
Anaerobic Digestion	A process that uses bacteria but no oxygen to break down organic material producing biogas and digestate.
Business Improvement Area	Downtown business areas as designated by the Region.
Biogas	A mixture of methane and carbon dioxide produced by the bacterial decomposition of organic waste which can be used as a fuel.
Blue Box Recycling	Designated paper and packaging products collected at the curb in blue boxes; currently managed by Region but transitioning to Extended Producer Responsibility.
Bulky Goods	Material disposed of by residents that is too large for garbage bags and is collected by the Region by appointment; Oshawa and Whitby operate bulky good programs that differ slightly from the Region-run program; examples include mattresses and furniture; these items are also dropped off at Waste Management Facilities. These materials are typically not recyclable.
Datacall	The source of data used by the RPRA to determine Blue Box program costs and funding for municipalities. Municipalities must provide data annually on their waste management programs to receive funding. The RPRA also uses this information to determine waste diversion rates by program.
Digestate	The residuals from anaerobic digestion which can be either liquid or solid. It can be used for soil amendments or fertilizers.
Diversion Rate	A calculation that measures (usually by weight) the portion of waste not disposed. The RPRA diversion rate calculation includes diversion attributed to Blue Box recycling, Green Bin materials, Leaf and Yard Waste, reuse and credits for backyard composting, and grasscycling.
Durham York Energy Centre	An energy-from-waste facility located in Durham Region that produces energy from the combustion/ burning of garbage that remains after all diversion programs.
Electrical and Electronic Equipment	As defined by the RPRA, consists of information technology, telecommunications, audio-visual equipment such as computers, printers, telephones, cell phones, speakers, cameras etc.

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Glossary Term	Definition
Extended Producer Responsibility	The responsibility producers, importers and brand owners have to reduce the environmental impact of their products and packaging. It extends across the product lifecycle and depending on the product, can be cradle-to-grave or cradle to cradle management.
Facility Separated Organics	Organic material that has been separated from the garbage through mechanical means (i.e. at the Region's Mixed Waste Pre-sort and Anaerobic Digestion Facility).
Garbage	Material with no recycling options that is placed at the curb for disposal by the Region (i.e. the black garbage bag). Still may contain some divertible material (e.g. recyclables or organics) along with non-divertible materials (e.g. diapers, plastic bags, Styrofoam, coffee cups etc.).
Grasscycling	The practice of leaving grass clippings on the lawn after mowing to act as a natural fertilizer.
Green Bin Organics	Materials accepted by the Region in its Green Bin program that include food waste, some paper products and other compostable items such as dryer lint, houseplants, etc.
Greenhouse Gases	Gases in the Earth's atmosphere that trap heat; typically refers to carbon dioxide (CO ₂), methane (CH ₄) and nitrous oxide (N ₂ O). Often measured in carbon dioxide equivalents (CO ₂ e) which is a way to describe different greenhouse gases in a common unit. A quantity of GHG can be expressed as CO ₂ e by multiplying the amount of the GHG by its global warming potential (the amount of warming a gas causes over a given period of time). For example, one kilogram of methane causes 25 more times warming over a 100-year period compared to one kilogram of CO ₂ , so if one kilogram of methane is emitted, it can be expressed as 25 kg CO ₂ e.
Hazardous and Special Products	Consumer products that are hazardous to the environment if not disposed of properly; includes items like paints, solvent, pesticides, and compressed gas cylinders.
Leaf and Yard Waste	Material collected at the curb that is generated from outdoor maintenance of trees, bushes, and gardens, includes fall leaf clean-up material but does not include grass clippings.
Local Area Municipalities	Refers to the eight municipalities comprising Durham Region: Town of Ajax, Township of Brock, Municipality of Clarington, City

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Glossary Term	Definition
	of Oshawa, City of Pickering, Township of Scugog, Town of Whitby, Township of Uxbridge.
Material Recovery Facility	A facility that sorts Blue Box recycling into different material streams (e.g. aluminum, steel, glass) for marketing.
Mixed Waste Pre-sort and Anaerobic Digestion Facility	The Region’s planned facility which will separate recyclables in garbage from organic waste and other residual material that can be processed at the DYEC. Organics will be processed at the anaerobic digestion facility.
Municipal Hazardous or Special Waste or Household Hazardous Waste	Consumer products that are hazardous to the environment if not disposed of properly; includes items like paints, solvent, pesticides and compressed gas cylinders. Now termed Hazardous and Special Wastes.
Organics	Food waste, plant materials, other designated organic material; includes source separated organics (SSO) (i.e. Green Bin materials) and facility separated organics (FSO) (i.e. organics extracted at the Mixed Waste Pre-Sort Facility).
Producer Responsibility Organization	A person or organization retained by a producer to establish or operate a collection or management system, prepare and submit reports.
Renewable Natural Gas	A fuel derived from a biogas that has been cleaned up to remove impurities.
Residual Materials	Non-divertible material remaining after processing Blue Box recycling at the MRF or garbage material at the Mixed Waste Pre-sort and Anaerobic Digestion Facility that is disposed at the DYEC.
Resource Productivity and Recovery Authority	The regulator mandated by the Government of Ontario to enforce the Province’s circular economy laws and oversee the producer responsibility programs.
Single-Use Items	Items that are used only once and may or may not be recyclable. Examples include plastic water bottles, single serve coffee pods, paper coffee cups, paper plates, etc.
Single-Use Plastics	Plastic items intended to be used for a short period before disposal such as straws, shopping bags, cutlery, plastic water bottles. The federal government is expected to ban plastic

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Glossary Term	Definition
	grocery bags, straws, stir sticks, six-pack rings for beer, cutlery, foodware made from hard-to-recycle plastics.
Source Separated Organics	Organic materials placed into the Green Bin by residents for collection by the Region.
Waste	All materials collected from residences and businesses generally consisting of garbage, Blue Box recycling, leaf and yard waste, source separated organics, scrap metal, electronics, hazardous and special products and bulky goods.
Waste Management Facility	A facility that accepts materials such as appliances, recyclable materials, carpet, drywall, garbage, scrap metal, wood for a fee. There are five waste management facilities in Durham Region.

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Abbreviation	Definition
AD	Anaerobic Digestion
BIAs	Business Improvement Areas
CCAP	Corporate Climate Action Plan
DAAC	Durham Agriculture
DEAC	Durham Environmental
DRRCC	Durham Region Roundtable on Climate Change
DSEA	Durham Strategic Energy Alliance
DYEC	Durham York Energy Centre
EEE	Electrical and Electronic Equipment
EFW-WMAC	Energy from Waste – Waste Management Advisory Committee
EPR	Extended Producer Responsibility
FSO	Facility Separated Organics
GHG	Greenhouse Gas
HSP	Hazardous and Special Products
IC&I	Industrial, Commercial and Institutional
IPR	Individual Producer Responsibility
ITT/AV	Information Technology Telecommunications and Audio-Visual
LAM	Local Area Municipality
LTWMP	Long Term Waste Management Plan 2021 - 2040
LTWMSP	Long Term Waste Management Strategy Plan 2000 - 2020
LYW	Leaf & Yard Waste
MECP	Ministry of Environment Conservation and Parks
MRF	Material Recovery Facility
PRO	Producer Responsibility Organization
P&E	Promotion and Education
Region	Durham Region
RFPQ	Request for Pre-Qualification
RNG	Renewable Natural Gas
RPRA	Resource Productivity and Recovery Authority

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Abbreviation	Definition
RRCEA	Resource Recovery and Circular Economy Act
SSO	Source Separated Organics
SUP	Single-Use Plastic
tCO ₂ e	Tonnes of Carbon Dioxide Equivalents
U.S.	United States
WMF	Waste Management Facility
5Rs	Rethink, Reduce, Reuse, Recycle, Recover

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1 Introduction

Durham Region (Region) developed its initial Long-Term Waste Management Strategy Plan (LTWMSP) in 1999 to cover the 20 years to 2020. The Region is now undertaking the development of the next Long-term Waste Management Plan (Waste Plan) for the next approximately 20 years (2022 to 2040). As part of this exercise, the Region is focusing on maximizing the diversion of materials from waste and recovering waste as resources to optimize its existing and planned disposal and processing infrastructure and minimize the need for disposal.

The approved Guiding Principles, Vision and Objectives will remain consistent throughout the life of the Waste Plan without further review and updating. Action Plans, with measurable targets and accompanying actions for the following timelines – short-term (2022 to 2026), mid-term (2027 to 2033) and long-term (2034 to 2040) will be reviewed and updated (if required) every five years to ensure alignment with corporate direction and associated legislation.

2 Waste Plan Development

Development of the Waste Plan included a significant consultation component to ensure feedback from various stakeholders, including the public, was considered. Starting in the late spring through fall 2020, consultation was held with Regional staff, Local Area Municipalities (LAMs), Regional Advisory Committees and the public to get feedback on current and future waste management challenges as well as the proposed vision and objectives of the Waste Plan.

The Region, like municipalities across the world, was impacted by the COVID-19 pandemic, starting in 2020. Consultation activities pivoted from in-person to virtual and the Region experienced disruptions in service delivery, continuing into 2021.

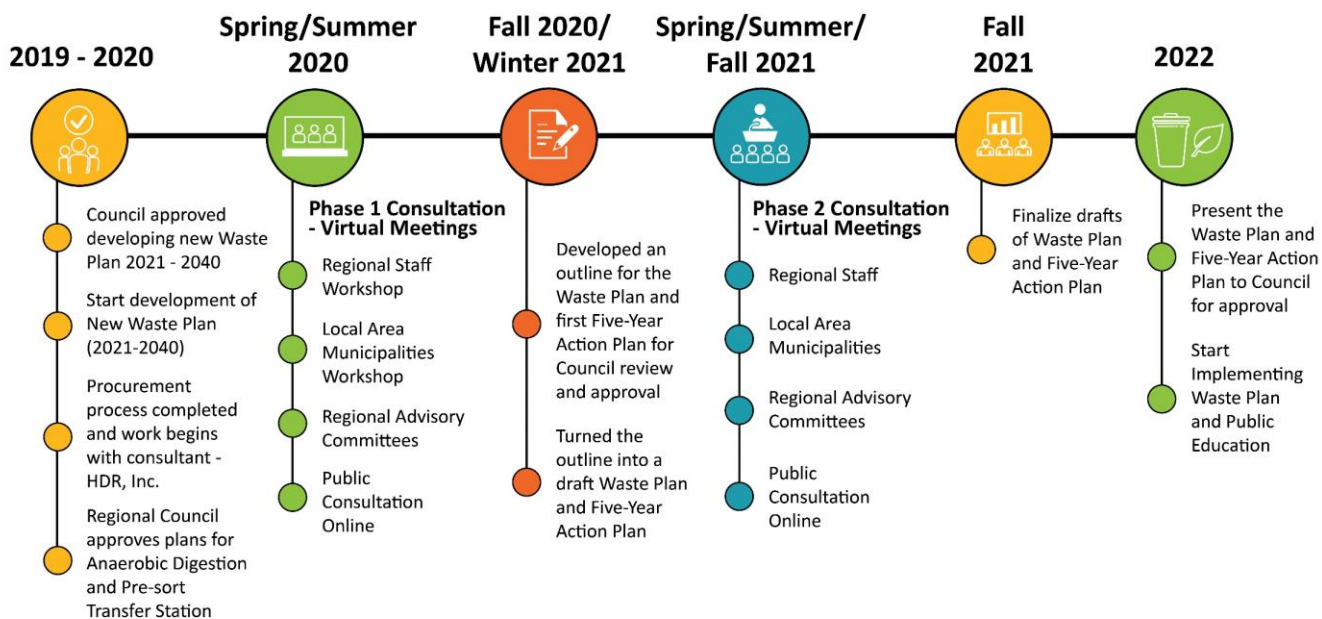
Following the initial consultation meetings, an outline and draft of the Waste Plan was developed throughout the Fall of 2020 and Winter of 2021. Once the drafts were completed, during the fall of 2021, a second round of consultation was undertaken to collect feedback to better understand the expectations of the Waste Plan and the targets and actions developed as part of the first Five-Year Action Plan. Once the drafts were finalized, these Plans were presented to Council for approval. In 2022, it is expected that the Waste Plan and public education will begin the implementation phase. Consultation activities have been documented in the Record of Consultation.

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Figure 1 outlines the consultation timeline.

Figure 1: Consultation Timeline



3 Guiding Principles, Vision and Objectives

As part of the development of the Waste Plan, the Region undertook consultation with stakeholders to get input on the guiding principles, vision and objectives (see Record of Consultation for a description of consultation activities) during 2020. Feedback from these consultation activities was considered in the development of the following guiding principles, vision statement and objectives that will guide the Region's waste management programs and services over the planning period. Durham Region Council approved the guiding principles, vision and objectives at the January 27, 2021 meeting.

3.1 Guiding Principles

1. Emphasize rethink, reduce and reuse principles as the first steps in reducing waste generation.
2. Deliver cost effective waste management services to a rapidly growing and diverse population.

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3. Work with producers and importers of designated products and packaging to implement “Extended Producer Responsibility” and adjust Region waste programs as required.
4. Apply innovative approaches to Region waste streams to manage them as resources in a circular economy.
5. Demonstrate leadership in sustainability to address the climate crisis by reducing greenhouse gas emissions from waste management activities.

3.2 Vision

Together, with our residents, we will reduce the amount of waste we create and manage the generated waste as a resource. We will build an innovative system, balancing financial needs and environmental sustainability.

3.3 Objectives

1. Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region's waste management programs and services.
2. Reduce the quantity of waste we create.
3. Increase diversion of waste from disposal and support the circular economy.
4. Support the Region's greenhouse gas reduction and climate change mitigation efforts.
5. Protect or improve water, land, and air quality in Durham Region.



4 Alignment with Corporate Strategies

The Waste Plan will need to align with Corporate Strategies. Highlights of relevant Corporate Strategies are presented in the following sections.

4.1 Strategic Plan

Durham Region's new Strategic Plan was endorsed by Regional Council in March 2020. The Strategic Plan encompasses five main goals:

1. Environmental Sustainability
2. Community Vitality
3. Economic Prosperity
4. Social Investment
5. Service Excellence

While aspects of the Waste Plan touch on all of the goals of the Strategic Plan in some fashion, the goal most relevant to the Waste Plan relates to environmental sustainability. Of the five aspects related to environmental sustainability, the following three aspects are directly associated with waste management.

Environmental Sustainability Goal

1.1. Accelerate the adoption of green technologies and clean energy solutions through strategic partnerships and investment - Durham Region will accelerate the transition to a clean energy economy through collaborations that optimize the economic, environmental, health and social benefits for our community. Working in partnership with area municipalities, local utilities and other organizations we will invest in programs to improve energy efficiency, encourage renewable energy sources and green technologies, and advance vehicle electrification initiatives.

1.2 Increase waste diversion and resource recovery - The Region will continue to invest in programs that divert waste from landfill, while increasing resource recovery from existing waste through innovative technologies and solutions.

1.4 Demonstrate leadership in sustainability and addressing climate change - Recognized across Canada as a municipal leader in sustainability, Durham Region will respond to the climate emergency by embedding climate change considerations across all elements of Regional business. We will concentrate

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efforts to reduce greenhouse gas (GHG) emissions, and ensure Durham is positioned for sustainability through projects that promote resilient infrastructure, build community capacity, and raise awareness of the need for collective action.

4.2 Climate Change Action Plan

Durham Region has developed a Corporate Climate Change Action Plan (CCAP) to propose a comprehensive approach to reducing greenhouse gas (GHG) emissions from the Region of Durham's corporate operations. The CCAP responds to Regional Council's declaration of a climate emergency in January 2020. Five priority actions have been identified that can be embedded into Regional operations:

1. Incorporate a carbon budget management framework into the Region's capital investment planning and forecasting process, and annual monitoring and reporting of progress against Council-approved emissions reduction targets.
2. Implement a governance framework to build corporate capacity, align priorities, and share accountability in meeting the Region's targets.
3. Develop zero carbon asset portfolio standards and transition plans in facilities and fleet; pursue pace-setter pilot projects across corporate GHG-emitting sectors to close the gap to near and mid-term corporate GHG targets.
4. Develop a Climate Financing Strategy to identify mechanisms for funding actions emerging from the carbon budget management framework including leveraging senior government and private sector funding and using innovative municipal financing approaches.
5. As part of the re-development of the Durham Strategic Energy Alliance (DSEA), lead the creation of a Corporate Energy Managers community of practice to share successes and lessons learned across Durham-based organizations with a low carbon or net zero mandate.

The CCAP has identified the following key objectives related to GHG reductions in waste management operations over the next 20 years.

- Increase diversion of organic waste from single-family homes and multi-residential buildings (apartments and condos). Diversion targets set by the Province as part of the Ontario Food and Organic Waste Policy Statement, are 70 per cent diversion of organic waste from single-family homes by 2023, 50 per cent diversion of organic waste from multi-residential buildings by 2025.

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- Construct and operate a Mixed Waste Pre-sort and Anaerobic Digestion facility to manage organic waste.
- Continue to manage GHG emissions from legacy closed landfills through innovative approaches.
- Explore ways to mitigate corporate GHG increases associated with the planned increase in the Durham York Energy Centre (DYEC) capacity and population growth over the coming decade.

Further considerations and direction to work towards meeting the corporate climate change objectives and actions are discussed in Section 7.

5 Background

The following sections provide an overview of waste management in Durham Region, programs and services provided, waste management facilities, future initiatives, financing, current and future quantities of materials managed, performance and waste composition.

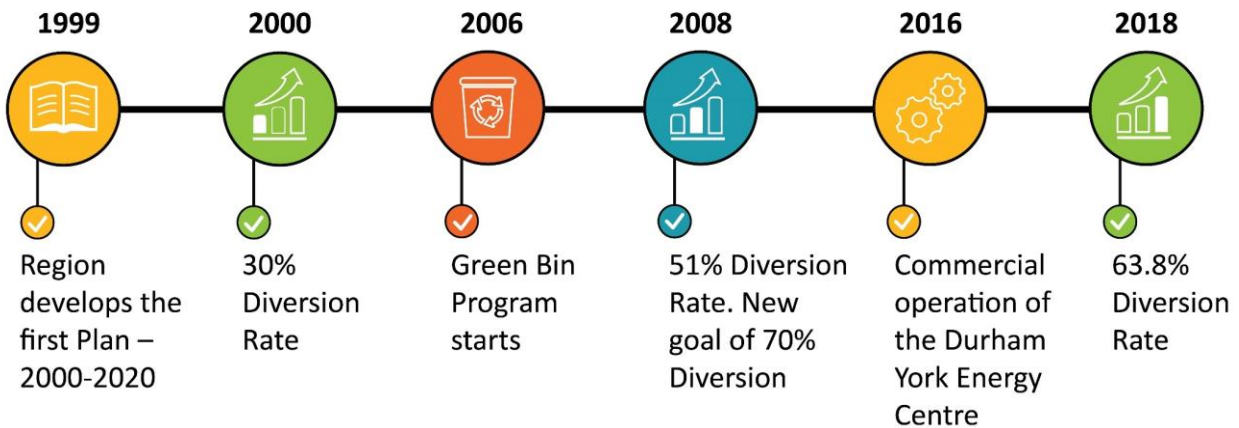
5.1 History of Waste Management in Durham Region

The Region has made numerous investments into waste management infrastructure, responded to legislation changes and implemented new programs such as implementing the Green Bin Program across all municipalities, developed By-law 46-2011 and By-law 33-2002 to manage waste within the Region. In 1999, Council directed that “no new landfill site(s) be established in the Region of Durham which resulted in the construction of the Durham York Energy Centre.

Below, in Figure 2, is a summary of major events that occurred throughout the lifetime of the LTWMSP 2000-2020 (this does not include all activities and events that the Region has completed).

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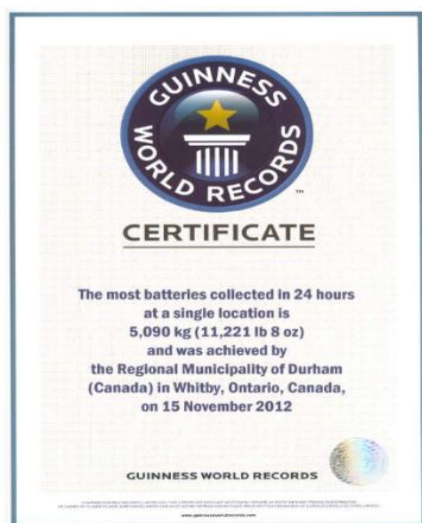
Figure 2: Durham Region Past Accomplishments



Since 1999, the Regional Municipality of Durham has heavily invested in waste management systems and strategies. The Region has successfully met the committed diversion goals from the Long-Term Waste Management Strategy Plan: 2000 to 2020 (LTWMSP 2000-2020 or Waste Strategy Plan) in various creative ways. The Region continues to demonstrate leadership in innovative waste management strategies. As an example, the Region was the first municipality to launch curbside battery recycling, and in the first year of the program, collected a record setting amount of batteries (see Figure 3).

The following Table 1 lists the goals and achievement timelines for the Region’s previous Waste Strategy Plan.

