

**3. RESIDUAL WASTE MANAGEMENT STRATEGY
STRATÉGIE DE GESTION DES DÉCHETS RÉSIDUELS**

COMMITTEE RECOMMENDATIONS

That Council:

- 1. Approve the framework for the Residual Waste Management Strategy, including scope and timelines, to extend the life of the Trail Waste Facility Landfill.**
- 2. Direct staff to develop a Landfill Life Calculation Methodology to use more predictive indicators, to accurately assess the remaining life of the Trail Waste Facility Landfill for use in long term planning for Solid Waste Services.**
- 3. Direct staff to investigate and report back on the feasibility of expanding the capacity at the Trail Waste Facility Landfill.**

For the Information of Council

The Committee also approved the following Motion:

Motion N^o EPWWM 2021 19-02

WHEREAS stakeholders have raised questions regarding the Residual Waste Management Strategy including concerns around the decision to divert waste to private landfill before taking proactive measures to reduce waste at the source and how it aligns with the City's zero-waste hierarchy; and

WHEREAS given the proposed sequencing of the Residuals Waste Management Strategy Framework with the Solid Waste Master Plan, the decisions for which alternative residuals

technologies pursued will occur after the completion of pilot projects, which will conclude after the Solid Waste Master Plan is approved;

THEREFORE BE IT RESOLVED that the Residuals Waste Management Strategy Framework be presented to the Stakeholder Sounding Board prior to the strategy being presented to Council.

RECOMMANDATIONS DU COMITÉ

Que le Conseil :

- 1. Approuve le cadre de la stratégie de gestion des déchets résiduels, y compris la portée et les échéanciers, afin de prolonger la durée de vie de la décharge contrôlée du chemin Trail.**
- 2. Demande au personnel d'élaborer une méthodologie de calcul de la durée de vie de la décharge contrôlée afin d'utiliser davantage d'indicateurs prédictifs pour estimer avec précision le reliquat de la durée de vie de la décharge contrôlée du chemin Trail à utiliser dans la planification à long terme des Services des déchets solides.**
- 3. Demande au personnel d'enquêter et de faire rapport sur la faisabilité d'accroître la capacité de la décharge contrôlée du chemin Trail.**

Pour la gouverne du Conseil :

Le comité a approuvé en outre la motion suivante :

Motion N^o CPPEEGD 2021 19-02

ATTENDU QUE les parties concernées ont soulevé certaines questions concernant la Stratégie de gestion des déchets résiduels, s'inquiétant notamment de la décision de réacheminer les déchets vers une décharge privée avant la prise de mesures proactives

pour réduire les déchets à la source ainsi que de la place de la Stratégie dans la pyramide zéro déchet de la Ville; et

ATTENDU QU'à la lumière du calendrier proposée pour le cadre de la Stratégie de gestion des déchets résiduels et le Plan directeur de la gestion des déchets solides, les décisions relatives au choix des technologies de remplacement pour la gestion des déchets résiduels seront prises après l'achèvement des projets pilotes, soit après l'approbation dudit Plan directeur;

PAR CONSÉQUENT, IL EST RÉSOLU QUE le cadre de la Stratégie de gestion des déchets résiduels soit présenté au Groupe de consultation des intervenants avant la présentation de la Stratégie au Conseil.

DOCUMENTATION

1. General Manager's Report, Public Works and Environmental Services, dated 7 October 2021 (ACS2021-PWE-SWS-0005).
Rapport du Directeur général, Travaux publiques et services environnementaux, daté le 7 octobre 2021 (ACS2021-PWE-SWS-0005).
2. Extract of Draft Minutes, Standing Committee on Environmental Protection, Water and Waste Management, 19 October 2021.
Extrait de l'ébauche du procès-verbal, Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets, le 19 octobre 2021.