Figure 3: Guinness World Record for Battery Collection (2012)



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Table 1: LTWMSP 2000-2020 Goals and Achievements

LTWMSP 2000-2020 Goal	Achievement
To divert at least 50 per cent of the residential waste from disposal by the year 2007 or earlier	Achieved in 2008; diversion target reset to 70 per cent
To secure an alternate source for the disposal of residential waste, when the City of Toronto's Keele Valley Landfill Site is closed	Achieved in 2002
To implement an integrated residential waste management system for the collection, processing and disposal of: (1) Blue Box recyclables, (2) Food and Yard waste compostables, (3) residual garbage waste, and (4) special wastes	Achieved with ongoing enhancements to the Blue Box program, launch of the Green Bin in 2003 and Region-wide expansion in 2006, development of the DYEC (2000-2017), expansion of special waste collections.
To consider an "Energy From Waste" type facility for the disposal of residual garbage waste	Achieved first full-year commercial operation of the DYEC in 2017

5.2 About Durham Region

As an upper tier municipal government, Durham Region provides programs and services to approximately 678,985 residents¹ in 2020 within eight local area municipalities (LAM) including:

- The Town of Ajax
- The Township of Brock
- The Municipality of Clarington
- The City of Oshawa
- The City of Pickering
- The Township of Scugog
- The Town of Whitby
- The Township of Uxbridge

¹ RPRA 2019 Datacall

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The Region provides service to over 237,081 households - 211,935 single-family households and 25,146 multi-family households according to 2019 Resource Productivity and Recovery Authority (RPRA) Datacall. Oshawa continues to be the largest municipality by population, followed by Whitby and Ajax.

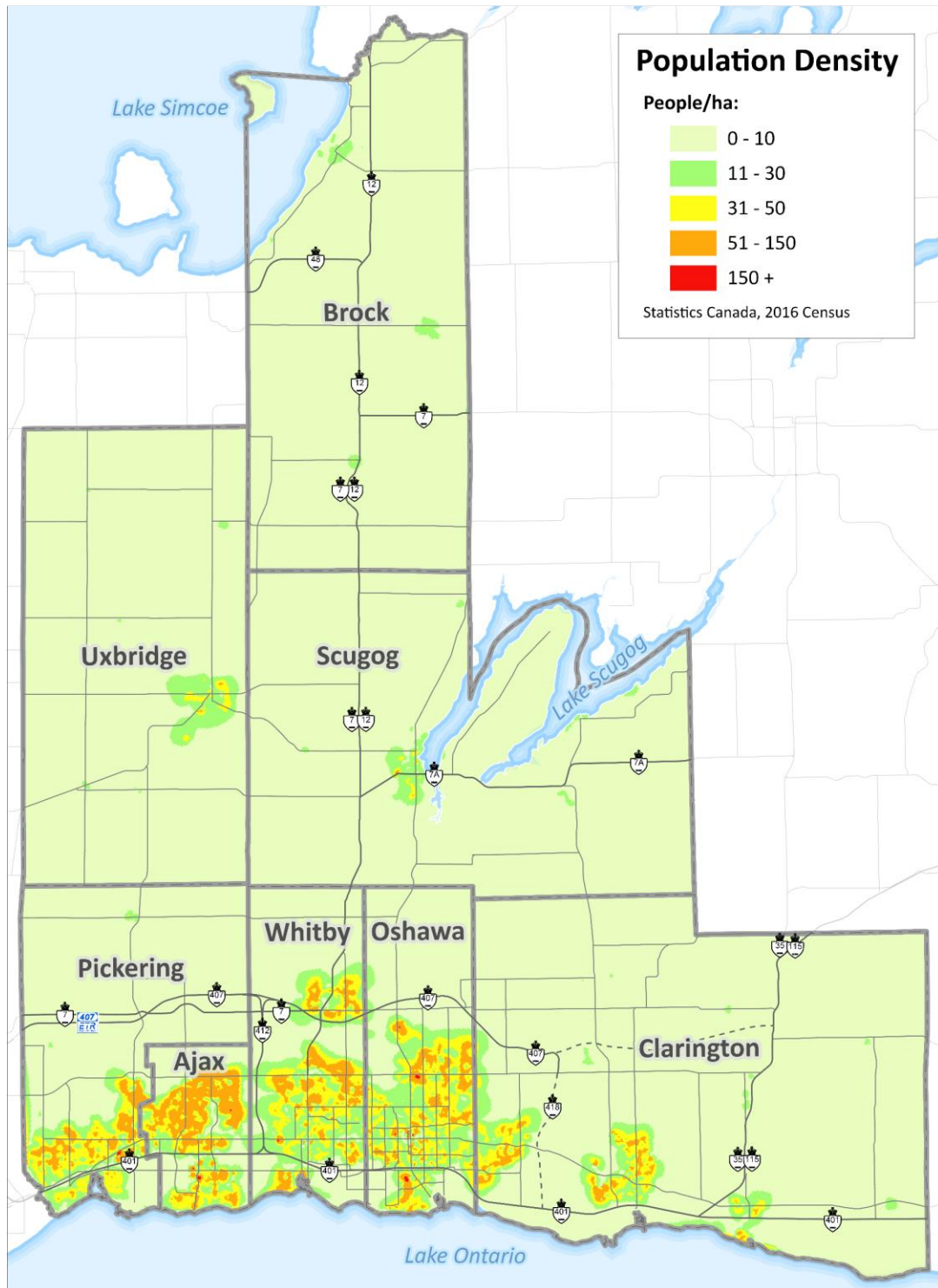
Durham Region is one of the fastest growing regions in Canada. By 2041, Durham Region's population is expected to almost double, increasing to 1.2 million people.²

The focus of growth in Durham has been predominately in Urban Settlement Areas, with the greatest concentration of population in the lakeshore municipalities of Pickering, Ajax, Whitby, Oshawa and Clarington as shown in Figure 4. Low-density (specifically single-detached) housing continues to be the most common form of housing, but there has been a clear shift towards more medium- and high-density forms of housing in recent years, including townhouses and apartments.

² Envision Durham Proposed Policy Directions, March 2021

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Figure 4: Durham Region Population Density



Source: Envision Durham. (June 2019). Growth Management Urban System – Discussion Paper

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5.3 Current Waste Management System

Durham Region has various systems to collect and process waste from curbside collection to drop-off events to waste transfer stations. The following sections provide an overview of collection, other services provided, promotion and education, the Region's waste management facilities and special events. It should be noted that delivery of some of these services were impacted by the response to COVID-19 which caused some operational changes. It is anticipated that once the pandemic resolves, the Region will return to the same level of service pre-COVID-19 or to an enhanced level of service with the implementation of the Waste Plan.

5.3.1 Collection Services

The Region provides the following collection services to single-family homes:

- Curbside collection of residential Blue Box recycling, Green Bin organics, leaf and yard waste and garbage in Ajax, Brock, Clarington, Pickering, Scugog and Uxbridge,
- Curbside collection of Blue Box recycling only in Whitby and Oshawa, but partnerships with both municipalities ensure uniform collection programs Region-wide,
- Curbside collection of bulky items (furniture and other large items), metal goods and large appliances, waste electrical and electronic equipment (EEE), batteries and porcelain bathroom fixtures in Ajax, Brock, Clarington, Pickering, Scugog and Uxbridge,
- Curbside collection of Christmas trees in Ajax, Brock, Clarington, Pickering, Scugog and Uxbridge.

The Region provides the following collection services to apartments and townhouses:

- Containerized collection of garbage and Blue Box recycling from approximately 400 multi-residential buildings and townhouses.
- Collection of EEE and batteries at qualifying properties.
- Coordination of textile collection in partnership with local charities for approximately 25 multi-residential buildings.

5.3.2 Other Services Provided

The Region provides other services intended to promote reuse, reduction and recycling including:

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- Sale of Backyard Composters
- Hosting drop-off events for residents to donate reusable items
- Hosting events, in partnership with LAMs, for residents to dispose of used EEE and household hazardous waste
- Hosting free compost giveaway events in partnership with LAMs

5.3.3 Promotion and Education

The Region provides promotional and educational (P&E) information through its website, in-person outreach activities, social media (Twitter, Facebook, LinkedIn and YouTube), Waste app and through mail-outs of waste collection calendars.

The Region has been promoting a multi-year campaign to reduce food waste called the Buy It, Eat It program. The P&E program focused its targeted messaging to reduce residential food waste through behavioral change. Messaging focused on the following issues:

- Maximizing the value of food waste – managing food waste as a resource
- Debunking the myths or misconceptions around the Green Bin - odours, animals, inconvenience
- Reducing barriers - highlighting tips to reduce common Green Bin issues - fruit fly prevention, kitchen catcher liner bag breakage, etc.

P&E efforts also focused on the need to increase use of the Green Bin. It is estimated that the Region's Green Bin participation rate is approximately 60 per cent. Recent waste audits also confirm that the garbage bag contains approximately 30 per cent organics which could be diverted through the Green Bin.

Going forward, the P&E program is incorporating a new plan that engages residents with consistent messaging across multiple media platforms. The results of these new and refocused efforts will be realized over the coming years and will include new strategies to continue keeping Durham Region's growing communities engaged in its waste management programs.

Durham Region participated in the following community outreach initiatives in 2019³ alone:

³ Durham Region, 2019 Annual Report

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- Eight spring compost giveaway events, one in each local area municipality.
- Four special waste electrical and electronic equipment drop-off events and household hazardous waste drop-off events.
- Eight reuse drop-off events were held from March to October, partnering with local charities.
- Promotion of waste diversion programs during National Public Works Week.
- The Works Department’s external newsletter called “Durham Works” was distributed twice annually to approximately 220,000 households in the Region. In 2019, it featured information on food waste reduction, household hazardous waste, Durham York Energy Centre, landfill mining, two-stream recycling, upcoming waste projects and waste collection safety.
- Exchanged or replaced damaged boxes, containers and bins: 7,240 Blue Boxes, 836 kitchen food waste containers and 6,136 curbside Green Bins.
- Sold 4,648 new Blue Boxes, 654 kitchen food waste containers, 1,202 curbside Green Bins and 121 backyard composters.
- Responded to more than 47,000 telephone calls and almost 22,000 emails regarding waste programs.
- Over 60,000 Durham Region Waste app downloads with 70,000 weekly waste setout reminders.
- Launched an online waste management survey with over 3,200 responses from across the Region.

In 2019, Durham’s school curriculum program reached over 2,650 students across Durham’s communities. Most programs were delivered to children and youth from Kindergarten to Grade 12 via the school outreach program. Overall, 30 schools (88 classes) were visited from January to June 2019. In addition, Durham Region’s Waste Management staff provided education programming at four school board events.

In 2020 and 2021, COVID-19 pandemic resulted in changes to the Region’s typical waste management related P&E and outreach programs. In-person events and drop-off events were cancelled, and the Region shifted its focus to COVID-19 protocol education and focused on providing essential services and associated messaging.

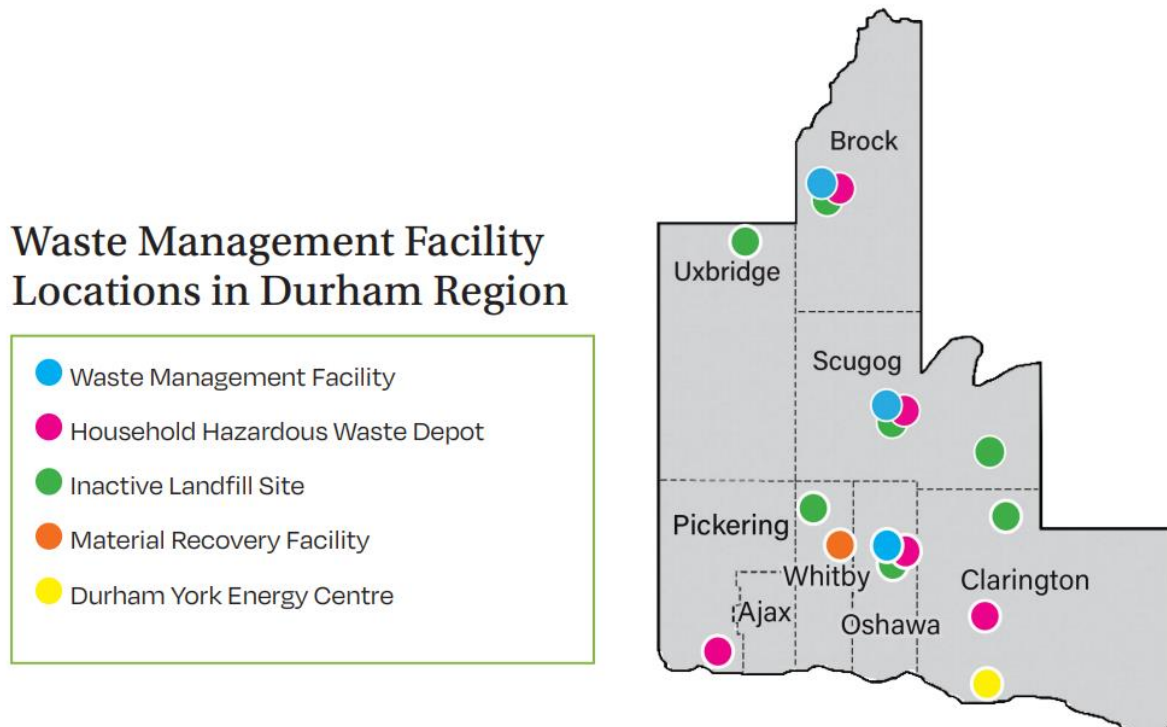
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5.3.4 Waste Management Facilities

There are five Waste Management Facilities (WMF) for household hazardous waste, bulky good and/or garbage drop-off. The locations of these facilities are presented in Figure 5.

Figure 5: Waste Management Facility Locations in Durham Region



There are five Region-owned or contracted Waste Management Facilities (WMF) or Household Hazardous Waste Depots within the Region.

- Oshawa Waste Management Facility
- Port Perry Waste Management Facility
- Brock Waste Management Facility
- Clarington Household Special Waste Depot
- Pickering Private Waste Disposal Facility

Port Perry, Brock and Oshawa facilities receive garbage, appliances, carpet/underlay, drywall, furniture, porcelain bathroom fixtures, wood & brush, yard wastes, scrap metal, tires, Blue Box materials, electronics, and household hazardous wastes. The Region hauls the materials to various locations for composting, recycling, re-use, energy recovery or landfill

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disposal. The Oshawa WMF has a Paint Reuse Centre for residents to drop off or pick up good re-usable paints and stains for free.

The current hours (as of November 2021) are presented in Table 2.

Table 2: Waste Management Facility Hours

Waste Facility	Hours
Oshawa Waste Management Facility	Tuesday to Saturday: 8am to 4pm (open until 6pm on Tuesdays only between May and October) Sunday, Monday: CLOSED Holidays: CLOSED
Port Perry Waste Management Facility	Tuesday to Saturday: 8am to 4pm (open until 6pm on Tuesdays only between May and October) Sunday, Monday: CLOSED Holidays: CLOSED
Brock Waste Management Facility	Tuesday to Saturday: 8am to 4pm Sunday, Monday: CLOSED Holidays: CLOSED
Clarington Household Special Waste Depot	Tuesday to Saturday: 8am to 4pm (open until 6pm on Tuesdays only between May and October) Sunday, Monday: CLOSED Holidays: CLOSED
Pickering Private Hazardous Waste Facility (Region-contracted)	Monday to Friday: 7am to 6pm Saturday: 7am to 4pm Sunday: CLOSED

All Region-owned Waste Management Facilities accept the same materials except those that only accept hazardous waste (e.g. Clarington and the Pickering Private Hazardous Waste Facility). In addition, fees at all facilities are the same and charged based on the type of materials/loads that are being accepted. Garbage, chargeable materials and mixed loads (containing both free and chargeable items) are subject to fees. At the Pickering Private Hazardous Waste Facility only household hazardous waste is accepted free of charge on behalf of the Region. All other waste is subject to the rates and hours posted by Miller Waste Durham at its private transfer station on the same property.

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In November 2021, the general fees for most of the materials accepted were as follows:

- \$5 flat rate for loads up to 40 kilograms
- \$1 for every eight kilograms greater than 40 kilograms
- \$125 per 1,000 kilograms
- Fill material disposal is charged differently. This includes soil, dirt, brick, gravel, rubble, sand, cement and concrete. Fees for these are charged at \$250 per 1,000 kilograms

The following table presents the fees charged for materials accepted (as of March 2021) at Region-owned Waste Management Facilities.

Table 3: Materials Accepted and Fees Charged at Region Owned Waste Management Facilities (as of November 2021)

Type of Material	Fee Charged
Appliances	\$5 flat rate for loads up to 40 kilograms (88lbs) \$1 for every eight kilograms greater than 40 kilograms \$125 per 1,000 kilograms Mixed loads containing both free and chargeable items are subject to payment for the entire weight.
Blue Box recyclables	
Cardboard	
Carpet and underlay	
Furniture	
Garbage	
Leaf, brush, and yard waste	
Porcelain bathroom fixtures	
Wood	
Drywall	
Scrap metal	
Bulky white polystyrene (Styrofoam)	No Charge for loads containing only these materials
Electrical and Electronic Equipment (EEE)	
Hazardous and Special Products (HSP)	
Tires	No Charge (up to 10 tires per vehicle)

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5.3.5 Closed Landfills

Durham Region maintains seven closed landfill sites. All sites are monitored regularly and inspected at least twice a year and maintained as needed. Maintenance activities include groundwater monitoring well repairs, soil erosion control, site grading and landscaping. All of the closed landfills have individual monitoring programs for groundwater, surface water and/or landfill gas that are tailored for each site. Annual reports are prepared and submitted to the Ministry of Environment, Conservation and Parks for review. There are seven closed landfills in the Region's perpetual care program:

- Blackstock/Cartwright Landfill
- Brock Landfill
- Darlington Landfill
- Oshawa Landfill
- Scott Landfill
- Scugog Landfill
- Whitby Landfill

5.3.6 Durham York Energy Centre

The Durham York Energy Centre (DYEC) is an energy from waste facility that produces energy from the combustion/ burning of garbage that remains after all diversion programs. The facility was developed in partnership with York Region, permitted to process 140,000 tonnes per year of residential garbage. This facility is the primary disposal facility for Durham Region, processing 110,000 tonnes annually of post-diversion residential garbage. York Region sends 30,000 tonnes annually of post-diversion residential garbage to DYEC.

5.3.7 Special Waste Events

The Region collects materials not only through its curbside collection services and the Waste Management Facilities, but also through special waste events held throughout the year.

Electrical and Electronic Equipment and Household Hazardous Waste Collection Events are hosted by the Region for residents to drop off unwanted items for free. Typically, four events are hosted annually that rotate between the eight local area municipalities.

The Region's Reuse Days accept reusable items free of charge. In 2019 there were a total of eight drop-off events. The Region has partnered with

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various charities such as Diabetes Canada, Habitat for Humanity and Salvation Army Thrift Store to collect various items such as:

- Clothing, shoes and accessories
- Games, toys, puzzles and sporting goods
- Home décor, bedding and linens
- Worn out textiles and scraps of fabric

Compost Giveaway Events are hosted every spring for all Durham Region residents, where each household can collect compost that is generated from the Green Bin organics and leaf and yard waste collected from residents throughout the year.

5.4 Financing

The Region's waste management system is funded primarily through property taxes as approved by Regional Council each year. Additional funding is derived from user fees collected at Waste Management Facilities and curbside garbage bag tag fees. Funding from producers of products and packaging managed in the Blue Box pays for approximately 50 per cent of net Blue Box program costs and revenue is received from selling Blue Box products and packaging to recyclers. Finally, revenue is received from the sale of electricity and scrap metal from the DYEC.

The Waste Management Division participates in the Region's annual budget process that includes 10-year capital spending forecasts. This process establishes spending priorities for the coming year and provides information on long-term financial needs. The waste management budget will be informed by the approved Waste Plan and 5-year Action Plans. Examples of items that will impact the budget in the near-term include the transition of the Blue Box program to producer financial and operational responsibility; the construction and commissioning of the Mixed Waste Pre-sort and Anaerobic Digestion Facility; the launch of an enhanced Green Bin program; and the future expansion of the DYEC. The actions identified under this plan will be subject to Council approval of any necessary funding.

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5.5 Tonnes of Waste by Material Type

Table 4 presents the tonnes of garbage, Green Bin organics, Blue Box materials, Leaf and Yard Waste (LYW), and other divertible materials that contribute to the Region's diversion rate. Note that 2020 tonnages reflect the impact of COVID-19 (e.g. people working from home and generating more waste at home, rather than at work and school).

Table 4: Tonnes Collected by the Region (2015-2020)

Material Type	2015	2016	2017	2018	2019	2020*
Garbage	110,498	107,887	115,271	119,716	120,637	129,926
Organics	26,796	27,612	28,318	28,446	28,522	33,031
Blue Box	48,254	47,923	47,839	43,139	41,738	41,944
Leaf & Yard Waste	27,554	24,730	25,082	27,330	26,646	30,140
Other Materials	7,231	10,837	6,887	6,712	6,553	6,585
Total	220,333	218,989	223,397	225,343	224,096	241,626

Source: Durham Region, 2019 Annual Report, 2020 Waste Tonnage Summary

*2020 diversion data presented is unverified by RPRA.

5.6 Tonnes of Waste Managed by Sector

The following tables present a comparison of the tonnes of residential waste managed at the curb and the tonnes of waste managed at Waste Management Facilities and Special Events in 2019 and 2020. The impact of COVID-19 can be seen on the increased quantities of garbage, Green Bin organics, bulky/other goods and other diversion programs as residents worked from home and had more time for clearing out unwanted goods, yard work, etc. It is unknown if these trends will continue or if waste generation will go back to pre-COVID rates.

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Table 5: Tonnes of Residential Waste Managed at the Curb (2019-2020)

	Single-family				Multi-residential			Other
	Garbage	Blue Box Recycling	Green Bin Materials	Leaf and Yard Waste	Garbage	Blue Box Recycling	Bulky/ Other Goods Disposal	
2019	79,322	39,084	28,522	24,375	13,892	2,048	1,755	388
2020	84,317	39,506	33,031	29,133	14,220	1,827	1,905	469

Source: 2019 and 2020 Waste Tonnage Summary

Table 6: Tonnes of Waste Managed at Waste Management Facilities and Special Events (2019-2020)

	Waste Management Facilities				Special Events		
	Garbage	Leaf and Yard Waste	Blue Box Recycling	Other Diversion Programs ⁴	Hazardous Waste	Electrical and Electronic Equipment	Re-use
2019	25,667	2,271	606	6,121	17	9	18
2020	29,483	1,006	610	6,116	No events held due to COVID-19		

Source: 2019 and 2020 Waste Tonnage Summary

⁴ Includes re-use, metal goods recycling, HSP and EEE recycling programs.