**STANDING COMMITTEE ON
ENVIRONMENTAL PROTECTION,
WATER AND WASTE MANAGEMENT**

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**COMITÉ PERMANENT DE LA
PROTECTION DE
L'ENVIRONNEMENT, DE L'EAU ET
DE LA GESTION DES DÉCHETS**

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**RAPPORT 19
LE 27 OCTOBRE 2021**

**Report to
Rapport au:**

**Standing Committee on Environmental Protection, Water and Waste Management
Comité permanent de la protection de l'environnement, de l'eau et de la gestion
des déchets**

19 October 2021 / 19 octobre 2021

**and Council
et au Conseil**

27 October 2021 / 27 octobre 2021

Submitted on October 7, 2021

Soumis le 7 octobre 2021

**Submitted by
Soumis par:**

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**Ward: CITY WIDE / À L'ÉCHELLE DE LA
VILLE**

File Number: ACS2021-PWE-SWS-0005

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SUBJECT: Residual Waste Management Strategy

OBJET: Stratégie de gestion des déchets résiduels

REPORT RECOMMENDATION(S)

That the Standing Committee on Environmental Protection, Water and Waste Management recommend that Council:

- 1. Approve the framework for the Residual Waste Management Strategy, including scope and timelines, to extend the life of the Trail Waste Facility Landfill.**
- 2. Direct staff to develop a Landfill Life Calculation Methodology to use more predictive indicators, to accurately assess the remaining life of the Trail Waste Facility Landfill for use in long term planning for Solid Waste Services.**
- 3. Direct staff to investigate and report back on the feasibility of expanding the capacity at the Trail Waste Facility Landfill.**

RECOMMANDATION(S) DU RAPPORT

Que le Comité permanent de la protection de l'environnement, de l'eau et de la gestion des déchets recommande au Conseil de faire ce qui suit :

- 1. Approuver le cadre de la stratégie de gestion des déchets résiduels, y compris la portée et les échéanciers, afin de prolonger la durée de vie de la décharge contrôlée du chemin Trail.**
- 2. Demander au personnel d'élaborer une méthodologie de calcul de la durée de vie de la décharge contrôlée afin d'utiliser davantage d'indicateurs prédictifs pour estimer avec précision le reliquat de la durée de vie de la décharge contrôlée du chemin Trail à utiliser dans la planification à long terme des Services des déchets solides.**

**3. Demander au personnel d'enquêter et de faire rapport sur la faisabilité
d'accroître la capacité de la décharge contrôlée du chemin Trail.**

EXECUTIVE SUMMARY

As regulated by the Province of Ontario, the City of Ottawa (the City) is responsible for managing the collection, transportation, processing and disposal of blue and black box recyclables, green bin organics, leaf and yard waste, garbage, and bulky items from approximately 297,000 single-family homes. The City also provides waste collection services to approximately 2,150 multi-residential properties, 190 City-owned facilities, 1,950 parks and public spaces, 550 small businesses through the City's Yellow Bag program, and 240 schools with green bin collection through the City's Green Bins in Schools program.

The City owns and operates the Trail Waste Facility Landfill. The landfill began receiving waste in May 1980 and was initially expected to receive waste for 20 years – until 2000; however, the City has successfully extended its lifespan through the expansion of airspace, development of new waste cells and incremental improvements in diversion policies. While the Trail Waste Facility Landfill primarily accepts curbside residential waste, it also accepts some waste from the general public, the Construction and Demolition sector, and the Industrial, Commercial and Institutional (IC&I) sector. The Trail Waste Facility is a significant asset for the City and its residents. The cost of establishing a new landfill could be in the range of \$100 - \$200 million and could take up to 15 years before becoming fully operational.

In order to estimate remaining landfill life, the City has relied on the Annual Monitoring Report (AMR), a compliance methodology used for annual reporting to the Ministry of Environment, Conservation and Parks (MECP) which uses historical/lagging indicators, such as previous years' airspace consumption, to estimate remaining landfill life. While this methodology is appropriate for compliance purposes, it is not a best practice for long-term waste planning purposes as it does not consider various factors that influence the longevity of landfill life, primarily material diversion and population growth.

Based on the Long-Term Waste Management Needs Assessment Analysis conducted as part of the 2021 Solid Waste Master Plan Phase 2 report ([ACS2021-PWE-SWS-](#)

[0003](#)), it is estimated that there is approximately 30 per cent capacity remaining at the Trail Waste Facility Landfill (based on the 2019 Annual Monitoring Report and updated annually). This, in conjunction with staff's review of disposal trends, determined that if the City maintains status quo with regard to waste reduction and diversion efforts, the Trail Waste Facility Landfill is expected to reach capacity between 2036 to 2038.

Recognizing that the landfill is reaching capacity sooner than previously thought, the Solid Waste Master Plan may fall short of meeting the goal of extending the life of the landfill beyond the 30-year term of the Plan. To address this, staff committed to developing a focused Residual Waste Management Strategy (RWMS) to optimize the remaining airspace available and reduce the amount of waste going to landfill in the short to medium-term, while longer term strategies will continue to be implemented as part of the Solid Waste Master Plan.

Developing a Residual Waste Management Strategy

The RWMS outlines the framework to explore the possibility of implementing a combination of policies, programs, and mechanisms, all which have been previously identified through the SWMP Long-Term Waste Management Needs, to reduce or divert the amount of waste sent to the landfill for disposal. The goal of the RWMS is to identify short-term opportunities to divert waste from the Trail Waste Facility Landfill and continue to make operational improvements at the site in order to preserve, to every extent possible, the remaining capacity of the landfill. Each opportunity identified in the strategy will be quantified based on the impact, including considering the expected potential for preserving capacity, the environmental impact and the financial implications of implementation.

The proposed RWMS identifies six specific opportunities that can be actioned in the short term (1-3 years) including:

1. Limiting types of waste received at the Trail Waste Facility Landfill, specifically bulky and non-residential waste received at the gate.
2. Reviewing tipping fees, specifically exploring a tipping fee strategy that would create an incentive to reduce the waste disposal of difficult to manage items.

3. Redirecting residential waste to private disposal facilities.
4. Continuing to make operational improvements to increase the quantity of waste that can be deposited within the approved contours of the Landfill.
5. Increasing awareness of the value of the Trail Waste Facility Landfill through public education and outreach.
6. Designing the framework for a future residual waste management technologies pilot program.

Each of the opportunities will be developed in a way that remains flexible and adaptable to ensure changes in waste management such as evolving legislation, consumer trends, climate change, and new and emerging technologies are considered.

Developing a Landfill Life Calculation Methodology

It was expected that the Master Plan process Solid Waste is currently undertaking would identify areas that need improvement based on evolving industry best practices. As previously stated, the Needs Assessment Analysis conducted as part of Phase 2 of the Master Plan identified that the Annual Monitoring Report methodology currently used by the City to estimate landfill lifespan is not suitable for use in long term planning policy. The AMR calculation doesn't consider factors such as evolving landfill operational practices (compaction or use of cover), population growth, expansion of diversion programs, and increased diversion or changing consumption habits.

Now that the need has been identified, work needs to be done to develop a methodology to estimate landfill life which will include an integrated, scenario-based calculation that is more suitable for planning purposes so that Council can make more informed decisions both with the near-term opportunities to preserve life at the Trail Waste Facility Landfill and in consideration of future policy recommendations as part of the SWMP.

Staff propose retaining an industry expert to review landfill life expectancy frameworks and adopt a methodology for estimating remaining landfill life to be used for planning purposes that estimates a more appropriate applicable range of remaining years. This

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methodology will calculate landfill life as a range which is critical to reflecting the dynamic nature of landfill operations, and the many variables that can impact available airspace into the future and can be readily updated as policies are considered and developed.

Exploring Expanding the Trail Road Waste Facility

The Trail Waste Facility Landfill is a significant City-owned and community asset and must be utilized to the greatest extent possible. Extending and optimizing the capacity of the Trail Waste Facility Landfill was identified as a goal of the SWMP and a future need through the Needs Assessment analysis process of the SWMP. This goal was identified in recognition that this is an important community asset, especially in light of the fact that overall landfill capacity available across the Province is diminishing, with most recent estimates highlighting that province-wide landfill capacity could be depleted in the next 15 years. Staff will investigate and report on the feasibility, cost, and timeframe to expand the capacity within the Trail Waste Facility Landfill property.

Financial Implications

This report has no 2021 budget implications. The work to engage a consultant will begin after Council approval of the recommendations and funding for this requirement will be included in the 2022 Solid Waste Services Draft Capital Budget to be tabled with Council on November 3, 2021.

This strategy, in combination with operational optimization initiatives at the Trail Waste Facility Landfill, the SWMP and work on existing component projects aimed at increasing waste diversion from landfill in the short-term, will collectively work to achieve Council's goal of extending the life of the Trail Waste Facility Landfill beyond the life of the 30-year SWMP. Advancing this work aligns with the City's Term of Council priorities, related to environmental stewardship and service excellence through innovation, as well as the vision statement, guiding principles and goals of the City's Solid Waste Master Plan.