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5.7 Projected Tonnes to be Managed

Estimating future waste tonnages requires consideration of many factors such as population growth, housing types, household sizes, and other economic indicators such as employment and income. Most recently, waste projections were developed as part of the Mixed Waste Pre-sort and Anaerobic Digestion Facility. Projections required consideration of:

- Increasing population - Durham Region's population is anticipated to almost double by 2041.
- Shrinking household size - the average household size has decreased from 3.5 persons in 1976 to 2.8 people per household in 2016.
- Increased densification - more townhomes and apartment units are being constructed which can accommodate smaller households.
- Employment growth - anticipated to continue to increase over time, along with average household income. Employment and income are tied to waste generation.

The following Table 7 presents the projected tonnes of Green Bin material (from single-family) and garbage (from single-family and multi-residential) that will require management by Durham Region. These projections were developed for the Mixed Waste Pre-sort and Anaerobic Digestion Facility, prior to the COVID-19 pandemic and do not reflect the changes to waste generation that have resulted or future impacts post-COVID-19 (e.g. working from home etc.).

The projections also do not include Blue Box recyclables as the Region will no longer be responsible for managing these materials after producers take responsibility for Blue Box collection and management (July, 2024 for Durham Region).

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Table 7: Projected Tonnes of Curbside Green Bin Material and Garbage (to 2045)

	2020	2025	2030	2035	2040	2045
Curbside Green Bin Material	28,700	35,100	41,700	45,700	49,200	52,600
Garbage	96,200	115,100	135,200	148,100	159,200	170,400
Single-family	82,200	98,800	116,500	127,700	137,300	147,000
Multi-residential	14,000	16,300	18,700	20,400	21,900	23,400

Source: RFPQ for Mixed Waste Presort and Anaerobic Digestion Facility

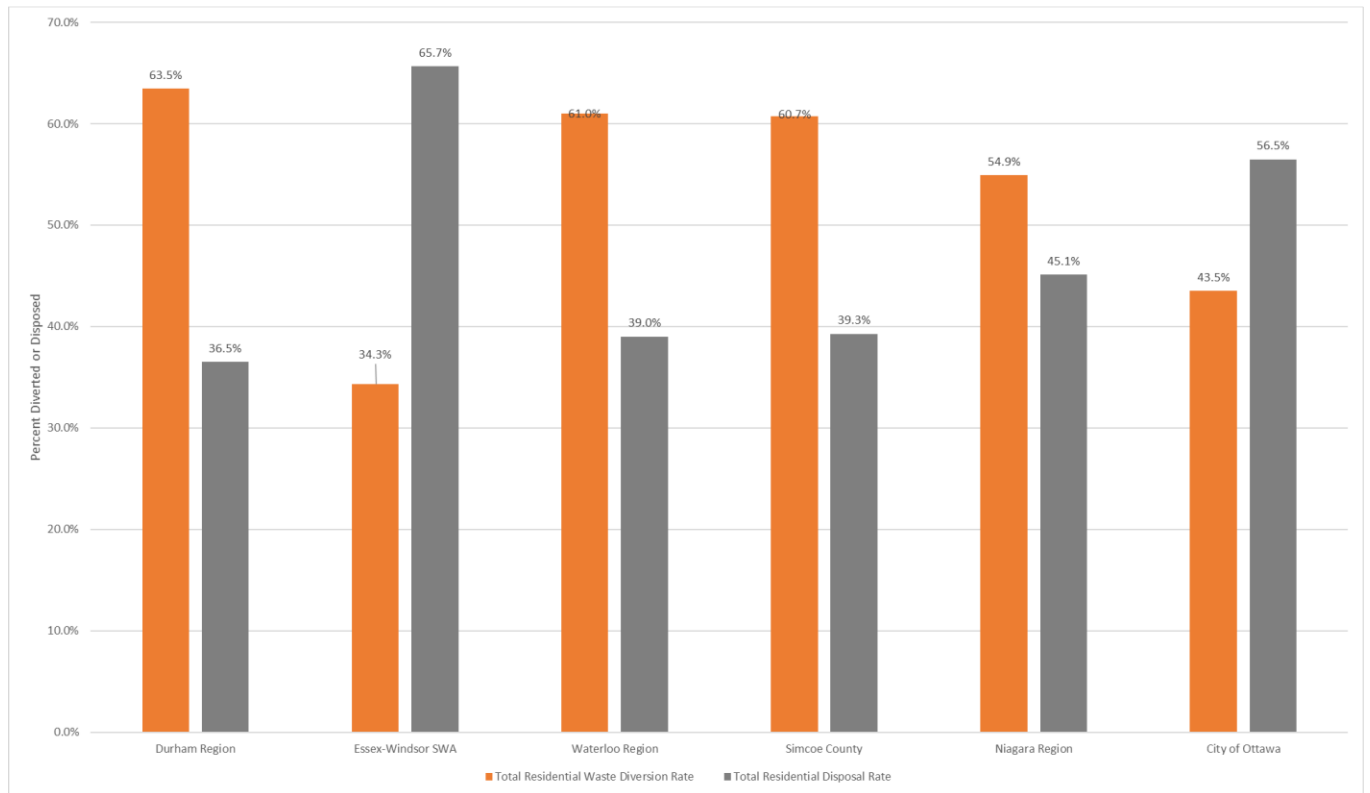
5.8 Performance

Durham Region is classified as Urban Regional by the Resource Recovery and Productivity Authority (RPRA), along with Essex-Windsor Solid Waste Authority, Waterloo Region, Simcoe County, Niagara Region and City of Ottawa. This municipal grouping includes municipalities with a population greater than 250,000 and a population density less than 4 residents per hectare (based on 2011 Datacall). In 2019, Durham Region had the second highest population in this category and the second highest waste generation rate (next to Ottawa). The Region also had the highest residential waste diversion rate.

Figure 6 presents a comparison of the 2019 diversion and disposal rates for the Urban Regional municipal grouping.

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Figure 6: Comparison of Durham Region 2019 Diversion and Disposal Rates



Source: RPR 2019 Datacall

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Table 8 presents the Region’s 2019 tonnages grouped as per the 2019 RPRA Datacall submission and illustrates the tonnes considered as “Diverted” and “Disposed”. In 2019, the Region’s diversion rate was 63 per cent as verified by RPRA.

Table 8: 2019 Diversion Rate (RPRA)

Category	Method of Management	Tonnes
Diverted	Residential Diversion and Reuse (On-property Management, Deposit/Return)	24,454
	Recyclable Material Diverted (Curbside, WMF, DYEC)	80,868
	Organic Material Diverted (Curbside, WMF)	54,272
	HSP Diverted (Recycled and Reused)	1,295
	Total Diverted	160,889
Disposed	DYEC ¹	61,132
	Landfill (Garbage, Ash, Processing Residues)	31,414
	Total Disposed	92,545
Generated	Total Generated	253,434
	Diversion Rate	63%

Source: 2019 RPRA Datacall Submission

¹ Tonnage reflects mass reduction due to combustion process.

Many municipalities are starting to report on the total amount of waste generated, which typically includes garbage, Blue Box recycling, Green Bin organics, Leaf and Yard Waste (LYW) and other materials. This may be reported on a per capita basis (i.e. per person) to give a better indication of how these rates are changing from year to year. This metric gives a truer picture of all materials that municipalities must manage, rather than just reporting on what was diverted.

Figure 7 presents the historical per capita waste generation, disposal and diversion rates for Durham Region from 2001 to 2020. Waste generation rates have been trending downwards since 2006. The higher generation rate in 2020 reflects the impact of residents staying at home during the COVID-19 pandemic.

Diversion rates include tonnages attributed to Blue Box recycling, Green Bin materials, LYW, reuse and credits for backyard composting and grasscycling.

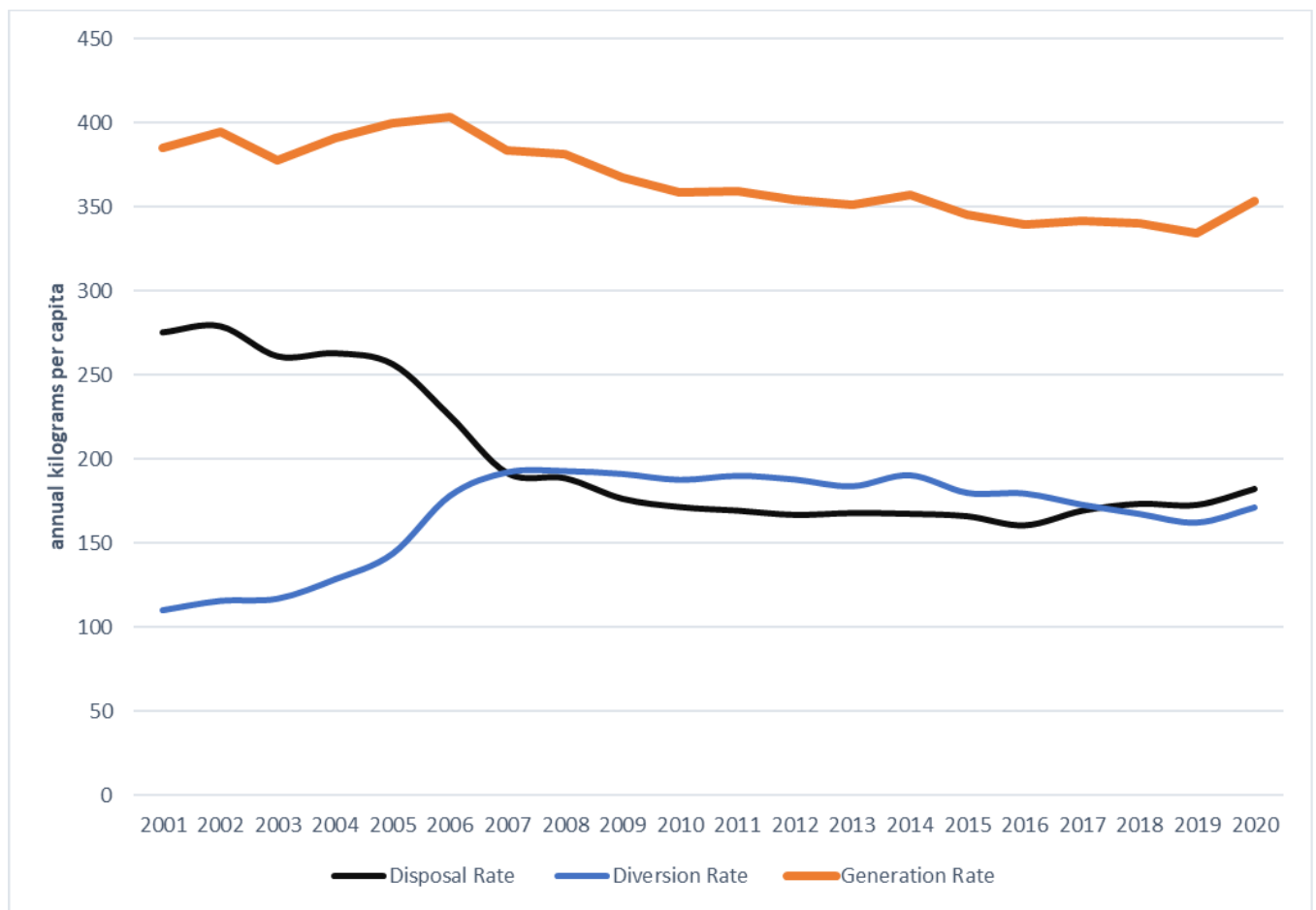
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The impact of the introduction of the Green Bin program being offered across the Region can clearly be seen in 2007 with a large increase in waste diverted. Diversion rates peaked in 2008 and show an overall downward trend until 2020, when the COVID-19 pandemic hit. It should be noted that diversion rates can be impacted by factors such as weather (for LYW), consumer behaviour (e.g. reading newspapers online instead of printed versions), light weighting (thinner, lighter packaging) and packaging choices (e.g. stand-up pouches instead of metal or glass). All of these factors are outside the Region’s control.

Disposal rates continued to show a downward trend until around 2017 when rates started to increase again. Disposal rates in 2020 reflect the impact of COVID-19.

Figure 7: Per Capita Waste Generation Rate (2001-2020)



Source: Durham Region, Actual Tonnes 2001-2020

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Table 9 presents a snapshot of materials collected and marketed in Durham Region’s recycling program from 2017 to 2019. Tonnes of paper and metal have decreased while tonnes of plastic and glass have increased. Overall tonnes of materials marketed have decreased by five per cent and each year the tonnages of recyclables marketed from each household has decreased. As discussed above, this may be due to light weighting (i.e. packaging becoming thinner and lighter), changes in packaging materials (e.g. changes from glass or metal to stand-up pouches which are not currently recyclable), and changes in consumer behaviour (e.g. reading newspapers online).

Table 9: Tonnes of Recyclables Marketed by Durham Region (2017-2019)

	Paper	Plastic	Metal	Glass	Total Marketed	Tonnes/ household
2017	32,738	4,241	2,232	4,295	43,507	0.19
2018	31,932	4,864	1,921	4,561	43,278	0.18
2019	29,739	4,866	1,901	4,701	41,207	0.17

Source: RPRA Tonnage

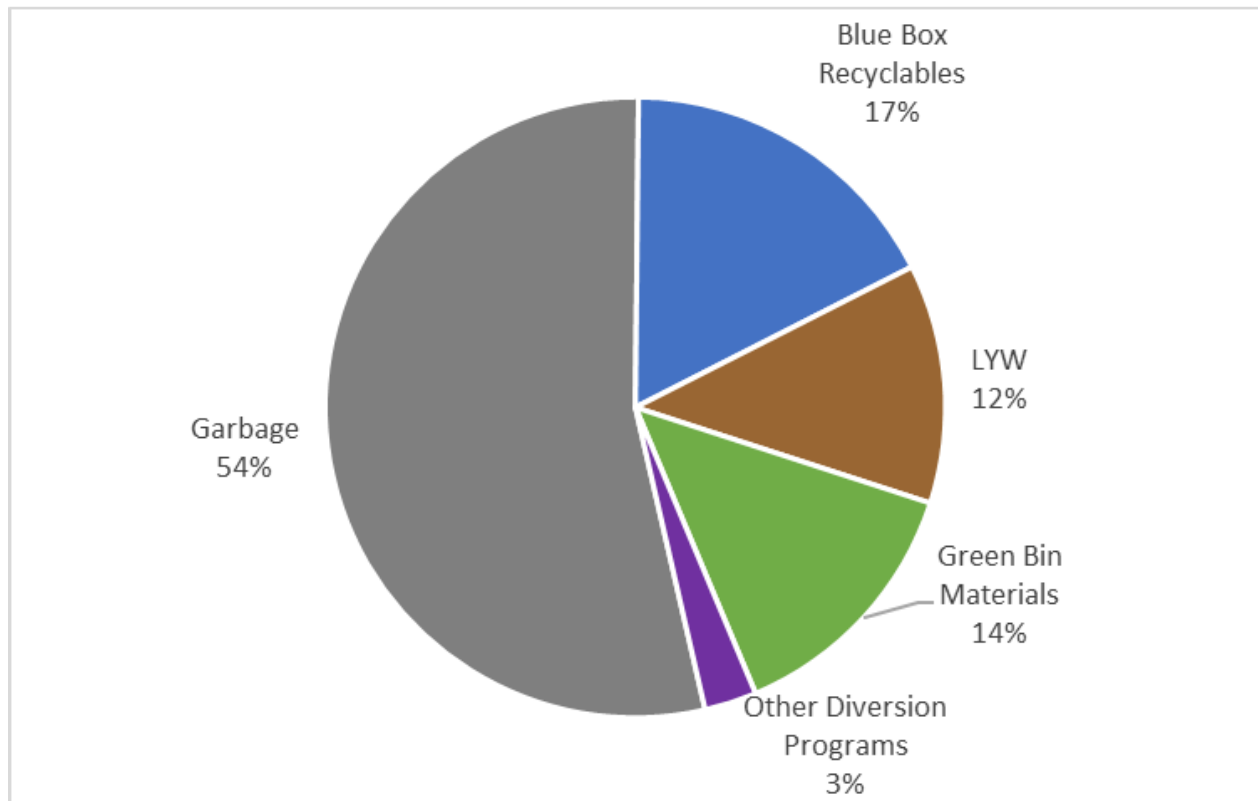
5.9 Waste Composition

As shown in Figure 8, in 2020, over half of the residential waste collected at the curb and at the WMFs consisted of garbage. Approximately, 17 per cent of residential waste consisted of Blue Box recyclables. Another 14 per cent of residential waste consisted of Green Bin materials and 12 per cent was leaf and yard waste. The remaining three per cent was managed through other diversion programs (e.g. for electronics, tires, scrap metal, porcelain etc.).

Note that these values represent what was collected by the Region at the curb and at Waste Management Facilities and does not represent what was truly diverted. The Region’s 63 percent diversion rate, as calculated by RPRA (see Section 5.8) reflects tonnes marketed (i.e. does not include the residue/contamination that would be reported in the tonnes collected), diversion credits (e.g. for grasscycling and backyard composting), and counts additional diversion from DYEC for bottom ash, metals recovered from ash and mass reduction from the combustion process.

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Figure 8: Composition of Residential Waste Managed (2020)



Source: 2020 Waste Tonnage Summary

5.9.1 Garbage Composition

A Garbage Composition Study (the Study) was conducted in 2018 and was intended to:

1. Demonstrate the reliability of mixed waste processing to consistently recover digester and composting-ready organics, valuable metals and rigid plastics for recycling.
2. Provide informational value to assist in future decisions on the viability of mixed waste processing to aid in increasing diversion.
3. Understand whether garbage originating from single-family residential homes has the same or different diversion potential than garbage originating in multi-residential dwellings.

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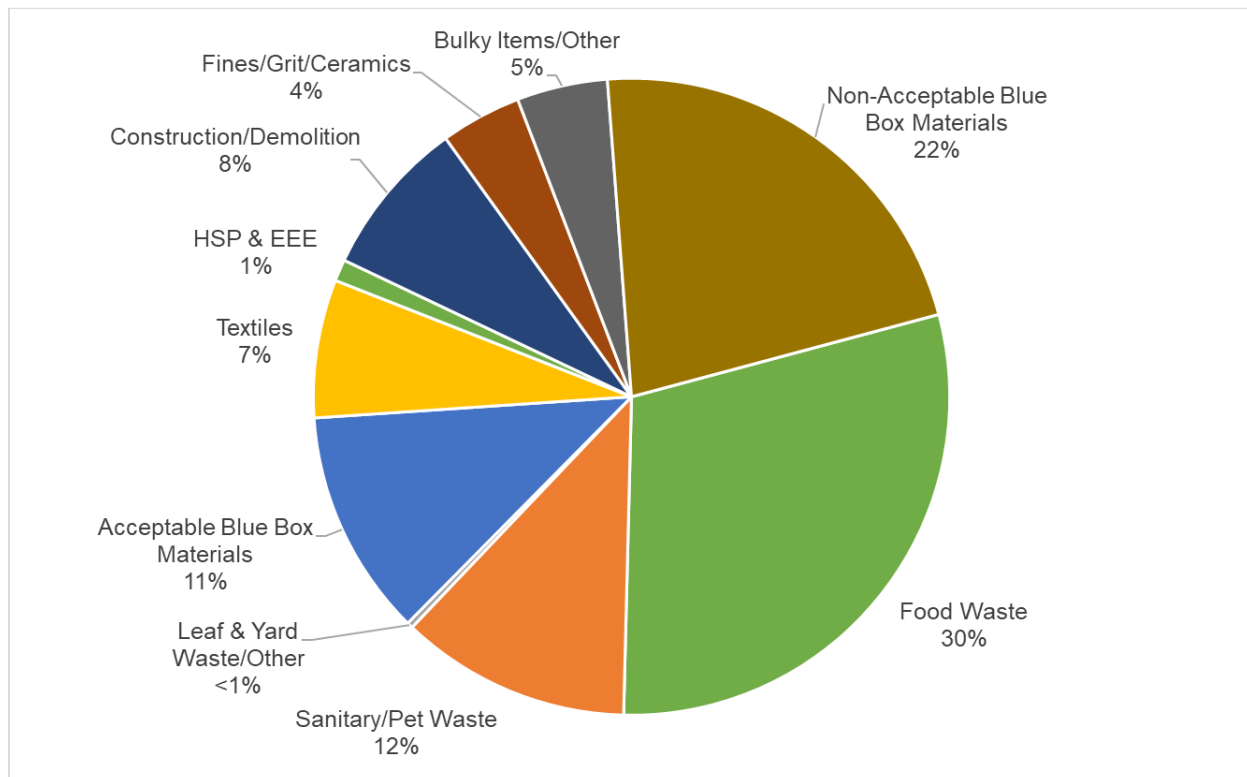
Single-family Garbage Composition

The 2018 Garbage Composition Study confirmed that approximately 50 per cent of materials disposed of in the garbage was organic material including food waste (30 per cent of total disposed), sanitary products and pet waste (12 per cent of total disposed), and soiled paper (eight per cent of total disposed). About 12 per cent of garbage consisted of Blue Box recyclables. About 12 per cent of materials disposed were non-combustible garbage such as concrete, rubble, ceramics/porcelain, grit and glass.

In the Region's current programs, approximately 42 per cent of materials in the garbage stream could be diverted through existing program/service offered by the Region (e.g. food waste, Blue Box program, HSP, EEE etc.), 39 per cent of materials cannot be diverted in current programs (e.g. Non-Blue Box materials, construction/demolition materials, bulky items etc.), and 19 per cent consists of sanitary/pet waste and textiles that could be diverted with future programs.

Figure 9 presents the composition of single-family garbage.

Figure 9: Single-family Garbage Composition (2018)



Source: 2018 Waste Composition Study – Single-family

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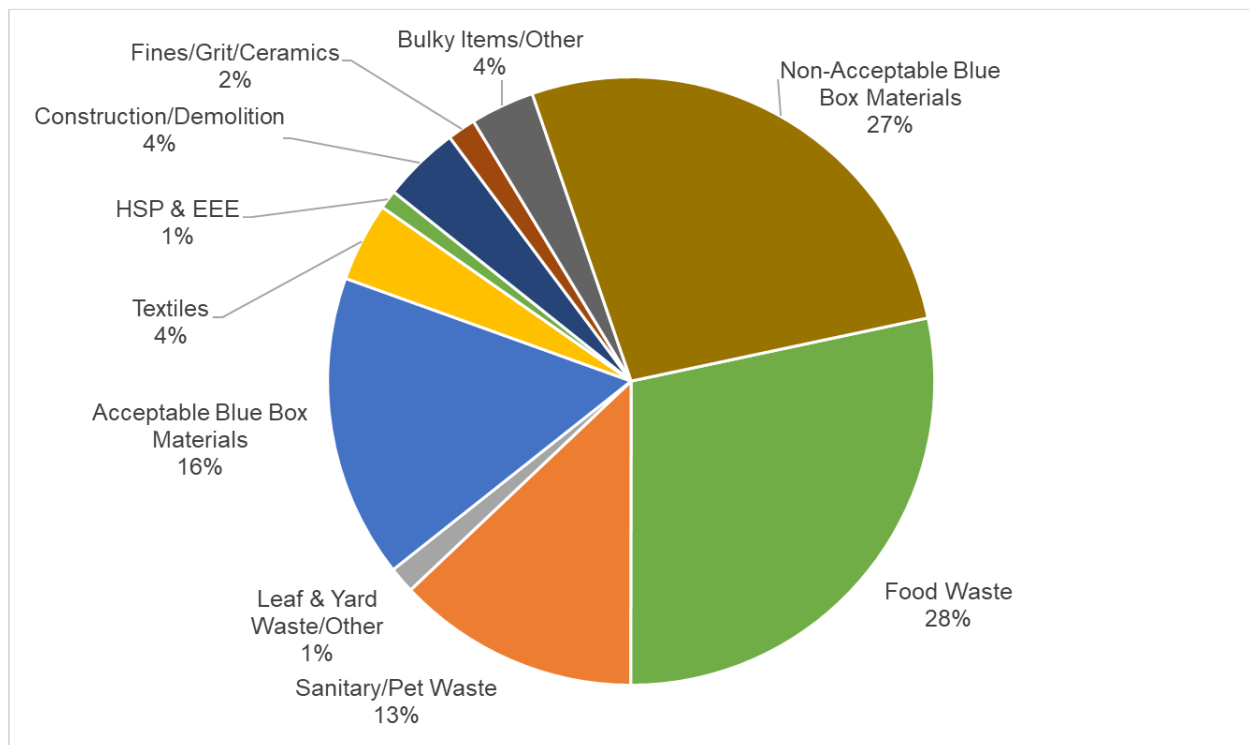
Multi-residential Garbage Composition

The 2018 Garbage Composition Study confirmed that about 51 per cent of materials disposed of in the garbage was organics that could be processed in an anaerobic digester such as food waste (28 per cent of total disposed), sanitary products and pet waste (13 per cent of total disposed), and soiled paper (10 per cent of total disposed). About 16 per cent of garbage was Blue Box materials such as paper fibers (10 per cent of total disposed), and plastic/glass and metal containers (six per cent of total disposed).

In the Region's current programs, approximately 47 per cent of materials in the garbage stream could be diverted in an existing program/service offered by the Region (e.g. food waste, Blue Box program, LYW, HSP, EEE etc.), 36 per cent of materials cannot be diverted in current programs (e.g. Non-Blue Box materials, construction/demolition materials, bulky items etc.), and 17 per cent consists of sanitary/pet waste and textiles that could be diverted with future programs.

Figure 10 presents the composition of multi-residential garbage.

Figure 10: Multi-residential Garbage Composition (2018)



Source: 2018 Waste Composition Study – Multi-residential

In summary, the waste profiles of single-family and multi-residential garbage are quite similar, with the largest component of garbage consisting of food

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waste (which was found in almost equal proportions for each sector). Multi-residential garbage had higher quantities of Blue Box fibres, likely consisting of cardboard (e.g. boxes from moving, online shopping, meal kits etc.). Single-family garbage had larger quantities of textile waste and fewer Blue Box materials.

6 Regulatory Review

The regulatory landscape with regards to waste management and environmental protection in Ontario will be undergoing significant changes in the next five to ten years. The following sections outline the current and proposed regulations applicable to this Waste Plan. The Regulations with the greatest impact to the Region’s waste management system will be Extended Producer Responsibility (particularly for Blue Box materials) and the Food and the Food and Organic Waste Framework which will impact how and what organic materials will be managed. There are other federal initiatives targeting plastic that will impact the types and quantities of plastic requiring management. The Durham York Energy Centre is also subject to greenhouse gas reporting regulations and air emissions regulations.

6.1 Durham Region Solid Waste By-law

Durham Region’s primary Solid Waste Management By-law is [By-law 46-2011](#): *“A By-law to Regulate the Provision of the Waste Management Services Under the Jurisdiction of The Regional Municipality of Durham”*. This By-law addresses waste management service requirements for single-family dwellings, multi-residential dwellings and privately-owned roads. It also describes the rules for waste management facilities owned by the Region, fees and rates, and enforcement of non-compliance.

This By-law defines the eligible properties to be collected:

1. Any single-family residential dwelling, including houses, semi-detached houses, duplexes, townhouses (inclusive located on private property), or any multi-dwelling building deemed eligible by the Region, and/or
2. Any townhouse on private property and multi-residential apartment or condominium buildings deemed compliant by the Region with the “Technical and Risk Management Guidelines for Waste Collection Services”, and/or
3. Small business deemed by the Region to conform to the provisions of residential collection or being part of a designated Business Improvement Area.

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This By-law defines a Multi-Residential Property as a high-rise apartment building, condominium property, townhouse property, co-op property or other similar residential property containing more than six (6) self-contained dwelling units. It provides details on collection requirements including:

1. General waste collection requirements
2. Requirements for high rise buildings
3. Requirements for townhouse properties

Schedule O defines each waste stream's collection schedule, limitations, and requirements for each of the eight Local Area Municipalities.⁵ Waste streams included are:

1. Recycling
2. Green Bin
3. Garbage
4. Leaf & Yard
5. Bulky Goods
6. Metal Goods/Appliances
7. EEE & Porcelain Bathroom Fixtures

The By-law outlines the requirements of each waste stream's set out times, weight restrictions, materials accepted and not accepted, etc.

6.2 Ontario Policy Changes

The two policy changes that will have the greatest impact on the Region's waste management system within the next five years are the Resource Recovery and Circular Economy Act and the Food and Organic Waste Framework, particularly the Food and Organic Waste Policy Statement that sets out the municipal obligations regarding organics management.

Regulatory obligations under the Greenhouse Gas Emissions: Quantification, Reporting and Verification regulation, the Air Pollution – Local Air Quality regulation and, to a lesser extent, the Greenhouse Gas Emissions Performance Standard regulation could also impact the DYEC.

⁵ Note that the Region only collects recycling (no other stream) for the Town of Whitby and City of Oshawa.

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6.2.1 Resource Recovery and Circular Economy Act (RRCEA), 2016

The RRCEA provides the framework for Individual Producer Responsibility (IPR) regulations in Ontario and includes tires, information technology, telecommunications and audio-visual (ITT/AV) equipment, lighting equipment, single-use batteries, hazardous or special products and Blue Box materials. The objective of these regulations is to shift the responsibility of waste management (this includes financial, operational and regulatory responsibilities) from municipalities to producers of the materials and encourage producers to invest towards improving their products and packaging through product design. Ontario transitioned its tires program in 2019, single-use battery program in 2020 and transitioned the hazardous and special products (HSP) and electrical and electronic equipment (EEE) programs in 2021. The Blue Box Program is expected to transition over three years starting in 2023. Table 10 presents the timing of the transition of EPR programs.

Table 10: EPR Transition Timing

EPR Program	Existing Program End Date	New Program Start Date
Used Tires	December 31, 2018	January 1, 2019
Single-use Batteries	June 30, 2020	July 1, 2020
Electrical and Electronic Equipment (EEE)	December 31, 2020	January 1, 2021
Hazardous and Special Products (HSP)	June 30, 2021	October 1, 2021
Blue Box	December 31, 2022	July 1, 2023 – December 31, 2025

Durham Region has transitioned its programs for tires, batteries and electronics and HSP. Durham Region is scheduled to transition its Blue Box program on July 1, 2024.

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Blue Box Program Transition

The regulation makes producers of designated products and packaging recycled in the Blue Box fully responsible for operating and financing the Blue Box program, including providing collection services to local communities, managing Blue Box materials and achieving diversion targets to improve diversion, address plastic waste and recover resources for use in a circular economy.

Producers (i.e. brand-owners, importers, marketers of products in Ontario) will be responsible for managing designated materials (e.g. paper products, packaging, packaging-like products and possibly single serve food and beverage service products). Producers will work with Producer Responsibility Organizations (PROs) to manage these materials and ensure the provincially mandated obligations are met.

Producers can meet their diversion targets through reuse, recycling (mechanical or chemical), composting or anaerobic digestion, use of materials as aggregate (e.g. road building – limited to a certain percentage). Landfilling, landfill cover, incineration and energy from waste will not count towards achieving diversion targets. Use of materials to generate energy or fuel is not considered diversion but is proposed to be allowed for waste that cannot be recycled (e.g. Blue Box residuals).

Durham Region's Blue Box Program will transition to full EPR on July 1, 2024. There is uncertainty regarding the future role of the Region's Material Recovery Facility (MRF) and other involvement the Region may have with the transition such as with promotion and education or call centres. It is unknown how the PROs will be collecting recyclables (single stream or dual stream), what containers may be used (Blue Boxes, carts or other), how materials may be processed, or who will be doing the collecting.

The regulation includes all single-family residences and multi-residential buildings, schools, not-for-profit long-term care and retirement homes and municipal public spaces/parks currently receiving municipal garbage collection as part of the initial transition. In 2026 and beyond, non-serviced multi-residential buildings, schools, long-term care homes can request to be added to the service. Business Improvement Areas will not be eligible to receive free collection under the producer-run system. The Region may be responsible for collection of recyclables from some sectors until at least 2026, at which point the PROs may assume collection.

At this time, it is unknown how or if the Region will be paid for Blue Box recyclables should it elect to continue offering recycling collection services to ineligible sources (such as businesses located in BIAs) after the Region

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transitions out of the Blue Box program in 2024. After transition, PROs may not pay for recycling services provided to or recycling materials collected from sources deemed ineligible under the new Blue Box regulation.

Hazardous and Special Products Transition

The Hazardous and Special Products (HSP) regulations took effect on October 1, 2021. At that time, most materials managed in the existing program were transitioned to the new producer responsibility regime. Select mercury-containing devices were added to the program, but there was no expansion of the existing program. Producers are required to implement a P&E program soon after the regulation effective date. Products to be managed include:

- Category A Products – non-refillable pressurized containers and oil filters
- Category B Products – Antifreeze, paints and coatings, pesticides, solvents, oil containers, refillable pressurized containers (not including refillable propane tanks)
- Category C Products – barometers, thermometers, thermostats
- Category D Products – fertilizers (not including those products used for commercial or agricultural purposes or supplied in a container greater than 30L or 30kg).
- Category E Products – refillable propane cylinders

Producers of Category A and B products were responsible for transitioning the collection and management of HSP under the new regulation. This included establishing, reestablishing, developing or holding an equivalent number of sites or events operated by municipalities. It appears municipalities such as Durham Region could continue to operate HSP collection events/sites in coordination with producers. Municipalities may continue to collect Category C products, for which producers will be responsible for producing a P&E campaign beginning October 1, 2021. Also at that time, producers of Category D products will also be responsible for creating P&E campaigns intended to instruct consumers to “use up, share or otherwise dispose of unused fertilizer”, and to “refrain from dropping off or delivering fertilizers to municipal depots”.

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6.2.2 Food and Organic Waste Framework

The Province of Ontario is beginning to shift its legislation and economics towards a circular economy through the Strategy for a Waste Free Ontario: Building a Circular Economy and Ontario’s Food and Organic Waste Framework. The Framework consists of two complementary components: the [Action Plan](#) which outlines the strategic commitments to be taken by the Province to address food and organic waste and the [Policy Statement](#) which provides direction to the MECP, municipalities, the Industrial, Commercial and Institutional (IC&I) sector (which includes Multi-residential Buildings), owners and operators of processing facilities and others regarding targets for waste reduction and recovery. These two components will help prevent and reduce food/organic waste, reintegrate excess food into the markets, and collect and recover food waste as a new resource. To achieve this goal, the Framework has four objectives:

- Reduce food and organic waste
- Recover resources from food and organic waste
- Support resource recovery infrastructure
- Promote beneficial uses of recovered organic resources

There are a number of proposed Actions including banning food and organic waste from disposal (anticipated to start in 2030) and imposing a mandatory organics diversion strategy. These initiatives will require municipalities to provide source separated food and organic waste collection to their residents (if they have not already done so).

Within the Policy Statement, Ontario has set targets for waste reduction and recovery by sector, as presented in Table 11.

Table 11: Waste Reduction and Resource Recovery Targets by Sector

Section Reference	Requirement	Target and Date
4.1	Municipalities that provide source separated food and organic waste collection shall maintain or expand these services to ensure residents have access to convenient and accessible collection services. Other collection methods, such as directing disposal streams to mixed waste processing, may be used to support collection of additional materials.	70 per cent waste reduction and resource recovery of food and organic waste generated in urban settlement areas by 2023.

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Section Reference	Requirement	Target and Date
4.10 to 4.13	Multi-unit residential buildings shall provide collection of food and organic waste to their residents. Source separation is preferred but like 4.1, alternatives to collecting this stream may be used if it demonstrates that provincial targets can be met. Best practices need to be implemented and buildings need to promote and educate residents to increase participation.	50 per cent waste reduction and resource recovery of food and organic waste generated at the building by 2025.
4.14 to 4.17	The Statement provides direction to certain groups (i.e. subject to <i>O.Reg.103/94</i>) under the industrial and commercial sectors (e.g., retail, office, restaurants, hotels, motels, large manufacturing) based on the quantity of food and organic waste generated each week.	Ranges from 50 per cent to 70 per cent waste reduction and resource recovery of food and organic waste depending on the quantity of food and organic waste generated in the facility by 2025.
4.14	All retail shopping establishments, retail shopping complexes, office buildings, restaurants, hotels and motels and large manufacturing establishments, subject to <i>O. Reg. 103/94</i> that generate 300 kilograms or more of food and organic waste per week <u>shall</u> source separate food and organic waste.	70 per cent waste reduction and resource recovery of food and organic waste generated in the facility by 2025.
4.15	All retail shopping establishments, retail shopping complexes, office buildings, restaurants, hotels and motels, and large manufacturing establishments, not subject to <i>O. Reg. 103/94</i> , that generate 300 kilograms or more of food and organic waste per week <u>shall</u> source separate food and organic waste.	50 per cent waste reduction and resource recovery of food and organic waste generated in the facility by 2025.

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Section Reference	Requirement	Target and Date
4.16 to 4.17	<p>All other retail shopping establishments, retail shopping complexes, office buildings, restaurants, hotels and motels and large manufacturing establishments that generate less than 300 kilograms of food and organic waste per week <u>should</u> source separate food and organic waste.</p> <p>All retail shopping establishments, retail shopping complexes, office buildings, restaurants, hotels and motels, and large manufacturing establishments shall provide users of these facilities promotion and education materials that support and increase participation in resource recovery efforts.</p>	No target or date specified.
4.18	Educational institutions and hospitals, subject to <i>O.Reg. 103/94</i> , that generate more than 150 kg of food and organic waste per week <u>shall</u> source separate that stream.	70 per cent waste reduction and resource recovery generated in the facility by 2025.

The Region will be required to meet a performance target of 70 per cent waste reduction and resource recovery of food and organic waste generated by its single-family dwellings by 2023 and 50 percent waste reduction and resource recovery for any Multi-residential buildings to which it provides collection service by 2025. Durham is currently in the procurement phase of building a Mixed Waste Pre-sort and Anaerobic Digestion Facility which will augment its existing diversion strategies and further allow the Region to satisfy the requirements of the Policy Statement.⁶

⁶ Durham Region. (January 2020). The Regional Municipality of Durham report-Committee of the Whole: #2020-COW-2 https://www.durham.ca/en/living-here/resources/Documents/GarbageandRecycling/Anaerobic-Digestion-/Council-Reports/2020-COW-2_WMS_2020_SIFF.pdf

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6.2.3 Other Regulations

Ontario regulates industrial air emissions under the Environmental Protection Act, Regulation 419/05 Air Pollution – Local Air Quality. Emissions from the DYEC are regulated under this regulation. Future changes to this regulation could impact obligations for the DYEC. The DYEC is also subject to the Greenhouse Gas Emissions: Quantification, Reporting and Verification regulation. The current requirements are to calculate the total greenhouse gas emissions for the facility and to report on the non-biogenic emissions each year. The DYEC is not currently subject to the pricing mechanisms in place for carbon emissions in Canada or Ontario. As efforts to reduce greenhouse gas emissions increase at the federal and provincial level, there is a possibility that DYEC emissions will become subject to carbon pricing over the life of the Waste Plan.

6.2.4 Other Relevant Initiatives

There are several initiatives that have been introduced to reduce and/or eliminate plastics, particularly single-use plastics. These regulations and initiatives have the potential to alter the composition of waste managed by the Region, although the impact may not be felt for a number of years.

Canada-wide Action Plan on Zero Plastic Waste

On October 7, 2020 the Federal government announced a federal ban of single-use plastics (SUPs) with regulations expected to be finalized by the end of 2021. This legislation will ban selected SUPs that are deemed recurring items in the environment and often cannot be recycled. The government is proposing to ban the following items:

- Plastic grocery bags
- Straws
- Stir sticks
- Six-pack rings for beer
- Cutlery
- Foodware made from hard-to-recycle plastics

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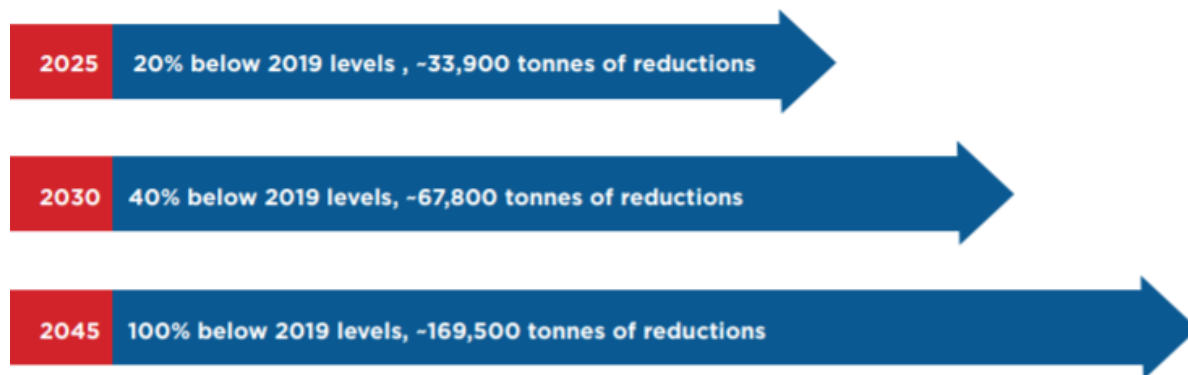
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Ocean Plastics Charter and Canada Plastics Pact

In 2018, Canada adopted the Ocean Plastics Charter which brings together governments, businesses and organizations to move forward with a more sustainable approach to plastics. The Canada Plastics Pact is an initiative to collaborate and rethink the way plastic packaging is designed, used and reused to realize a circular economy for plastic in Canada. Both initiatives include retailers who have committed to achieving a number of targets for reducing plastic waste. It is not anticipated that these initiatives will result in an immediate reduction in plastic packaging but may result in reductions in plastic packaging that has been designated as problematic or unnecessary. It may result in packaging being designed to be reusable, recyclable or compostable.

7 Commitment to Climate Change

In 2020, Durham Region Council declared a climate emergency. Over the last 10 years, the Region has been making decisions supporting the need to focus on climate action as a critical priority. Recently, the Region developed the Corporate Climate Action Plan⁷ (CCAP) which outlines actions to reduce GHG emissions from the Region's corporate operations. The CCAP and the following Corporate GHG emissions reductions targets were approved in March 2021. The approved emissions reductions targets are as follows:



⁷ <https://www.durham.ca/en/resources/CAO-Office/Durham-Region-Corporate-Climate-Action-Plan.pdf>

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Key waste management objectives relating to GHG reductions over the next 20 years include:

- Increasing diversion of organic waste from single-family homes
- Construct and operate a Mixed Waste Pre-sort and Anaerobic Digestion facility
- Continue to manage GHG emissions from legacy closed landfills through innovative approaches
- Explore ways to mitigate corporate GHG increases associated with future increases in DYEC capacity and population growth over the coming decade.
- Explore opportunities to reduce emissions through procurement and contract management, which could include zero emissions vehicles and/or hybrid vehicles where operationally feasible.