RÉSUMÉ

Tel que réglementé par la province de l'Ontario, la Ville d'Ottawa (la Ville) est responsable de la gestion de la collecte, du transport, du traitement et de l'élimination des matières recyclables déposées dans les boîtes bleues et dans les boîtes noires, des déchets organiques déposés dans les bacs verts, des feuilles et des résidus de jardinage, des déchets et des articles encombrants d'environ 297 000 maisons unifamiliales. La Ville fournit également des services de collecte des déchets pour environ 2 150 immeubles à logements multiples, 190 établissements appartenant à la Ville, 1 950 parcs et espaces publics, 550 petites entreprises dans le cadre du Programme de sacs jaunes de la Ville et 240 écoles qui font partie du Programme des bacs verts dans les écoles de la Ville.

La Ville possède et exploite la décharge contrôlée du chemin Trail. La décharge a été mise en service en mai 1980 et devait initialement recevoir des déchets pendant 20 ans – jusqu'en 2000; cependant, la Ville a réussi à prolonger sa durée de vie grâce à l'expansion de l'espace aérien, le développement de nouvelles cellules de déchets et la mise en œuvre graduelle des améliorations à ses politiques visant le réacheminement des déchets. Bien que la décharge contrôlée du chemin Trail traite surtout les déchets résidentiels ramassés en bordure de rue, elle traite aussi certains déchets du grand public, du secteur de la construction-démolition et du secteur industriel, commercial et institutionnel (ICI). La décharge contrôlée du chemin Trail est un atout important pour la Ville et ses résidents. Le coût de l'établissement d'une nouvelle décharge pourrait être de l'ordre de 100 à 200 millions de dollars et pourrait prendre jusqu'à 15 ans avant qu'elle devienne pleinement opérationnelle.

La Ville s'en est remise au Rapport annuel de surveillance (RAS), qui constitue une méthodologie de conformité à laquelle elle fait appel pour déposer ses rapports annuels auprès du ministère de l'Environnement, de la Protection de la nature et des Parcs (MEPNP); cette méthodologie fait appel à des indicateurs statistiques décalés comme la consommation de l'espace aérien des années précédentes, pour estimer le reliquat de la durée de vie de la décharge contrôlée. Bien que cette méthodologie soit satisfaisante pour les besoins de la conformité, on ne la reconnaît pas comme règle de l'art pour les besoins de la planification à long terme des déchets, puisqu'elle ne tient pas compte de différents facteurs qui influent sur la longévité de la décharge contrôlée, principalement le réacheminement de matériaux et la croissance de la population.

D'après l'analyse de l'évaluation des besoins à long terme dans la gestion des déchets effectuée dans le cadre du rapport de la deuxième phase du Plan directeur de la gestion des déchets solides (PDGDS) de 2021 ([ACS2021-PWE-SWS-0003](#)), on estime qu'il reste une capacité d'environ 30 % dans la décharge contrôlée du chemin Trail (sur la base du Rapport annuel de surveillance de 2019 et mis à jour annuellement), ce qui permet de constater, de concert avec l'examen mené par le personnel sur les tendances de l'évolution de l'élimination des déchets, que si la Ville garde le statu quo dans la réduction et le réacheminement des déchets, la décharge contrôlée du chemin Trail devrait atteindre sa pleine capacité entre 2036 et 2038.

En sachant que la décharge contrôlée s'emplit plus rapidement que prévu pensé, il se pourrait que le Plan directeur de la gestion des déchets solides ne puisse pas atteindre l'objectif proposé dans le prolongement de la durée de vie de la décharge contrôlée au-delà de l'horizon de 30 ans du Plan. Pour corriger ce problème, le personnel continuera d'élaborer une Stratégie de la gestion des déchets résiduels (SGDR), qui sera ciblée, pour optimiser le volume restant de la décharge et le volume de déchets enfouis à court et à moyen terme, tandis que les stratégies à long terme continueront d'être appliquées dans le cadre du Plan directeur de la gestion des déchets solides.