7.1 Corporate Emissions

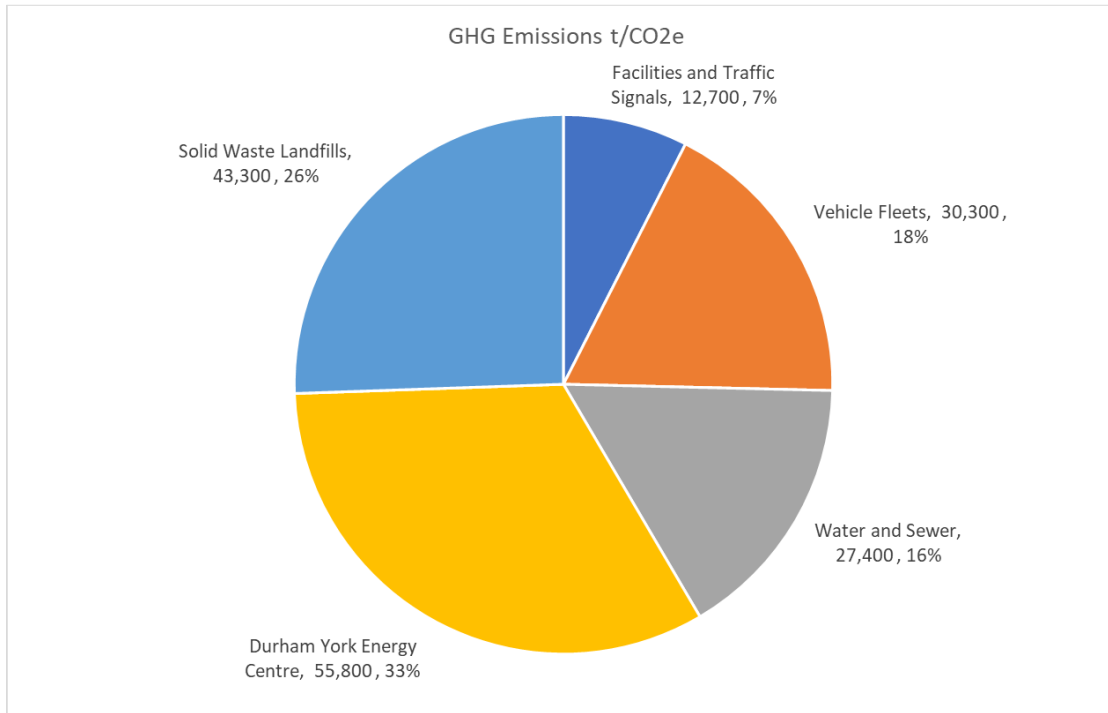
From 2007 to 2019, corporate GHG emissions increased by 18 per cent, largely attributable to DYEC commencing operation in 2016 and through an increasing population requiring more services and supporting infrastructure. It is important to note that the Region's methodology to calculate GHG emissions does not reflect the reduction in GHG emissions associated with hauling waste to landfills⁸ or emissions from landfills (landfills are not required to calculate and report on GHG emissions under the Ontario GHG reporting program) with the use of DYEC. Lifecycle analyses using alternate calculations have estimated a net GHG reduction benefit for DYEC compared to landfill disposal.

In 2018, emissions from DYEC and landfills accounted for approximately 59 per cent of Corporate GHG emissions. Figure 11 presents the sources of the 2019 reported emissions.

⁸ These are considered Scope 3 emissions. As part of future updates to the Region's corporate GHG accounting protocol and the CCAP, opportunities to include relevant Scope 3 emissions data will be explored.

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Figure 11: 2019 Reported GHG Emissions Summary



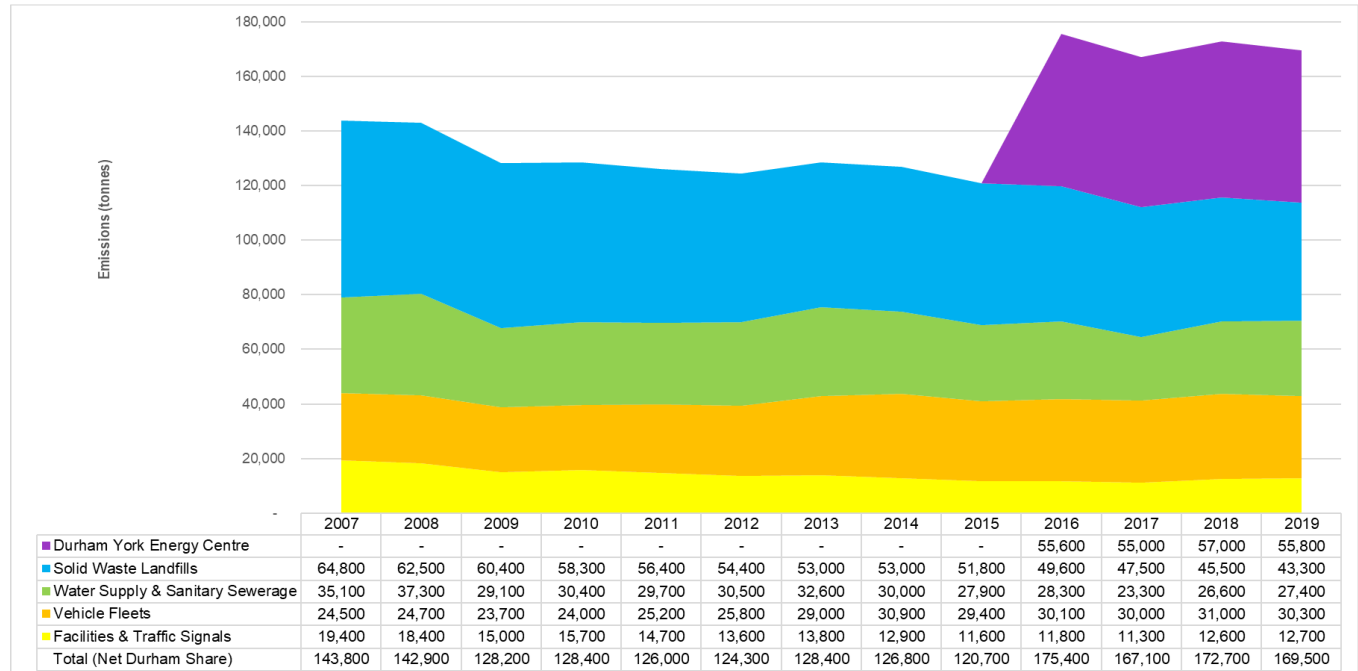
Source: Durham Region Corporate Climate Action Plan

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Figure 12 presents the Corporate GHG Emissions inventory from 2007 to 2019.

Figure 12: Corporate GHG Emissions Inventory (2007 – 2019)



Source: Durham Region Corporate Climate Action Plan

A number of waste-related opportunities to reduce these GHG emissions have been identified to support the achievement of the proposed targets.

- Increasing diversion of organic waste with the Mixed Waste Pre-sort and Anaerobic Digestion Facility and conversion of biogas to Renewable Natural Gas (RNG) is estimated to generate upwards of 4 million m³ of RNG annually which has potential to offset 7,500 tCO₂e annually through the displacement of natural gas use. In the future, as the throughput of the facility increases with increased tonnage, RNG production is anticipated to generate more than 6 million m³ annually through the end of the initial 20 year operating period which will offset more than 10,000 tCO₂e annually through the displacement of conventional natural gas usage.
- In 2019, the closed landfills managed by the Region were responsible for an estimated 43,300 tCO₂e, or 26 per cent of the Region's corporate emissions. The Region is exploring alternative landfill cover systems which have the potential to decrease methane emissions. A pilot project at the Oshawa landfill is anticipated to reduce GHG emissions by up to

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12,000 tCO₂e annually.⁹ If expanded to the remaining closed landfills, it is estimated the total GHG emissions reduction may be 37,000 tCO₂e annually.¹⁰

- The Region's decision to develop the DYEC has increased its overall corporate GHG emissions but has reduced GHGs associated with long-haul waste trucking to other areas of Ontario or the U.S. and with methane leakage from landfills. The Region's methodology does not account for these reduced or avoided emissions. In the future, the Region will work to retain future carbon credits as an offset against corporate electricity-related GHG emissions inventory where financially feasible, explore the possibility of using waste heat generated at DYEC within other Regional or surrounding facilities including participation in district energy systems and continue to monitor opportunities to reduce or offset emissions through developing technologies including carbon capture and ash utilization.
- Continue to investigate the potential to utilize RNG as part of the Region's natural gas purchases.
- Investigate opportunities to influence emissions related to contracted third party emissions associated with waste haulage.
- Investigate options for low and zero carbon vehicles with a focus on fleet electrification where operationally feasible.
- Optimize waste management facility operations and haulage to minimize vehicle kilometres travelled to transport waste to disposal locations.

⁹ Based on 50 per cent of the site's emissions treated at 85 per cent efficiency. (CCAP)

¹⁰ Durham Region Corporate Climate Change Action Plan. [Durham Region Corporate Climate Action Plan](#) (accessed March 2021) (see section 9.1)

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7.2 Community Targets

The CCAP also provides guidance on opportunities to reduce GHG emissions from the community at-large. Regional council endorsed the following community GHG emissions targets in March 2021:

- 10 per cent below 2019 levels by 2025
- 30 per cent below 2019 levels by 2030
- 100 per cent below 2019 levels by 2050

In 2018, waste management activities accounted for approximately three per cent of community GHG emissions. As the Region implements GHG reduction measures for waste management operations, a corresponding decrease in community GHG emissions from waste management is expected.

8 What Will Impact Future Planning Decisions?

Like many other municipalities, the Region is grappling with several issues that will impact future planning decisions, including

- Provincial regulations for Extended Producer Responsibility for tires, batteries, EEE, HSP and Blue Box materials
- Provincial direction for organics management including targets for waste reduction and resource recovery of food and organic waste
- Climate change
- Population growth
- How to effectively communicate information and educate residents
- Provision of future disposal capacity at the DYEC
- How to balance innovation, convenience and cost to taxpayers
- Facility development, expansion, on-going care, and closure

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Figure 13: Timelines Impacting Future Waste Management Decisions

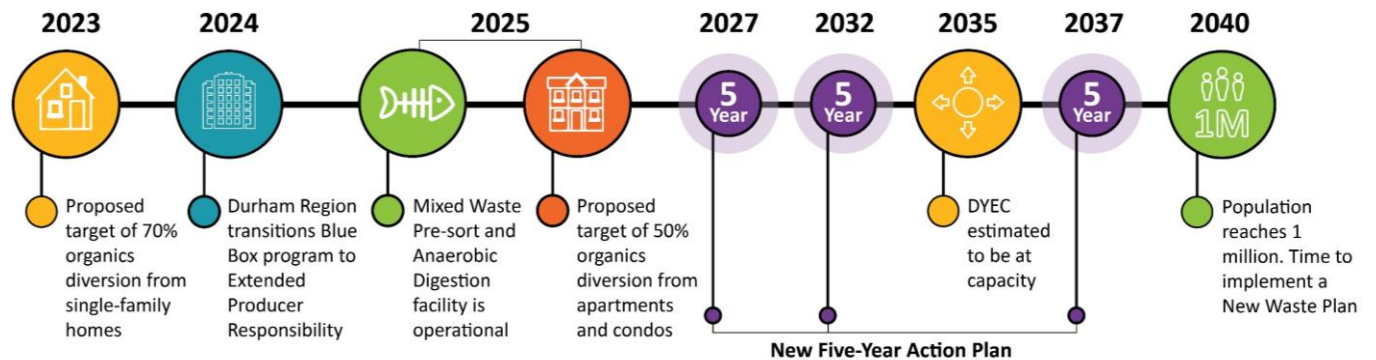


Figure 13 above presents the timing of the Provincial organics diversion targets (2023 and 2025), when the Region will transition the Blue Box program to EPR (mid-2024), when the Mixed Waste Pre-sort and Anaerobic Digestion facility will be operational (anticipated 2025), when DYEC is estimated to be at capacity (anticipated 2035) and when it is estimated that the Region's population will surpass one million (2040) and a new Waste Plan will need to be implemented. The timing of new regulations, and changes to the Region's infrastructure will impact decisions about the Region's waste management system.

A series of targets and actions have been developed with consideration to these future planning decisions, as outlined in the following sections.

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9 Targets and Timelines

The following table presents targets developed to meet the objectives and the proposed timing of the targets.

Table 12: Summary of Objectives, Targets and Timelines

Targets	Timeline for Targets		
	Short-term 2022-2026	Mid-term 2027- 2033	Long-term 2034- 2040
Objective 1: Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region’s waste management programs and services.			
Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media.	x	x	x
Objective 2: Reduce the quantity of waste we create			
Target 2A: Support residents in making behavioural changes to reduce food waste.	x	x	x
Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.	x	x	x
Objective 3: Increase diversion of waste from disposal and support the circular economy.			
Target 3A: Increase diversion of organics from disposal.	x	x	x
Target 3B: Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services.	x		
Target 3C: Develop a transition plan that supports EPR programs.	x		
Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.	x	x	x

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Targets	Timeline for Targets		
	Short-term 2022-2026	Mid-term 2027- 2033	Long-term 2034- 2040
Objective 4: Support the Region’s greenhouse gas reduction and climate change mitigation efforts.			
Target 4A: Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions.	x	x	x
Objective 5: Protect or improve water, land, and air quality in Durham Region.			
Target 5A: Optimize the operation and utilization of Waste Management Facilities.	x	x	x
Target 5B: Increase accessibility of waste management programs and services.	x	x	x
Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.	x	x	x

10 Targets and Actions

The Waste Plan consists of a series of short, mid and long-term actions that have been developed to assist with meeting the targets developed and will enable oversight of how the Waste Plan is being implemented. Being able to measure progress in meeting the stated objectives is critical to assess whether the objectives and targets are being met. For each target developed, a metric has been developed so the Region can assess the progress of meeting the targets. Completing the actions developed for each target will contribute to meeting the objectives.

10.1 Objective 1 Targets and Actions

Target 1A is to provide the tools and content necessary for residents to develop an understanding of the 5Rs and to incorporate these principles into their everyday lives. There are many residents who have embraced the concept of waste reduction, and others who are just starting to learn about waste reduction. The Region plans to increase the scope of public engagement to reach more residents to encourage a new way of thinking about waste. The actions below will be initiated and enhanced throughout the life of the Waste Plan.

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Objective 1: Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region’s waste management programs and services.

Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media

Measurement: Year over year increase (from 2018 or action start date) measured through metrics below

Actions throughout life of Waste Plan

<ul style="list-style-type: none"> • 1A1: Collaborate with Eco-Schools program to increase rethink and reduce activities in schools. Work with schools and school boards to provide educational content 	# of schools using Region content (41 schools in 2018)
<ul style="list-style-type: none"> • 1A2: Transition to the Region’s central access point for residents to obtain waste management information (e.g. myDurham311). Evaluate opportunities to integrate waste management information sources into the myDurham311 platform 	# of contacts regarding waste management handled by myDurham311
<ul style="list-style-type: none"> • 1A3: Undertake a promotion and education campaign to increase Waste app subscribers 	# of subscribers (50,000 in 2018)
<ul style="list-style-type: none"> • 1A4: Provide information on reduction and reuse by adding a dedicated section to the Region’s webpage 	# of visits to webpages
<ul style="list-style-type: none"> • 1A5: Investigate technical feasibility of enhancements to Waste app to include locations of donation centers including cost and maintenance implications 	Evaluation of technical feasibility of enhancements
<ul style="list-style-type: none"> • 1A6: Create and deliver content for digital and/or in-person engagement, including live online meetings for residents, how-to videos, tours of waste management facilities. Investigate collaborations with community groups 	# of views, # of meetings and/or tours, # of people attending meetings and/or tours
<ul style="list-style-type: none"> • 1A7: Work with Diversity, Equity and Inclusion Department to determine additional languages for publications, promotion and education materials and outreach events such as multi-cultural groups and clubs 	Increased # of languages available

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10.2 Objective 2 Targets and Actions

Results of the consultation process clearly underscored the importance of waste reduction. The actions below were developed to support residents in making the behavioural choices needed to reduce waste quantities. These actions would be complemented by the increased public engagement described above, along with the Region’s current promotion and education activities.

Objective 2: Reduce the quantity of waste we create.

Target 2A: Support residents in making behavioural changes to reduce food waste.

Measurement: Reduce quantities of avoidable food waste in the Green Bin program. Reduction targets to be determined with implementation of regular waste audits

Short-term Actions

- **2A1:** Continue with the Region’s “Buy it, Eat it” food waste reduction campaign and develop additional themes for next iteration of the campaign

Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.

Measurement: Measure annual generation rates of garbage (kg per capita) to track progress in reducing garbage. (2018: 173.1 kg garbage disposed per capita)

Short-term Actions

- **2B1:** Reduce quantities of materials generated such as durable goods, textiles and single-use plastics. Reduce textiles in garbage by up to 5% in next five years (as a percentage of garbage stream). Establish reduction targets for other materials with implementation of regular waste audits.
- **2B2:** Develop a monitoring program to audit waste setouts and composition on a regular basis to determine quantities of food waste, durable goods, textiles, single-use plastics, etc. through audits of garbage, curbside SSO and FSO

Mid-term Actions

- **2B3:** Evaluate partnerships with local charities on common messaging, sharing platforms and other circular economy opportunities
- **2B4:** Partner with local area municipalities on a common message and approach to textile diversion and single-use item reduction in support of federal action to ban some single-use plastics

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10.3 Objective 3 Targets and Actions

Waste reduction is primarily a result of decisions made by the Region's residents, through their choices of purchasing and consumption of goods. The Region can facilitate diversion of more materials from disposal through the development of the Mixed Waste Pre-sort and Anaerobic Digestion Facility, transitioning EPR programs for Blue Box materials and HSP, and advocating for additional or enhanced EPR programs. The Region will also support this transition through increased public engagement (Objective 1) and other P&E activities.

Objective 3: Increase diversion of waste from disposal and support the circular economy.

Target 3A: Increase diversion of organics from disposal

Measurement: Increase Green Bin organics diversion from disposal up to 10% by 2026

Short-term Actions

- **3A1:** Develop, commission, and operate the Mixed Waste Pre-sort and Anaerobic Digestion Facility to divert organics from garbage, from multi-residential buildings and also from single-family residences
- **3A2:** Launch an enhanced Green Bin program for single-family residences
- **3A3:** Encourage backyard composting by providing information about successful composting practices and promoting the Region's sale of subsidized composters
- **3A4:** Expand collection services to Regional facilities and consider service for local area municipal facilities and other institutional users (e.g. school boards).

Mid-term Actions

- **3A5:** Increase the number of multi-residential buildings being serviced by the Region to divert more material

Target 3B: Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services.

Measurement: Revise By-law by 2026

Short-term Actions

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Objective 3: Increase diversion of waste from disposal and support the circular economy.

- **3B1:** Revise By-law to reflect transition of EPR programs and changes to the Region's responsibilities regarding collection of materials such as Blue Box, EEE, HSP, batteries, definition of recycling receptacles, use/operation of the Material Recovery Facility, schedules, etc.
- **3B2:** Revise By-law to include a new section for the Mixed Waste Pre-sort and Anaerobic Digestion Facility and its operation/use
- **3B3:** Review options to service mid to high density developments (e.g. smaller trucks, alternative collection containers, collection on one side of street, central collection areas etc.) to better service the multi-residential sector and make any necessary amendments to By-law and collection contracts as required

Target 3C: Develop a transition plan that supports EPR programs.**Measurement:** Successful transition to EPR in 2024**Short-term Actions**

- **3C1:** Work with producers to understand how programs will be rolled out and the impact on the Region
- **3C2:** Develop promotion and education campaigns, in collaboration with the producers, to inform residents of the programs' transitions and educate them on changes to the programs
- **3C3:** Transition the program(s) to producers and make any required modifications to areas remaining under the Region's responsibilities
- **3C4:** Explore opportunities to reuse or recycle materials not covered under the regulations for HSP (e.g. refillable propane cylinders, or fertilizer)
- **3C5:** Assess options for the Region's MRF building and equipment
- **3C6:** Evaluate if changes to accepted materials or handling practices are required at WMFs to adapt to EPR regulations
- **3C7:** Pursue options for the Region to continue to provide recycling collection service to ineligible sources (i.e. small businesses in BIAs and other small businesses currently serviced in the curbside collection program)

Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.**Measurement:** Number of advocacy efforts (e.g. letters, conversations, participation in related webinars/feedback sessions) towards new or expanded EPR programs for materials such as compostable packaging, mattresses, carpets, furniture, appliances, textiles, hard plastics, fertilizers, appliances, etc.**Short-term Actions**

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Objective 3: Increase diversion of waste from disposal and support the circular economy.

- **3D1:** Continue participation in the solid waste management committees of municipal advocacy organizations and related industry associations including Association of Municipalities in Ontario, the Regional Public Works Commissioners of Ontario, Municipal Waste Association, Circular Innovation Council, Canadian Biogas Association and Ontario Waste Management Association
- **3D2:** Continue to participate in consultation opportunities for proposed federal and provincial waste management changes

Mid to Long-term Actions

- **3D3:** Advocate to the Federal and Provincial governments for implementation of new producer responsibility programs to divert more materials from disposal
- **3D4:** Advocate for existing programs to be expanded (e.g., recycling, hazardous waste, electronics)
- **3D5:** Provide comments on any proposed producer responsibility programs to ensure Durham Region's considerations are included in the development of regulations

10.4 Objective 4 Targets and Actions

The Region has developed a plan to reduce GHGs and the impact of climate change. Actions have been identified that will contribute to reducing the impact of waste management activities to the Region's Corporate GHG emissions. Through municipal leadership, the Region will work with its partners to reduce GHG emissions.

Objective 4: Support the Region's greenhouse gas reduction and climate change mitigation efforts.

Target 4A: Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions.

Measurement: Annual actions to implement initiatives to reduce GHG emissions to contribute to the Corporate GHG emissions reduction target of 40 per cent below 2019 levels by 2030 (and 100 per cent below 2019 levels by 2045)

Short-term Actions

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Objective 4: Support the Region's greenhouse gas reduction and climate change mitigation efforts.

- **4A1:** Explore opportunities for a pilot program to convert contracted collection fleet vehicles to alternative fuels in advance of contract expiry
- **4A2:** Identify opportunities for conversion of biogas to RNG at Region-owned facilities (e.g., Mixed Waste Pre-sort and Anaerobic Digestion Facility, Water Pollution Control Plant)
- **4A3:** Identify additional methodologies which could be used to determine GHG emission reductions and avoidance associated with waste reduction, reuse, recycling and recovery that are not currently reflected in the Corporate GHG inventory
- **4A4:** Undertake additional analyses such as heat balance between Anaerobic Digestion Facility, Water Pollution Control Plant and DYEC and a review of better or higher uses of materials such as wood waste received at the Waste Management Facilities (WMFs)

Mid to Long-term Actions

- **4A5:** Develop a carbon emissions management plan in partnership with the Region's Sustainability group
- **4A6:** Work with other Divisions (e.g., Purchasing, Facilities, Legal, Sustainability Office) to leverage the Region's buying power to develop in-house circular economy initiatives
- **4A7:** Explore options to reduce GHGs at Waste Management Facilities (WMF) through wind/solar installations, carbon capture technologies and other methods to offset emissions.
- **4A8:** Explore opportunities to reduce emissions from some/all fleet vehicles through alternative fuels or technologies.
- **4A9:** Assess material management from WMFs to evaluate operational practices (e.g., compaction, transfer) at WMFs that would reduce emissions from transportation
- **4A10:** In anticipation of a capacity expansion at the DYEC, undertake a technology review to evaluate available technologies to capture and utilize or to offset generated CO₂

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10.5 Objective 5 Targets and Actions

While it is envisioned that all of the actions described above would contribute to protecting or improving water, land and air quality in the Region, specific actions have been identified for the Waste Management Facilities and closed landfills in the Region.

Objective 5: Protect or improve water, land, and air quality in Durham Region.

Target 5A: Optimize the operation and utilization of Waste Management Facilities (WMFs).

Measurement: Annual actions to optimize operations at WMFs

Short-term Actions

- **5A1:** Explore options to optimize the Oshawa WMF (e.g., traffic, new indoor/outdoor facility)
- **5A2:** Develop actions to improve waste diversion performance at WMFs (e.g., fertilizer reuse, bulky plastics recycling, separation of renovation/construction materials)

Mid to Long-term Actions

- **5A3:** Explore options to optimize Brock and Scugog WMFs
- **5A4:** Evaluate business case to develop a new facility or smaller drop-off depots with consideration to under-serviced areas

Target 5B: Increase accessibility of waste management programs and services.

Measurement: Changes to operating hours and physical accessibility of WMFs

Short-term Actions

- **5B1:** Investigate extending hours of operation (i.e. open later in the evening, different/more days, seasonal hours) to make access to the WMFs more convenient for users, especially those who work more traditional hours (e.g. 9-5).
- **5B2:** Assess accessibility of WMFs (e.g. signage, access to containers, stairs, ramps etc.) to ensure they are physically accessible

Mid-term Actions

- **5B3:** Explore options for waste collection with accessibility considerations

Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.

Measurement: Annual progress towards implementing alternative landfill cover systems at closed landfills and conversion for community use and/or naturalization

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Objective 5: Protect or improve water, land, and air quality in Durham Region.

Short-term Actions

- **5C1:** Evaluate outcome of pilot project at Oshawa Landfill for an alternative landfill biocover system

Mid to Long-term Actions

- **5C2:** Maintain current landfill monitoring and perpetual care program while evaluating additional options to minimize landfill GHG generation and other environmental impacts
- **5C3:** Based on outcomes of Oshawa Landfill pilot project, evaluate potential to implement biocover at other Region-owned closed landfills
- **5C4:** Explore options to install solar covers at closed landfills
- **5C5:** Evaluate potential to rehabilitate closed landfills for community use
- **5C6:** Explore options to naturalize closed landfills by improving/establishing natural habitats for wildlife, encouraging pollinator species, providing food sources and shelter, improving fish habitat in adjacent waterbodies/wetlands etc.

11 Measuring Performance

The Region, along with many other municipalities, has typically reported an annual diversion rate as a performance measure. As with other municipalities, the Region has seen its diversion rate stall, despite programs to reduce and divert waste due to factors outside its control such as climate events, consumer behaviour and changes to packaging.

Waste generation (the total amount of waste created) or garbage disposal (the waste that is disposed at DYEC or landfill) rates can more accurately capture the effect of reduction and reuse activities which divert materials from being managed by the Region's programs. These measurements are less impacted by changes outside the Region's control compared to diversion rates. Diversion rates can still be used, for historical perspective, but do not really measure progress towards meeting goals. It should be noted that it is unclear how the new Blue Box EPR program will impact diversion rates and it is not known how comparable diversion rates will be from 2024 onwards. It is also unclear whether the Region will still be reporting waste generation and diversion data on an annual basis to RPRA.

The Region will report annually on the progress of achieving the targets against the stated baseline as part of the Five-Year Action Plan. Specifically, progress updates on achievable targets, associated measurements and the key actions taken in the reporting year will be provided. Some targets have

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annual actions that will be reported on regularly, and others have a specific timeframe to achieve the target and will be reported on within that timeframe.

Following the end of the first five-year term, the Region will review the Action Plan and make any required adjustments to the targets and actions. As part of the review, the Region will assess the implementation of the short-term actions, whether any will need to be carried forward and develop a plan to start implementing the mid to long term actions. Action Plans will be reviewed every five years until 2040 when it is anticipated the Waste Plan will be updated. Action Plans will be stand-alone documents, separate from the Waste Plan.

For some measurements, such as the quantities of food waste, textiles, durable goods, single-use plastics etc. found in the garbage, the Region will need to conduct periodic waste audits. Waste audits of garbage and Green Bins, along with observations of curbside setouts as necessary, will provide more detailed information about how residents are managing their materials, including reductions in divertible materials, or the presence of materials that can be diverted. These will be done at regular intervals, prior to any major change to a program (such as a relaunch of the Green Bin program) and then at regular intervals following a program change to monitor progress.

Developing a waste audit program to conduct waste audits at regular intervals is an early action to support targets under objectives 2 and 3: Reduce the quantity of waste we create and Increase diversion of waste from disposal and support the circular economy.

11.1 Establishing Measurement Baseline Data

To measure progress towards achieving the targets, it is important to establish a baseline. Baselines were established as follows:

- For those actions related to waste composition, 2018 was chosen as the baseline year for all measurements based on the year in which the most recent waste audit was completed. The 2018 audit provides the waste composition and generation rate data used to establish the quantities of materials such as organics, textiles and other divertible materials in the garbage stream. Some of the target materials (such as single use plastics or durable goods) do not have baseline audit data as these materials have generally not been categorized separately during waste audits. Baseline quantities for these additional target materials will be established in a future auditing program and will be updated with the five-year review of the Action Plans.

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- Target 4A (reducing GHG emissions) is aligned with the Region’s Corporate Climate Change Action Plan which uses 2019 as the baseline for GHG reduction targets.
- Some of the targets represent annual improvements to programs and services. Their baseline will be the status quo program or service (for example, operating hours at the Waste Management Facilities).
- Some of the actions are new initiatives and there is no baseline data (e.g. transitioning to the EPR program).

11.2 Targets and Measurements

Table 13 summarizes the measurements that will be used to track progress on meeting the Waste Plan targets.

Table 13: Targets and Measurements

Target	Measurement
Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media	Year over year increase (from 2018 or action start date) measured through indicators such as # of schools using Region content, # myDurham311 contacts, # of Waste app subscribers, # of visits to webpages, # of views, number of languages materials are available in etc.
Target 2A: Support residents in making behavioural changes to reduce food waste	Reduce quantities of avoidable food waste in the Green Bin program. Reduction targets to be determined with implementation of regular waste audits.
Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated	Measure annual generation rates of garbage (kg per capita) to track progress in reducing garbage.
Target 3A: Increase diversion of organics from disposal	Increase Green Bin organics diversion from disposal up to 10% by 2026

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Target	Measurement
Target 3B: Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services	Revise By-law by 2026
Target 3C: Develop a transition plan that supports EPR programs	Successful transition to EPR in 2024
Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials	Number of advocacy efforts (e.g. letters, conversations, participation in related webinars/feedback sessions) towards new or expanded EPR programs for materials such as mattresses, carpets, furniture, appliances, textiles, hard plastics, fertilizers, appliances, etc.
Target 4A: Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions	Annual actions to implement initiatives to reduce GHG emissions to contribute to the Corporate GHG emissions reduction target of 40 per cent below 2019 levels by 2030 (and 100 per cent below 2019 levels by 2045)
Target 5A: Optimize the operation and utilization of Waste Management Facilities (WMFs)	Annual actions to optimize operations at WMFs
Target 5B: Increase accessibility of waste management programs and services	Changes to operating hours and physical accessibility of WMFs
Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization	Annual progress towards implementing alternative landfill cover systems at closed landfills and conversion for community use and/or naturalization

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12 Conclusion

Durham Region is poised to implement a number of actions that will contribute to reducing and diverting waste and reducing GHG emissions. These actions will be enhanced by the collective efforts of Durham Region residents in making changes to how they think about and manage waste.

The next twenty years will see significant changes to how waste is managed in the Region, which will contribute to the collective goals of a circular economy and recognizing waste as a resource. With the next update of the Waste Plan in 2040, the guiding principles, vision and objectives will be reviewed and reset as necessary, to enable the Region to continue to be a leader in municipal waste management.



Durham Region Long-term Waste Management Plan

DRAFT Five-Year Action Plan – 2022-2026



Glossary and Abbreviations

Glossary Term	Definition
5Rs	Rethink, Reduce, Reuse, Recycle, Recover.
BIA	Business Improvement Area – downtown business areas as designated by the Region.
DYEC	Durham York Energy Centre - An energy-from-waste facility located in the Municipality of Clarington, Durham Region that produces energy from the combustion/ burning of garbage that remains after all diversion programs.
EEE	Electrical and Electronic Equipment - As defined by the Resource Productivity and Recovery Authority (RPRA), consists of information technology, telecommunications, audio-visual equipment such as computers, printers, telephones, cell phones, speakers, cameras, etc.
EPR	Extended Producer Responsibility - The regulated responsibility producers, importers and brand owners have to reduce the environmental impact of their products and packaging. It extends across the product lifecycle and depending on the product, can be cradle-to-grave or cradle to cradle management.
FSO	Facility Separated Organics - Organic material that has been separated out from the garbage through mechanical means (i.e., at the Region’s Mixed Waste Pre-sort and Anaerobic Digestion Facility).
GHG	Greenhouse Gas - Gases in the Earth’s atmosphere that trap heat; typically refers to carbon dioxide (CO ₂), methane (CH ₄) and nitrous oxide (N ₂ O).
HSP	Hazardous and Special Products - Consumer products that are hazardous to the environment if not disposed of properly; includes items like paints, solvent, pesticides, and compressed gas cylinders.
LTWMP	Long-term Waste Management Plan (or Waste Plan).
MRF	Material Recovery Facility - A facility that sorts Blue Box recycling into different material streams (e.g., aluminum, steel, glass) for marketing.
SSO	Source Separated Organics - Organic materials placed into the Green Bin by residents for collection by the Region.
WMF	Waste Management Facility - A facility that accepts materials from public drop-off such as appliances, recyclable materials, carpet, drywall, garbage, scrap metal, wood for a fee. There are five waste management facilities in Durham Region.

1 Introduction

Durham Region (Region) developed its initial Long-Term Waste Management Strategy Plan (LTWMSP) in 1999 to cover the 20 years to 2020. The Region has developed the next Long-term Waste Management Plan (Waste Plan) for the planning period of the next 20 years (2021 to 2040). As part of this Waste Plan, the Region is focusing on maximizing the diversion of materials from waste and recovering waste as resources to optimize its existing and planned disposal and processing infrastructure and minimize the need for disposal.

This Action Plan outlines the Council-approved objectives and focuses on the short-term targets and actions for the first five years of the plan (2022 to 2026) following approval of the Waste Plan and Action Plan by Council. The Action Plan will be reviewed in five-year intervals to monitor progress toward meeting the targets.

Each objective has targets with measurements intended to show progress toward achieving the target. Progress updates on achievable targets, associated measurements and the key actions taken in the reporting year will be provided. The Region will report on the full Action Plan targets, measures and actions during the five-year Action Plan review and update.

2 Guiding Principles, Vision and Objectives

As part of the development of the Waste Plan, the Region undertook consultation with stakeholders to get input on the guiding principles, vision and objectives. Feedback from these consultation activities were considered in the development of the following guiding principles, vision statement and objectives that will guide the Region’s waste management programs and services over the planning period. Durham Region Council approved the guiding principles, vision and objectives at the January 27, 2021 meeting. The approved guiding principles, vision and objectives will remain consistent throughout the life of the Waste Plan without further review and updating.

2.1 Guiding Principles

1. Emphasize rethink, reduce and reuse principles as the first steps in reducing waste generation.
2. Deliver cost effective waste management services to a rapidly growing and diverse population.
3. Work with producers and importers of designated products and packaging to implement “Extended Producer Responsibility” and adjust Region waste programs as required.
4. Apply innovative approaches to Region waste streams to manage them as resources in a circular economy.
5. Demonstrate leadership in sustainability to address the climate crisis by reducing greenhouse gas emissions from waste management activities.

2.2 Vision

Together, with our residents, we will reduce the amount of waste we create and manage the generated waste as a resource. We will build an innovative system, balancing financial needs and environmental sustainability.

2.3 Objectives



1. Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region's waste management programs and services.



2. Reduce the quantity of waste we create.



3. Increase diversion of waste from disposal and support the circular economy.



4. Support the Region's greenhouse gas reduction and climate change mitigation efforts.



5. Protect or improve water, land, and air quality in Durham Region.

3 Timeline for Targets

The following Table 1 presents the 20-year targets developed to meet the objectives, and the timelines for implementation. It should be noted that some of the targets, for example, Target 1A, will have actions that will continue to be implemented throughout the life of the Waste Plan. Implementation of later targets and actions may be built upon as the short-term actions are implemented. The Region has prioritized actions to start in the short-term, and others to be implemented later, in the mid to long-term. Feedback received through phase one and phase two of the Waste Plan development about the targets and actions has been considered for the timing of implementation of the targets and actions.

Table 1: Timeline for Targets

Targets	Timeline for Targets		
	Short-term 2022-2026	Mid-term 2027-2033	Long-term 2034-2040
Objective 1: Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region’s waste management programs and services.			
Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media.	X	X	X
Objective 2: Reduce the quantity of waste we create			
Target 2A: Support residents in making behavioural changes to reduce food waste.	X	X	X
Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.	X	X	X
Objective 3: Increase diversion of waste from disposal and support the circular economy.			
Target 3A: Increase diversion of organics from disposal.	X	X	X
Target 3B: Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services.	X		
Target 3C: Develop a transition plan that supports EPR programs.	X		
Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.	X	X	X
Objective 4: Support the Region’s greenhouse gas reduction and climate change mitigation efforts.			
Target 4A: Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions.	X	X	X
Objective 5: Protect or improve water, land, and air quality in Durham Region.			
Target 5A: Optimize the operation and utilization of Waste Management Facilities.	X	X	X
Target 5B: Increase accessibility of waste management programs and services.	X	X	X
Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.	X	X	X

4 Establishing Measurement Baseline Data

To measure progress towards achieving the targets, it is important to establish a baseline. Baselines were established as follows:

- For those actions related to waste composition, 2018 was chosen as the baseline year for all measurements based on the year in which the most recent waste audit was completed. The 2018 audit provides the waste composition and generation rate data used to establish the quantities of materials such as organics, textiles and other divertible materials in the garbage stream. Some of the target materials (such as single use plastics or durable goods) do not have baseline audit data as these materials have generally not been categorized separately during waste audits. Baseline quantities for these additional target materials will be established in a future auditing program and will be updated with the five-year review of the Action Plans.
- Target 4A (reducing GHG emissions) is aligned with the Region’s Corporate Climate Change Action Plan which uses 2019 as the baseline for GHG reduction targets.
- Some of the targets represent annual improvements to programs and services. Their baseline will be the status quo program or service (for example, operating hours at the Waste Management Facilities).
- Some of the actions are new initiatives and there is no baseline data (e.g. transitioning to the EPR program).

5 First Five-Year Action Plan

This document presents the targets developed to meet the objectives, the measurement of how the target will be achieved, and the actions developed to meet the targets.

Actions have been developed for the short-term (2022 to 2026), mid-term (2027 to 2033) and long-term (2034 to 2040) (see Appendix A and B for a list of the actions). This Five-Year Action Plan is intended to cover the short-term targets and actions. The Five-Year Action Plan is intended to be a living document. Every five years, these actions, along with the measurable targets, will be reviewed and updated (as required) to ensure alignment with corporate direction and associated legislation and other factors that can impact the Region's waste management system (for example, a global pandemic).

5.1 Annual Reporting on Targets

The Region will report annually on the progress of achieving the targets against the stated baseline as part of the Five-Year Action Plan. Specifically, progress updates on achievable targets, associated measurements and the key actions taken in the reporting year will be provided. Some targets have annual actions that will be reported on regularly, and others have a specific timeframe to achieve the target and will be reported on within that timeframe.

Table 2 presents the expected timing of reporting on the targets. It should be noted that there could be external/ policy/ technology/ etc. factors that alter this reporting timeline.

At the end of the five-year term of this Action Plan, the progress of achieving the targets will be reviewed. During the Action Plan review, the metrics used to measure achievement of targets may be updated.

Table 2: Timeframes for Reporting on Targets

Target	2022	2023	2024	2025	2026
Target 1A - Education	X	X	X	X	X
Target 2A - Reduce Food Waste	X	X	X	X	X
Target 2B - Reduce Waste		X	X	X	X
Target 3A - Increase Organics Diversion				X	X
Target 3B - By-Law Update		X			
Target 3C - EPR Transition			X		
Target 3D - EPR Advocacy	X	X	X	X	X
Target 4A - Reduce GHG Emissions			X	X	X
Target 5A - Optimize WMFs	X	X			
Target 5B - Increase Accessibility	X	X			
Target 5C - Closed Landfill Options	X	X	X	X	X

The following Table 3 provides an example of how the Region will report on progress towards achieving the targets developed to meet the Waste Plan objectives.

A system such as the following will be used to denote progress.





-  Projected to meet or surpass target
-  Projected to be near target
-  Projected to be at risk of not meeting target

Table 3: Example of Reporting on Progress of Target Achievement towards Meeting Objectives

Target	Measurement	Baseline	Progress Status	2022 Action Summary
Target 1A	Progress of actions comprising this target	Status quo for existing programs, others will be new initiatives with no baseline.	Projected to meet or surpass target 	<ul style="list-style-type: none"> • 45 schools engaged • 90,000 app subscribers • Transition to Durham 311 pending

The following Table 4 presents the format for reporting on progress of achieving targets which will include information similar to what is presented in the example above for those targets which will be reported on.

Table 4: Reporting on Progress of Target Achievement towards Meeting Objectives

Target	Measurement	Baseline	Progress Status	202X Action Summary
Target 1A - Education	Progress of actions comprising this target	2018: 50,000 app subscribers; 41 schools, others will be new initiatives with no baseline		
Target 2A - Reduce Food Waste	Reduce quantities of avoidable food waste in the Green Bin program. Reduction targets to be determined with implementation of regular waste audits.	No baseline, will be a new initiative		
Target 2B - Reduce Waste	Measure annual generation rates of garbage (kg per capita) to track progress in reducing garbage	2018: 173.1 kg garbage disposed per capita		
Target 3A - Increase Organics Diversion	Increase Green Bin organics diversion from disposal up to 10% by 2026	2018: 41 kg Green Bin organics collected per capita, 50 kg of food waste in garbage per capita		
Target 3B - By-Law Update	Revise By-law by 2026	Existing By-law		

Durham Region Long-term Waste Management Plan

DRAFT Five-Year Action Plan – 2022-2026

Attachment #3 to Report #2022-WR-1

Target	Measurement	Baseline	Progress Status	202X Action Summary
Target 3C - EPR Transition	Successful transition to EPR in 2024	Existing EPR programs for tires, single-use batteries, EEE, and HSP. Blue Box still to be transitioned in 2024		
Target 3D - EPR Advocacy	Number of advocacy efforts undertaken	Existing advocacy efforts		
Target 4A - Reduce GHG Emissions	Annual actions to implement initiatives to reduce GHG emissions to contribute to the Corporate GHG emissions reduction target of 40 per cent below 2019 levels by 2030 (and 100 per cent below 2019 levels by 2045)	2019 Reported Corporate Emissions (tonnes CO ₂ e)		
Target 5A - Optimize WMFs	Annual actions to optimize operations at WMFs	Existing WMF operations		
Target 5B - Increase Accessibility	Changes to operating hours and physical accessibility of WMFs	Existing WMF hours and signage		
Target 5C - Closed Landfill Options	Annual progress towards implementing alternative landfill cover systems at closed landfills and conversion for community use and/or naturalization	Existing closed landfill perpetual care program		

6 Future Five-Year Plans

Following the end of the first five-year term, the Region will review the Action Plan and make any required adjustments to the targets and actions. As part of the review, the Region will assess the implementation of the short-term actions, whether any will need to be carried forward and develop a plan to start implementing the mid to long term actions. Action Plans will be reviewed every five years until 2040 when it is anticipated the Long-term Waste Management Plan will be updated.