Élaborer une Stratégie de gestion des déchets résiduels

La SGDR décrit le cadre permettant de se pencher sur la possibilité de mettre en œuvre un ensemble de politiques, de programmes et de mécanismes, qui ont tous déjà été identifiés par les besoins à long terme dans la gestion des déchets du PDGDS, pour réduire ou réacheminer la quantité de déchets envoyés à la décharge pour élimination. La Stratégie de la gestion des déchets résiduels (SGDR) vise à cerner les possibilités à court terme de réacheminer des déchets destinés à la décharge du chemin Trail et à continuer d'apporter des améliorations opérationnelles sur le site en vue de préserver, dans toute la mesure du possible, la capacité restante de la décharge. Chaque possibilité définie dans la stratégie sera quantifiée en fonction de son effet, notamment en tenant compte du potentiel attendu de préservation de la capacité, des répercussions sur l'environnement et de l'incidence financière de la mise en œuvre

La SGDR proposée pour prolonger la durée de vie de la décharge contrôlée du chemin Trail cerne six occasions (éléments) précises qui peuvent être saisies à court terme (de 1 à 3 ans), notamment :

1. Limiter les types de déchets reçus à la décharge contrôlée du chemin Trail, en particulier les ordures non ménagères et les déchets volumineux qui sont reçus à la porte.
2. Examiner les frais de collecte de déchets, en explorant spécifiquement une stratégie de frais de collecte de déchets qui créerait une incitation à réduire l'élimination des déchets d'articles qui sont difficiles à gérer.
3. Rediriger les déchets résidentiels vers des installations privées d'élimination des déchets.
4. Continuer à apporter des améliorations opérationnelles pour augmenter la quantité de déchets pouvant être déposés dans les contours approuvés de la décharge.
5. Accroître la sensibilisation à la valeur de la décharge contrôlée du chemin Trail grâce à des programmes de diffusion externe et d'éducation du public.
6. Concevoir le cadre d'un futur programme pilote sur les technologies de gestion des déchets résiduels.

Chacune des possibilités sera créée d'une manière qui demeure souple et adaptable pour assurer que les changements dans la gestion des déchets, tels que les lois changeantes, les tendances de consommation, les changements climatiques et les technologies nouvelles et émergentes, soient pris en compte.

Élaborer une méthodologie de calcul de la durée de vie de la décharge

On s'attendait à ce que le Plan directeur de la gestion des déchets solides en cours identifie les aspects à améliorer en fonction des pratiques exemplaires en évolution de l'industrie. Comme indiqué précédemment, l'analyse des besoins menée dans le cadre de la deuxième phase du Plan directeur a révélé que la méthodologie du Rapport annuel de surveillance actuellement utilisée par la Ville pour estimer la durée de vie des

décharges ne convient pas à une politique de planification à long terme. Le calcul du RAS ne tient pas compte de facteurs tels que l'évolution des pratiques d'exploitation des décharges (compactage ou utilisation des couvercles), la croissance démographique, l'expansion des programmes de réacheminement et l'augmentation du réacheminement ou l'évolution des habitudes de consommation.

Maintenant que ce besoin a été spécifié, des efforts devront être déployés pour mettre au point une méthode pour estimer la durée de vie des décharges, qui inclura un calcul intégré fondé sur des scénarios et plus adapté aux fins de planification afin que le Conseil puisse prendre des décisions plus éclairées à la fois en ce qui concerne les possibilités à court terme de préserver la vie à la décharge contrôlée du chemin Trail et en tenant compte des recommandations stratégiques futures dans le cadre du PDGDS.

Le personnel propose de retenir les services d'un expert de l'industrie pour examiner les cadres de la durée de vie des décharges et adopter une méthodologie pour la durée de vie restante des décharges à utiliser à des fins de planification qui estime une plage applicable plus appropriée d'années restantes. Cette méthodologie calculera la durée de vie des décharges comme une étendue, condition essentielle pour refléter la nature dynamique des opérations d'enfouissement, ainsi que les nombreuses variables qui peuvent avoir une incidence sur l'espace aérien disponible dans l'avenir et peuvent être facilement mises à jour au fur et à mesure que les politiques sont examinées et élaborées.