7 Inclusion in Regional Budgets

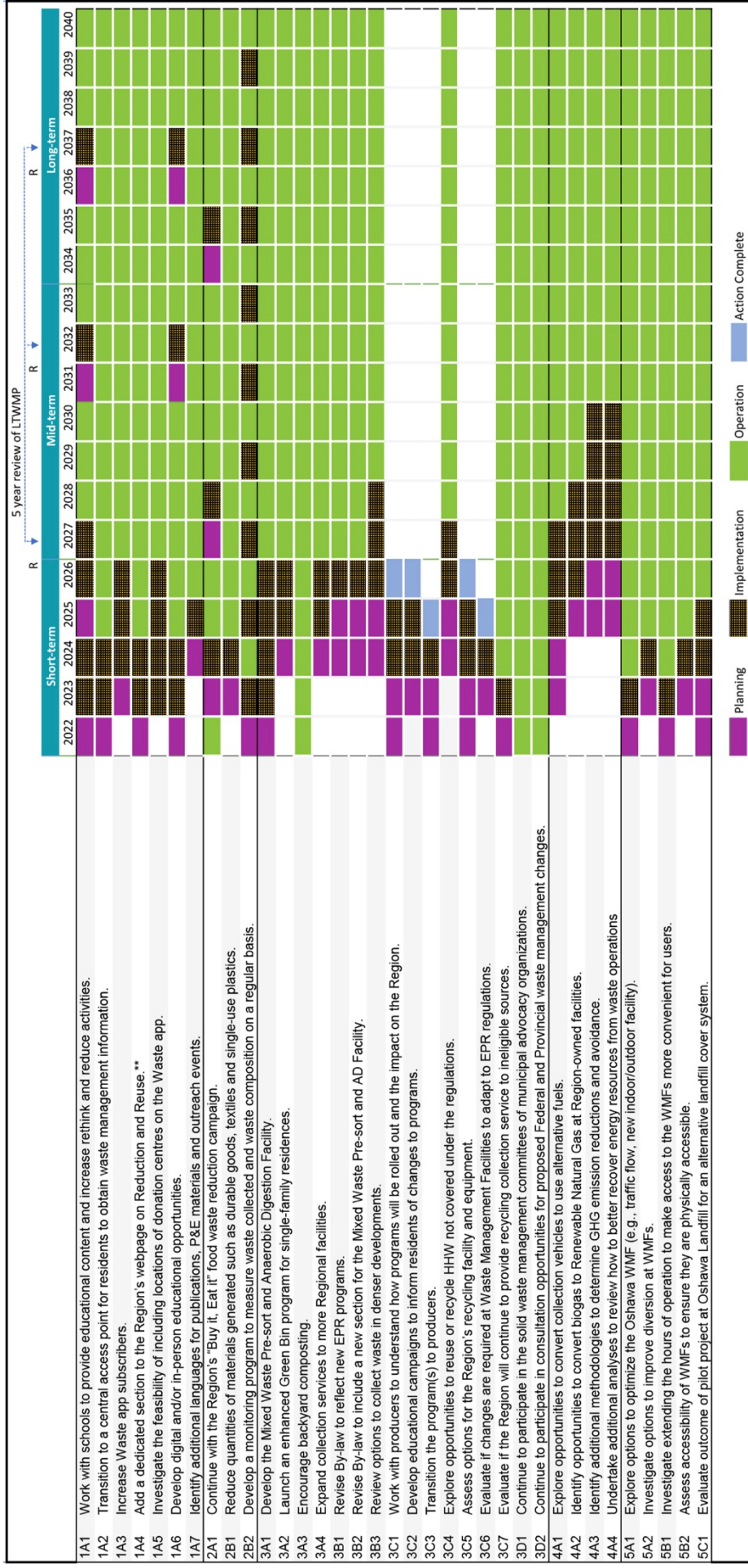
The Region's Business Plans and Budgets are a critical component of the Region's annual business planning cycle which also includes strategic planning, economic and financial forecasting, and performance measurement. The Waste Management budget is funded by property taxes, which presents both operating and capital funding requirements.

The actions presented in Figure 1 will be included in the Region's Waste Management business plans and budget forecasts, where appropriate, as estimates during the planning stages noted below. Implementation details will be included in the annual approved Region Budget which is publicly available.

8 Proposed Implementation Timeline

Figure 1 presents the proposed implementation timeline for the short-term actions, indicating the planning, implementation and operations phases for each action. Some ongoing actions will be updated and carried forward into future planning phases. As part of the five-year update of the Action Plan, this timeline will be reviewed and updated as necessary. It should be noted that there may be factors, both within and outside the Region's control, that may alter this schedule.

Figure 1: Implementation Timeline for Short-term Actions



Appendix A

Short-term Actions

Durham Region Long-term Waste Management Plan
DRAFT Five-Year Action Plan

Attachment #3 to Report #2022-WR-1

Objectives, Targets and Short-term Actions (2022 to 2026)

Objective 1: Engage with residents to build an understanding and awareness of the 5Rs (Rethink, Reduce, Reuse, Recycle, Recover) and the Region’s waste management programs and services.

Target 1A: Increase public engagement on the 5Rs through partnerships, increased accessibility, and different media.

1A1	Work with schools to provide educational content and increase rethink and reduce activities.
1A2	Transition to a central access point for residents to obtain waste management information.
1A3	Increase Waste app subscribers.
1A4	Add a dedicated section to the Region’s webpage on Reduction and Reuse.
1A5	Investigate the feasibility of including locations of donation centres on the Waste app.
1A6	Develop digital and/or in-person educational opportunities.
1A7	Identify additional languages for publications, P&E materials and outreach events.

Objective 2: Reduce the quantity of waste we create.

Target 2A: Support residents in making behavioural changes to reduce food waste.

2A1	Continue with the Region’s “Buy it, Eat it” food waste reduction campaign.
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Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.

2B1	Reduce quantities of materials generated such as durable goods, textiles and single-use plastics.
2B2	Develop a monitoring program to audit waste setouts and composition on a regular basis.

Objective 3: Increase diversion of waste from disposal and support the circular economy.

Target 3A: Increase diversion of organics from disposal.

3A1	Develop the Mixed Waste Pre-sort and Anaerobic Digestion Facility.
3A2	Launch an enhanced Green Bin program for single-family residences.
3A3	Encourage backyard composting.
3A4	Expand collection services to Regional facilities and consider service for local area municipal facilities and other institutional users (e.g. school boards).

Target 3B: Revise Waste Management By-law 46-2011 to reflect changes to Regional collection and processing programs and services.

3B1	Revise By-law to reflect new EPR programs.
3B2	Revise By-law to include a new section for the Mixed Waste Pre-sort and AD Facility.
3B3	Review options to collect waste in mid-to high density developments

Target 3C: Develop a transition plan that supports EPR programs.

3C1	Work with producers to understand how programs will be rolled out and the impact on the Region.
3C2	Develop educational campaigns to inform residents of changes to programs.
3C3	Transition the program(s) to producers.
3C4	Explore opportunities to reuse or recycle HHW not covered under the regulations.
3C5	Assess options for the Region’s recycling facility and equipment.
3C6	Evaluate if changes are required at Waste Management Facilities to adapt to EPR regulations.
3C7	Pursue options for the Region to continue to provide recycling collection service to ineligible sources.

Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.

3D1	Continue to participate in the solid waste management committees of municipal advocacy organizations and related industry associations.
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3D2	Continue to participate in consultation opportunities for proposed Federal and Provincial waste management changes.
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Objective 4: Support the Region’s greenhouse gas reduction and climate change mitigation efforts.

Target 4A: Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions.

4A1	Explore opportunities to convert collection vehicles to use alternative fuels.
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4A2	Identify opportunities to convert biogas to Renewable Natural Gas at Region-owned facilities.
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4A3	Identify additional methodologies to determine GHG emission reductions and avoidance.
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4A4	Undertake additional analyses to review how to better recover energy resources from waste operations
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Objective 5: Protect or improve water, land, and air quality in Durham Region.

Target 5A: Optimize the operation and utilization of Waste Management Facilities.

5A1	Explore options to optimize the Oshawa WMF (e.g., traffic flow, new indoor/outdoor facility).
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5A2	Investigate options to improve waste diversion performance at WMFs.
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Target 5B: Increase accessibility of waste management programs and services.

5B1	Investigate extending the hours of operation to make access to the WMFs more convenient for users.
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5B2	Assess accessibility of WMFs to ensure they are physically accessible.
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Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.

5C1	Evaluate outcome of pilot project at Oshawa Landfill for an alternative landfill cover system.
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Appendix B

Mid to Long-term Actions

Objectives, Targets and Mid to Long-term Actions (2027-2040)

Objective 2: Reduce the quantity of waste we create.	
Target 2B: Support residents in making behavioural changes to reduce the amount of waste generated.	
2B3	Evaluate partnerships with local charities.
2B4	Partner with local area municipalities on common messaging and approach to single use plastics and textiles.
Objective 3: Increase diversion of waste from disposal and support the circular economy.	
Target 3A: Increase diversion of organics from disposal.	
3A5	Expand collection services to more multi-residential buildings to divert more material.
Target 3D: Advocate for the expansion of existing EPR programs and for additional EPR programs to manage more materials.	
3D3	Advocate to the Federal and Provincial governments for new EPR programs to divert more materials from disposal.
3D4	Advocate for existing programs to be expanded (e.g., recycling, hazardous waste, electronics).
3D5	Provide comments on any proposed EPR regulations to ensure Durham Region’s considerations are included.
Objective 4: Support the Region’s greenhouse gas reduction and climate change mitigation efforts.	
Target 4A: Develop initiatives to offset or reduce GHG emissions from solid waste that contribute to Corporate GHG emissions.	
4A5	Develop a carbon emissions management plan in partnership with the Region’s Sustainability group.
4A6	Work with other Divisions to leverage the Region’s buying power to develop in-house Circular Economy Initiatives.
4A7	Explore options to reduce GHGs at Waste Management Facilities (WMF) through wind/solar installations, carbon capture technologies and other methods to offset emissions.
4A8	Explore opportunities to reduce emissions from some/all fleet vehicles through alternative fuels or technologies.
4A9	Assess operational practices at WMFs that would reduce emissions from transportation.
4A10	Technology review of CO ₂ capture and utilization and/or offset options for expanded DYEC.
Objective 5: Protect or improve water, land, and air quality in Durham Region.	
Target 5A: Optimize the operation and utilization of Waste Management Facilities.	
5A3	Explore options to optimize Brock and Scugog WMFs.
5A4	Evaluate business case to develop a new WMF or smaller drop-off depots.
Target 5B: Increase accessibility of waste management programs and services.	
5B3	Explore options for assisted waste collection to help residents manage set out of materials.
Target 5C: Explore options to reduce environmental impacts of closed landfills and potential for future community use and/or naturalization.	
5C2	Evaluate additional options to minimize landfill GHG generation and other environmental impacts.
5C3	Evaluate potential to implement the alternative cover system at other Region-owned closed landfills.
5C4	Explore options to install solar covers at closed landfills.
5C5	Evaluate potential to utilize closed landfills for community use.
5C6	Explore options to naturalize closed landfills.

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: Commissioner of Works
Report: #2022-W-1
Date: January 12, 2022

Subject:

Expropriation of Lands Required for the Proposed Regional Road 4 Rehabilitation Project East of Langmaid Road in the Municipality of Clarington

Recommendation:

That the Works Committee recommends to Regional Council:

- A) That authority be granted to Regional Municipality of Durham staff to initiate expropriation proceedings where necessary for the property requirements related to the proposed Regional Road 4 Rehabilitation Project along Regional Road 4 as depicted in Attachments #1 and #2 and as such other property requirements as may be determined and identified by Regional Municipality of Durham staff for the Regional Road 4 Rehabilitation 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 Municipality of Durham 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 that is received, to attend the hearings to present the Regional Municipality of Durham's position, and to present the Ontario Land Tribunal's recommendations to Regional Council for consideration; and

- D) That despite seeking approval to commence expropriation pursuant to the recommendations in this report, should amicable agreements be reached for any required property acquisitions, that such agreements and reports required for settlements pursuant to the *Expropriations Act*, R.S.O. 1990, c. E.26 related to the **Regional Road 4 Rehabilitation Project** approved in accordance with the Delegation of Authority By-Law 29-2020, remain confidential in accordance with 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 compensation claims 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 needed for the Regional Road 4 Rehabilitation Project (Project) if the Regional Municipality of Durham (Region) is unable to obtain an amicable agreement through negotiations with the property owners.

2. Background

- 2.1 The Region is proposing reconstruction/rehabilitation of Regional Road 4 east of Langmaid Road in the Municipality of Clarington.
- 2.2 The project will include a right turn lane onto Langmaid Road, a box culvert replacement, installation of curb and gutters, storm sewers, construction of a two way left turn lane down the middle of the road and replacement of the road (one lane in each direction).
- 2.3 The proposed road work will improve road safety and access in and out of properties.

3. Property Acquisitions

- 3.1 Regional staff have identified land requirements from four (4) properties that will be affected by the proposed works. Two properties have been acquired by Regional staff, and negotiations with the remaining two property owners are ongoing. The Region will need to acquire a portion of each property to facilitate the works.
- 3.2 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. Relationship to Strategic Plan

4.1 This project aligns with the following strategic goals and priorities in the Durham Region Strategic Plan:

a. Community Vitality

Goal 2.2: Enhance community safety and well-being.

b. Economic Prosperity

Goal 3.3: Enhance communication and transportation networks to better connect people and move goods more effectively.

5. Conclusion

5.1 Regional Municipality of Durham staff will continue negotiations with the property owners to acquire the necessary land requirements. Should these negotiations fail, this approval will permit staff to commence expropriation proceedings to ensure that the timelines are met allowing this project to proceed to construction.

5.2 If Regional Municipality of Durham staff exercises the option of commencing 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 the next set of notices on affected property owners as mandated by the *Expropriations Act*, R.S.O. 1990, c. E.26.

5.3 This report has been reviewed by the Legal Department.

5.4 For additional information, contact: Jenni Demanuele, Director, Business Services, at 905-668-7711, 3456.

6. Attachments

Attachment #1: Properties of Interest, Map 1 - Regional Road 4 Rehabilitation Project east of Langmaid Road in the Municipality of Clarington

Attachment #2: Properties of Interest, Map 2 - Regional Road 4 Rehabilitation Project east of Langmaid Road in the Municipality of Clarington

Respectfully submitted,

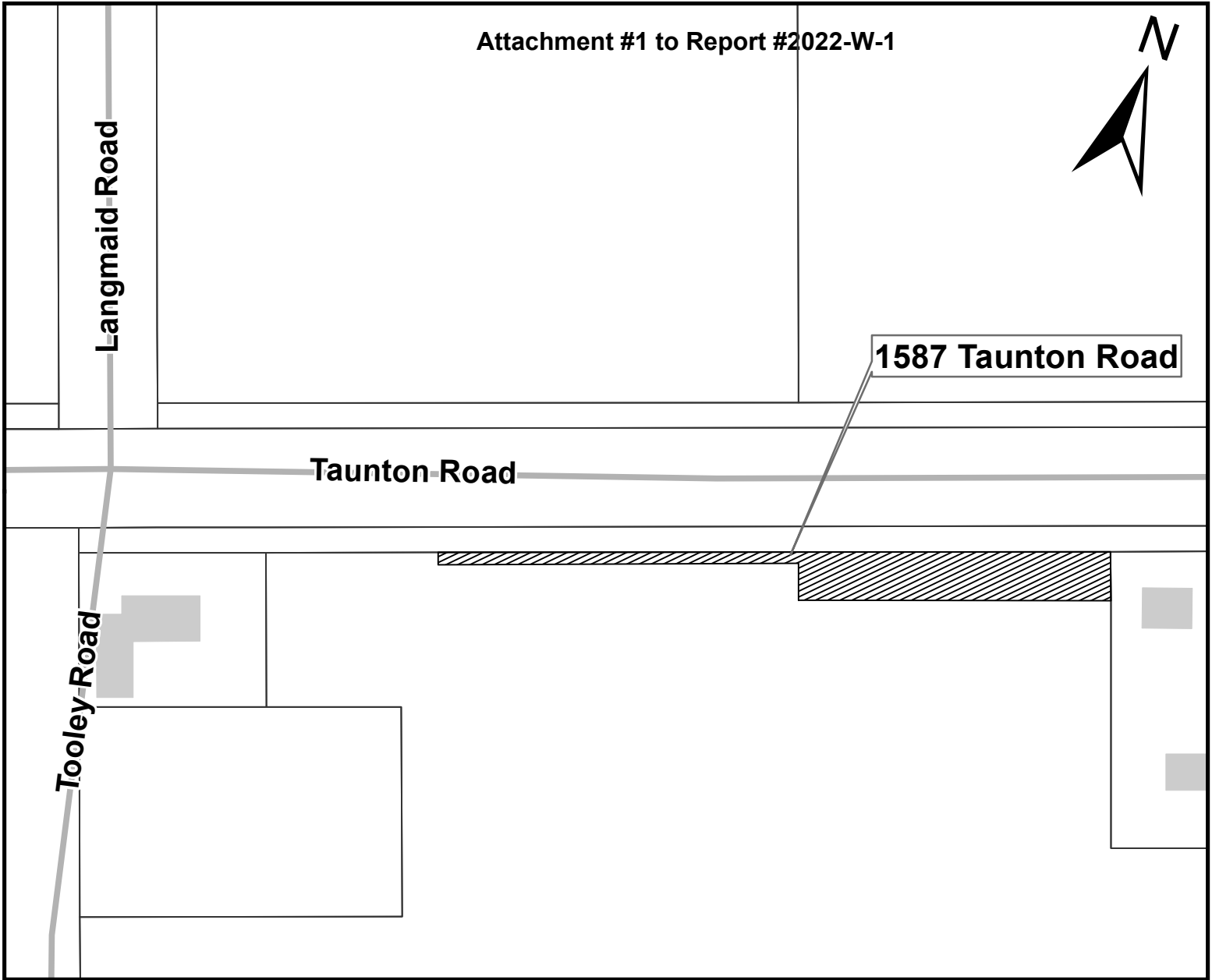
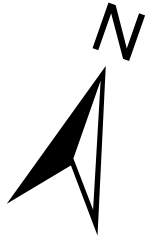
Original signed by:

Susan Siopis, P.Eng.
Commissioner of Works




Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer



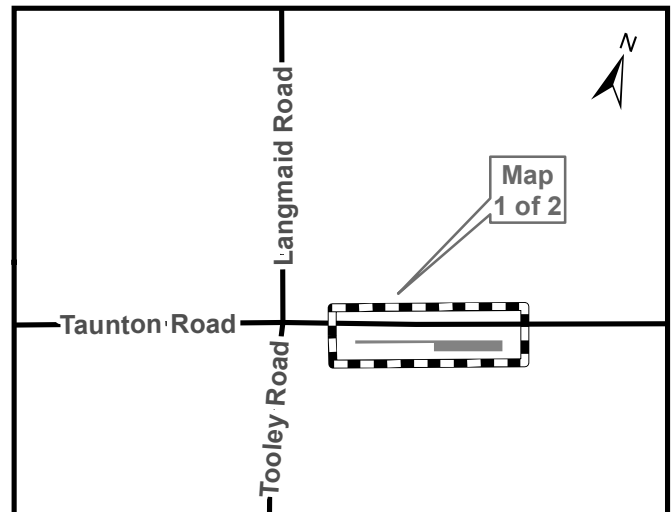
**Attachment # 1:
Properties of Interest, Map 1
1587 Taunton Road
Municipality of Clarington**

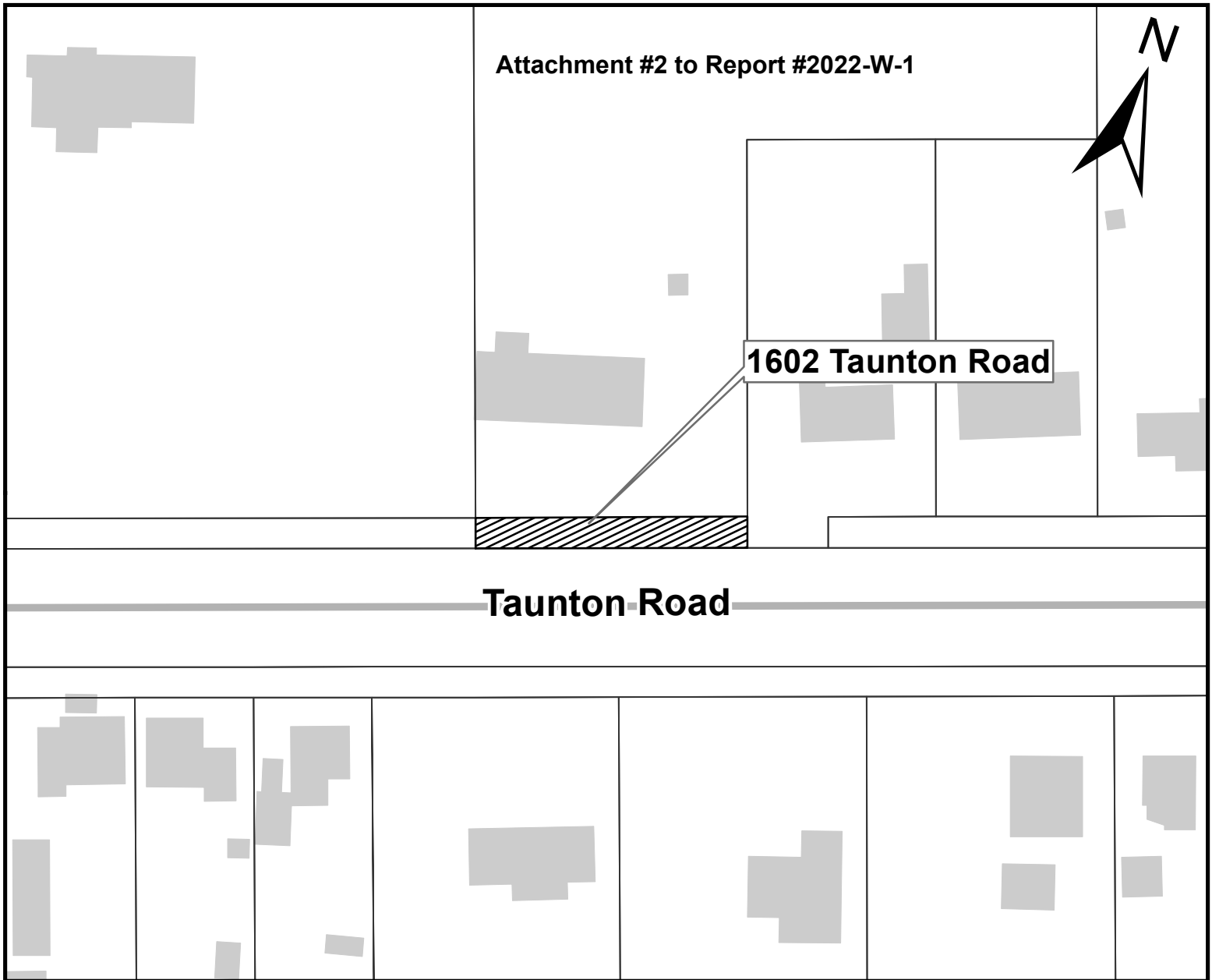
-  Property of Interest
-  Ownership Parcel
-  Building Footprints