Étudier la possibilité d'agrandir la décharge contrôlée du chemin Trail

La décharge contrôlée du chemin Trail est un établissement important appartenant à la Ville et à la communauté et doit être utilisée dans la plus grande mesure possible. L'augmentation et l'optimisation de la capacité de la décharge contrôlée du chemin Trail ont été déterminés en tant qu'objectif du PDGDS et un besoin futur par le biais du processus d'analyse d'évaluation des besoins du PDGDS. Cet objectif a été identifié en reconnaissance du fait qu'il s'agit d'un important bien communautaire, d'autant plus que la capacité globale des sites d'enfouissement disponibles dans la province est en décroissance, les estimations les plus récentes soulignant que la capacité des sites

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d'enfouissement à l'échelle de la province pourrait être épuisée au cours des 15 prochaines années.

Le personnel enquêtera et fera rapport sur la faisabilité, le coût et le délai pour augmenter la capacité de la décharge contrôlée du chemin Trail.

Incidence financière

Le présent rapport n'a aucune incidence sur le budget de 2021. Les travaux visant à engager un conseiller commenceront après l'approbation des recommandations par le Conseil. De plus, le financement de cette exigence sera inclus dans le budget provisoire des immobilisations relatives à la gestion des déchets solides de 2022, qui sera présenté au Conseil le 3 novembre 2021.

Cette stratégie, combinée aux initiatives d'optimisation opérationnelle à la décharge contrôlée du chemin Trail, au PDGDS et aux travaux en cours sur le volet visant à augmenter, à court terme, le taux de réacheminement des déchets, travaillera de pair pour atteindre l'objectif du Conseil qui consiste à prolonger la durée de vie de la décharge contrôlée du chemin Trail au-delà de la durée de vie de 30 ans du PDGDS. L'avancement de ce travail concorde avec les priorités pour le mandat du Conseil de la Ville, qui sont liées à la gérance de l'environnement et à l'excellence du service grâce à l'innovation, ainsi qu'avec l'énoncé de vision, les principes directeurs et les objectifs du Plan directeur de la gestion des déchets solides de la Ville.

BACKGROUND

As regulated by the Province of Ontario, the City of Ottawa (the City) is responsible for managing the collection, transportation, processing and disposal of blue and black box recyclables, green bin organics, leaf and yard waste, garbage, and bulky items from approximately 297,000 single-family homes. The City also provides waste collection services to approximately 2,150 multi-residential properties, 190 City-owned facilities, 1,950 parks and public spaces, 550 small businesses through the City's Yellow Bag program, and 240 schools with green bin collection through the City's Green Bins in Schools program.

In 2019, the City's residents generated approximately 338,564 tonnes of waste from all property types, consisting of 187,728 tonnes of garbage (55.4 per cent), 61,493 tonnes of recyclable materials (18.2 per cent), and 89,343 tonnes of household organics and yard waste (26.4 per cent). Properties which receive curbside waste collection (e.g., detached dwellings, semi-detached properties, row houses, etc.) accounted for approximately 82 per cent of this waste, while the remaining 18 per cent was generated by the Industrial, Commercial and Institutional (IC&I) properties serviced by the City (e.g., multi-residential properties and City facilities).

Trail Waste Facility Landfill

The City owns and operates the Trail Waste Facility Landfill. The landfill began receiving waste in May 1980 and was initially expected to receive waste for 20 years – until 2000. The Trail Waste Facility Landfill is a key City asset with an approved capacity of 16.9 million cubic metres. While the Trail Waste Facility Landfill primarily accepts curbside residential waste, it also accepts some waste from the general public, the Construction and Demolition sector, and the Industrial, Commercial and Institutional (IC&I) sector. The Trail Waste Facility Landfill is located in the southwest end of the City on 153 hectares, with 85 hectares for landfilling and 68 hectares serving as buffer land.

The Trail Waste Facility Landfill has 5 Stages (also known as waste cells) capable of accepting waste. Stages 1 and 2 were capped and closed in 2016 and 2020, respectively. Stage 3A was capped and closed in 2021, however Stage 3B is still active. Stage 4 is also actively accepting waste. Preparations for Stage 5A to accept waste will begin in 2022. When Stage 5A and 5B are full based on the current approvals in place, the capacity of the Trail Waste Facility Landfill will be exhausted. At the end of 2019, there was 30% capacity remaining at the Trail Waste Facility Landfill.

The Trail Waste Facility is a significant asset for the City and its residents. The cost of establishing a new landfill could be in the range of \$100 - \$200 million and could take up to 15 years before becoming fully operational.