Map 1 of 2





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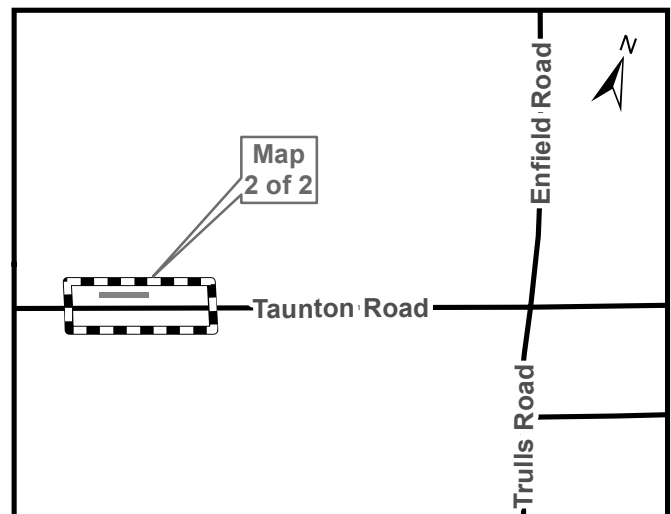


Attachment # 2: Properties of Interest, Map 2 1602 Taunton Road Municipality of Clarington

-  Property of Interest
-  Ownership Parcel
-  Building Footprints

Map 2 of 2

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The Regional Municipality of Durham Report

To: Works Committee
From: Commissioner of Works
Report: #2022-W-2
Date: January 12, 2022

Subject:

Declaration of Lands as Surplus and Memorandum of Understanding with the Township of Scugog for Regional Land Requirements

Recommendations:

That Works Committee recommends to Regional Council:

- A) That property municipally known as 121 Queen Street, in the Town of Port Perry, Township of Scugog, legally described as Parts Lots 122 & 123, Plan H50020, Part 1, 40R-4015; Township of Scugog, identified with Property Identification (PIN) 26776-0074, be declared surplus to Regional requirements;
- B) That Regional staff be authorized to enter into a Memorandum of Understanding with the Township of Scugog for a land exchange under the following terms:
 - i) The Regional Municipality of Durham will transfer lands legally described as Parts Lots 122 & 123, Plan H50020, Part 1, 40R-4015; Township of Scugog, identified with PIN 26776-0074 and having an estimated value of \$5,500, to the Township of Scugog once the existing sanitary sewage pumping station on the site has been fully decommissioned.
 - ii) The Regional Municipality of Durham will pave the land being transferred, and the surrounding gravel areas which are currently owned by the Township of Scugog, prior to the parcel being transferred. The Regional Municipality of Durham will also fully restore the staging area after construction.

- iii) All costs, legal or otherwise, incurred by the Township related to the land transfer will be the responsibility of the Regional Municipality of Durham.
 - iv) The Township of Scugog will provide lands located in the south-west corner of Birdseye Park adjacent to the outdoor pool facility located at 254 Water Street in the Town of Port Perry, identified as Water Lot, Lying North of Water Street & North & East of Lot 127 George's Place; Part Water Lot C in Front of Lot 19, in the 6th Concession in Lake Scugog as in CO182255; Part Lot 127 & Part Water Street Plan H50020 as in CO182255; Scugog; and having an estimated value of \$33,000, for the Region to construct a new sanitary sewage pumping station. The Township of Scugog will further provide easements and temporary work areas over lands owned by the Township of Scugog including properties located at 215 Water Street, 223 Water Street, and the current parking area at the terminus of Water Street adjacent to the Birdseye Park.
- C) That the requirements of sections 2, 3 and 5 of Regional By-law #52-95 be waived to facilitate the land exchange between the Regional Municipality of Durham and the Township of Scugog, for nominal consideration; and
- D) That the Commissioner of Works be authorized to execute all documents associated with this land exchange.
-

Report:

1. Purpose

- 1.1 The purpose of this report is to declare lands owned by the Regional Municipality of Durham (Region) surplus to the Region's requirements upon the decommissioning of the existing sanitary sewage pumping station, and to authorize staff to enter into a Memorandum of Understanding with the Township of Scugog for a land exchange to facilitate the construction of a new sanitary sewage pumping station north of the existing pumping station located at 121 Queen Street, in the Town of Port Perry.

2. Background

- 2.1 The property located at 121 Queen Street (PIN 26776-0074) consisting of 160 square metres (0.039 acres) is the location of the existing sanitary sewage pumping station. The exact age of the existing pumping station is unknown;

however, our information indicates that the pumping station pre-dates the incorporation of the Regional Municipality of Durham.

- 2.2 The Notice of Completion for the Schedule B Municipal Class Environmental Assessment (EA) issued on May 27, 2021, indicates that a new sanitary sewage pumping station was required for the Port Perry Urban Area. The recommendation in this report is for the Region to purchase a new property, north of 121 Queen Street, for the construction of the new pumping station.
- 2.3 According to the EA the preferred location for the new sanitary sewage pumping station is at the southwest corner of Birdseye Park, adjacent to the outdoor pool facility. The required property has not yet been surveyed or defined at an R-Plan level of detail as the required lands dimensions is to be determined during detailed design phase. The preliminary layout for the site indicates the required property will consist of approximately 900 square metres (0.222 acres).
- 2.4 Once the construction of the new pumping station is complete, the existing pumping station at 121 Queen Street will be taken out of service and the site will no longer be required. The parcel of land at 121 Queen Street will then be transferred to the Township of Scugog for nominal consideration.

3. Property Disposition

- 3.1 The property at 121 Queen Street is situated on the northeast side of Queen Street between Water Street to the west and Lake Scugog to the east, in the Town of Port Perry. The property is within very close proximity to the amenities of the downtown core, Palmer Park, and the Lake Scugog waterfront.
- 3.2 Regional By-law #52-95 established the procedures governing the sale of real property. Section 4(1) of the By-law states that real property that has been declared surplus shall first be offered for sale to the area municipality in which the property is situated at a price to be negotiated based on (a) the manner in which the Region acquired the property; (b) the use to which the Region had put the property; (c) the monies that have been expended by the Region on the property; and (d) the fair market value of the property. Sections 2, 3, and 5 of the By-law are waived in these circumstances.
- 3.3 Internally, notice has been circulated and responses have confirmed that the Region does not require these lands. Therefore, the said lands can be declared surplus and offered to the Township of Scugog.

- 3.4 The Township of Scugog is the adjacent landowner to the Region's surplus lands at 121 Queen Street and has expressed an interest in acquiring them as part of a land exchange involving the Region's requirements. The Region's surplus lands at 121 Queen Street consist of approximately 0.039 acres, which an internal valuation estimated at a Fair Market Value of \$5,500. The lands required from the Township of Scugog total approximately 0.222 acres, which an internal valuation estimated at a Fair Market Value of \$33,000.
- 3.5 The land exchange agreement will involve the Township of Scugog transferring the required property at 254 Water Street to the Region for a nominal amount in exchange for the Region transferring 121 Queen Street to the Township of Scugog once the existing pumping station has been fully decommissioned. The Region will also be paving 121 Queen Street and the surrounding gravel areas which are currently owned by the Township, prior to the parcel being transferred. The Region will also fully restore the staging area after construction, and absorb any costs, legal or otherwise, incurred by the Township as a result of this land exchange transaction. These additional works and costs are considered consideration in kind, as the Region will be acquiring a larger parcel in the land swap.

4. Financial Implications

- 4.1 Financing for the land acquisition costs will be provided by the approved project budget for the Water Street Pumping Station Land Swap (Project ID# D1304).

5. Conclusion

- 5.1 Regional staff recommends that the lands noted within this report be declared surplus to Regional needs, and that a memorandum of understanding be entered into with the Township of Scugog.
- 5.2 This report has been reviewed by the Legal Services Division of the Corporate Services Department.
- 5.3 For additional information, please contact Jenni Demanuele, Director of Business Services, at 905-668-4113, extension 3456.

6. Attachments

Attachment #1: Location Map – Water Street Pumping Station Land Swap

Respectfully submitted,

Original signed by:

Susan Siopis, P.Eng.
Commissioner of Works




Recommended for Presentation to Committee

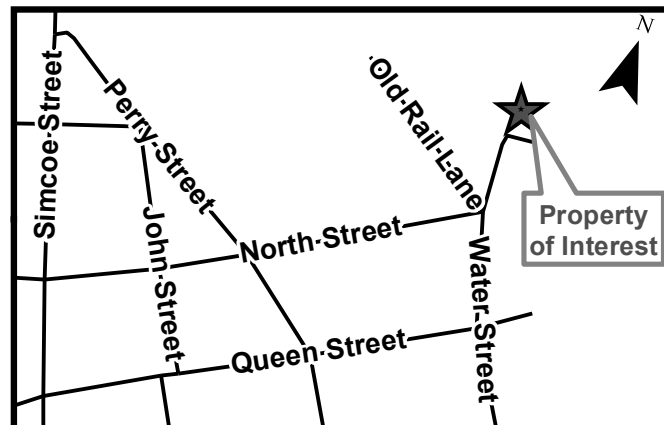
Original signed by:

Elaine Baxter-Trahair
Chief Administrative Officer



Attachment #1: Location Map Water Street Pumping Station Land Swap Port Perry, Township of Scugog

-  Water Street SSPS
-  Land Required by the Region
-  Ownership Parcels



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The Regional Municipality of Durham Report

To: Works Committee
From: Commissioner of Works
Report: #2022-W-4
Date: January 12, 2022

Subject:

Tender Award and Additional Financing for Regional Municipality of Durham Contract D2021-19 for Road Rehabilitation on York Durham Line (Regional Road 30) from Wagg Road to Aurora Road (York Regional Road 15), in the Township of Uxbridge

Recommendation:

The Works Committee recommends to Regional Council:

- A) That Regional Municipality of Durham Contract D2021-19 be awarded to the lowest compliant bid from Grascan Construction Ltd., in the amount of \$2,587,000* for a total estimated project cost of \$3,567,000;
 - B) That the previously approved project budget of \$3,150,000 be increased by \$417,000 to a revised total project budget of \$3,567,000;
 - C) That the additional General Tax financing of \$417,000 be determined at the discretion of the Commissioner of Finance; and
 - D) That the Commissioner of Finance be authorized to execute any documents related to the award of the tender.
-

Report:

1. Purpose

- 1.1 The purpose of this report is to obtain approval for additional financing and to award Regional Municipality of Durham (Region) Contract D2021-19 for Road Rehabilitation on York Durham Line (Regional Road 30) from Wagg Road to

Aurora Road (York Regional Road 15) in the Township of Uxbridge (Uxbridge). Dollar amounts followed by an asterisk (*) are before applicable taxes.

2. Project Background

- 2.1 The Region completed detailed design for road rehabilitation on York Durham Line (Regional Road 30) from Wagg Road to Aurora Road (York Regional Road 15) in Uxbridge. The proposed work will include roadway rehabilitation and resurfacing of York Durham Line (Regional Road 30) from approximately 148 metres (m) south of Wagg Road to approximately 184 m north of Aurora Road (York Regional Road 15). The work will include grading, pavement rehabilitation, storm sewers, guiderail replacement, culverts, and slope reinforcement at Island Lake. It is anticipated that construction will start in the spring of 2022.

3. Tender Information

- 3.1 Nine (9) compliant tenders were received for Regional Contract D2021-19 for road rehabilitation on York Durham Line (Regional Road 30) from Wagg Road to Aurora Road (York Regional Road 15) in Uxbridge on October 22, 2021, as follows:

<u>Bidder</u>	<u>Total Tender Amount*</u>
Grascan Construction Ltd.	\$2,587,000
IPAC Paving Ltd.	\$2,594,285
Blackstone Paving & Construction Ltd.	\$2,739,296
Brennan Paving & Construction Ltd	\$2,746,192
Fermar Paving Ltd.	\$2,840,972
Dufferin Construction Company	\$2,873,000
Coco Paving Ltd	\$2,873,671
Viola Management Inc	\$2,894,946
Elirpa Construction & Materials Ltd.	\$3,673,978

- 3.2 The difference between the tendered and budgeted amount is a result of COVID-19 pandemic impacts on the supply chain resulting in cost increases for labour, equipment and material.
- 3.3 It is recommended that the lowest compliant bidder, Grascan Construction Ltd., be awarded Regional Contract D2021-19.

4. Financial Implications

- 4.1 Section 15.3 of the Region's Budget Management Policy requires approval of the applicable Standing Committee and Regional Council for additional project financing requirements exceeding \$250,000 prior to the award of the applicable contract.
- 4.2 The proposed changes to the project costs are as follows:

Project Component	Approved Project Budget R1818	Proposed Change	Recommended Revised Project Budget R1818
Tender (excluding taxes)	\$2,333,568	\$253,432	\$2,587,000
Net HST	41,070	4,461	45,531
Engineering	545,025	46,788	591,813
Sundry and Miscellaneous	26,336	(8,336)	18,000
Contingencies	204,001	120,655	324,656
Total Costs	\$3,150,000	\$417,000	\$3,567,000

- 4.3 The recommended revised project budget of \$3,567,000 can be financed as follows:

Previously Approved Financing

York Durham Line from Wagg Road to Aurora Road

(Project R1818)

Roads Rehabilitation Reserve	\$3,150,000
Additional General Tax Financing	
Discretion of the Commissioner of Finance	<u>417,000</u>
Total Revised Project Financing	<u>\$3,567,000</u>

5. Conclusion

- 5.1 It is recommended that Regional Council grant approval to award Regional Contract D2021-19 for road rehabilitation on York Durham Line (Regional Road 30) from Wagg Road to Aurora Road (York Regional Road 15) in the Township of Uxbridge to the lowest compliant bidder, Grascan Construction Ltd.
- 5.2 It is also recommended that the additional project financing in the amount of \$417,000 be provided as detailed in this report.
- 5.3 This report has been reviewed by the Finance Department and the Commissioner of Finance concurs with the financial recommendations.
- 5.4 For additional information, please contact Dan Waechter, Manager, Construction Management at 905-668-7711, extension 3550.

Respectfully submitted,

Original signed by:

Susan Siopis, P.Eng.
Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine C. Baxter-Trahair
Chief Administrative Officer

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: Commissioner of Works
Report: #2022-W-5
Date: January 12, 2022

Subject:

Additional Financing for Unbudgeted Capital Projects Declared as Emergencies

Recommendation:

That Works Committee recommends to Regional Council that:

- A) Information related to unbudgeted capital work resulting from emergency events be received for information; and
- B) Additional financing for the completion of the unbudgeted capital projects be provided from surplus funding from within the 2021 Water Supply and Sanitary Sewerage System Budgets at the discretion of the Commissioner of Finance for the following unbudgeted capital work:

Water Supply

Emergency Back-up Power Generator Replacement – Ajax Water Supply Plant	\$355,000
Ultraviolet (UV) Treatment Unit Replacement – Sunderland Municipal Well #1	\$814,000

Sanitary Sewer

Digester Complex Cladding Failure - Corbett Creek Water Pollution Control Plant	\$855,000
---	-----------

Report:**1. Purpose**

- 1.1 The purpose of this report is to obtain approval to reallocate surplus funding from within the Water Supply and Sanitary Sewerage System Budgets at the discretion of the Commissioner of Finance to fund unbudgeted capital projects resulting from emergencies declared in accordance with Section 10 of the Regional Municipality of Durham's (Region) Purchasing By-law 16-2020.

2. Emergency Back-up Power Generator Replacement – Ajax Water Supply Plant (WSP)

- 2.1 In May 2019 the Commissioner of Works declared an emergency at the Ajax WSP which consists of a Back-up Power Generators Control System replacement. The Back-up Power Generator failed and repairs were attempted but unsuccessful, requiring a full replacement.
- 2.2 Staff retained B. J. Tworzyanski Limited to complete the detailed design and preparation of the tender documents.
- 2.3 Staff negotiated with the contractor Smith and Long Limited to supply, install and commission the new Back-up Power Generators Control System through Contract D2021-63.
- 2.4 As modifications to the control system were planned, prior approved funding in place was utilized.

3. Ultraviolet (UV) Treatment Unit Replacement - Sunderland Municipal Well #1

- 3.1 In May 2021 the Commissioner of Works declared an emergency at the Sunderland Municipal Well #1 for the replacement of the UV treatment units. The units in place are no longer supported by vendors and parts are not available to repair these units.
- 3.2 Efforts were made to contact other municipalities to source available parts however those attempts were not successful.
- 3.3 Staff continue to operate and maintain the existing UV treatment system with stocked spare parts. It is estimated that the existing UV treatment system will need to be replaced in early 2022.

3.4 Staff retained R.V. Anderson to complete the detailed design and preparation of the tender documents. The final tender package Contract D2022-26 is nearing completion and will be submitted to the Purchasing Division of our Finance Department in early 2022 for tendering.

4. Digester Complex Cladding Failure - Corbett Creek Water Pollution Control Plant (WPCP)

4.1 In October 2019 the Commissioner of Works declared an emergency at the Corbett Creek WPCP digester complex due to failure of the concrete cladding on the two primary digesters and one secondary digester. Due to this failure, the area was deemed a safety hazard for Regional staff and has resulted in restrictions for sludge haulage out of the plant. Security fencing was installed around the affected area.

4.2 R.V. Anderson was retained to complete a condition assessment and recommendation for next steps. These next steps were to remove the remaining concrete cladding on digester #2 and #3 and replacing it with metal cladding. R.V. Anderson completed the detailed design and preparation of the tender documents for the recommended work.

4.3 The final tender package Contract D2021-39 has been advertised for tendering.

5. Financial Implications

5.1 Section 10 of the Region's Purchasing By-law #16-2020 specifies the process to procure goods and/or services to address emergency situations. The process requires reporting to Regional Council on the nature of the emergency and the necessity of actions taken in cases where the costs will exceed \$100,000.

5.2 Section 14.2 of the Budget Management Policy requires the approval of the Treasurer and C.A.O. and the applicable Standing Committee and Regional Council to approve project financing in excess of \$50,000 prior to the award of the applicable contract.

- 5.3 The financial impact of the replacement works at the Ajax Water Supply Plant is estimated to be \$1,269,000. The water supply project will be funded through prior funding (Project ID D1313) in the amount of \$914,000 and the remaining amount of \$355,000 from user rates. The funding of this emergency project will be determined at the discretion of the Commissioner of Finance. The project is anticipated to be complete by May 2022. The project components are detailed as follows:

Project Element	Cost \$
Internal Staff	32,000
Engineering Services	166,000
Construction (including Equipment)	1,035,000
Sundry	14,000
Estimated Project Cost	1,247,000
Net HST (1.76%, rounded)	22,000
Total Project Cost	1,269,000

- 5.4 The financial impact of the replacement works at the Sunderland Municipal Well # 1 is estimated to be \$814,000. The water supply project will be funded through user rates. The funding of this unexpected emergency project will be determined at the discretion of the Commissioner of Finance. The project is anticipated to be complete by June 2022. The project components are detailed as follows:

Project Element	Cost \$
Internal Staff	36,000
Engineering Services	222,000
Equipment	80,000
Construction	443,300
Sundry	18,700
Estimated Project Cost	800,000

Net HST (1.76%, rounded)	14,000
Total Project Cost	814,000

- 5.5 The financial impact of the replacement works at the Corbett WPCP digester Cladding is estimated at \$855,000. The sanitary sewerage project will be funded through user rates. The funding of this unexpected emergency project will be determined at the discretion of the Commissioner of Finance. The project is anticipated to be complete by June 2022. The project components are detailed as follows:

Project Element	Cost (\$)
Internal Staff	30,000
Engineering Services	65,000
Equipment	35,000
Construction	709,000
Sundry	1,000
Estimated Project Cost	840,000
Net HST (1.76%, rounded)	15,000
Total Project Cost	855,000

6. Relationship to Strategic Plan

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

Goal 5.1 and 5.2 - Service Excellence:

- Optimize resources and partnerships to deliver exceptional quality services and value; and
- Collaborate for a seamless service experience.

7. Conclusion

- 7.1 It is recommended that Regional Council approve the reallocation of surplus funding from within the Water Supply and Sanitary Sewerage System Budgets at the discretion of the Commissioner of Finance to fund unbudgeted capital projects resulting from emergency events.
- 7.2 This report has been reviewed by the Finance Department and the Commissioner of Finance concurs with the proposed recommendations.
- 7.3 For additional information, please contact Mike Hubble, Manager, Environmental Services Design, at 905-668-7711, extension 3460.

Respectfully submitted,

Original signed by:

Susan Siopis, P.Eng.
Commissioner of Works

Recommended for Presentation to Committee

Original signed by:

Elaine Baxter-Trahair
Chief Administrative Officer