Solid Waste Master Plan

On July 10 2019, Council approved the Solid Waste Master Plan Roadmap report ([ACS2019-PWE-GEN-0007](#)), officially starting the development of the City's next 30-year plan for managing waste within the current social, economic and environmental context. As detailed in the 2019 Roadmap report, it was and is expected that the waste planning process will result in the identification of various areas where the City could find opportunities for improvement. One such area that was identified for the City is the manner in which its landfill life expectancy is estimated. The way the City of Ottawa currently estimates landfill life expectancy is used for compliance reporting and is not suitable for long-term waste planning purposes.

To date, the City has relied on the Annual Monitoring Report (AMR), a compliance methodology used for annual reporting to the Ministry of Environment, Conservation and Parks (MECP), which uses historical/lagging indicators, such as previous years' airspace consumption, to estimate remaining landfill life. While this methodology is appropriate for compliance purposes, it is not recognized as a best practice for long-term waste planning purposes as it does not consider various factors that influence the longevity of landfill life, primarily material diversion and population growth. The 2019 Solid Waste Master Plan Roadmap report and the 2020 Solid Waste Master Plan Phase 1 report ([ACS2020-PWE-SWS-0001](#)) used the Annual Monitoring Report to state closure dates of 2042 and 2041 respectively.

Based on the Long-Term Waste Management Needs Assessment Analysis conducted as part of the 2021 Solid Waste Master Plan Phase 2 report ([ACS2021-PWE-SWS-0003](#)), it is estimated that there is approximately 30 per cent capacity remaining at the Trail Waste Facility Landfill (based on the 2019 Annual Monitoring Report and updated annually). This, in conjunction with staff's review of disposal trends, determined that if the City maintains status quo with regard to waste reduction and diversion efforts, the Trail Waste Facility Landfill is expected to reach capacity between 2036 to 2038.

Recognizing that the Trail Waste Facility Landfill is filling up more quickly than previously expected, and if minimal effort is made in the short to immediate term to significantly increase the life of the landfill, the Waste Plan may fall short of meeting the proposed goal of extending the life of the landfill beyond the 30-year term of the Plan. To address this, staff committed to developing a focused Residual Waste Management

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Strategy (RWMS) in the short term to explore opportunities to optimize the remaining airspace available and reduce the amount of waste going to landfill in the short to medium-term, while longer term strategies will continue to be implemented as part of the Solid Waste Master Plan.

Previous Efforts to Extend the Trail Waste Facility Lifespan

The Trail Waste Facility Landfill was originally expected to close in 2000, however that date was extended to 2009 through various successful waste diversion initiatives leading up to 2002, as reported in the 2001 Annual Monitoring Report for the Trail Road and former Nepean landfills.

In May 2002, the City initiated an Environmental Assessment (EA) for the expansion of the Trail Waste Facility Landfill with the goal of extending the lifespan of the landfill. Facing the reality of the landfill reaching capacity within 10 years, the City of Ottawa developed its first Solid Waste Master Plan, known at the time as the Integrated Waste Management Master Plan (IWMMP). It was adopted by Council on September 3, 2003.

Shortly following the approval of the IWMMP by Council, the Ministry of the Environment approved the City's 2002 EA for the expansion of the Trail Waste Facility Landfill in 2005, thereby extending the lifespan of the landfill by 10 to 40 years beyond the revised closure date of 2009. The expansion of the landfill included the vertical expansion of Stages 1, 2, 3 and 4 and the approval of a new waste cell, Stage 5, increasing the capacity of the landfill by 8,206,000 m³

Current Waste Reduction and Diversion Efforts

As part of the 2003 Council-approved Integrated Waste Management Master Plan (IWMMP), the City introduced a gradual reduction of curbside garbage limits. In 2003, the set out limit was five items weekly however this changed to three items in 2007 when Council approved the Integrated Waste Management Master Plan Update report ([ACS2007-PWS-UTL-0006](#)). The same limit has been in place since 2007, though collection moved from weekly to bi-weekly in 2011, with the focus continuously being on educating residents to encourage participation in waste diversion programs rather than enforcing the garbage limit.

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The City considered further lowering the item limit, introducing clear bag garbage collection, and implementing a partial pay-as-you-throw (PAYT) program as part of the 2011 Solid Waste Services Service Level Review ([ACS2011-ICS-ESD-0002](#)). These options, however, were not carried forward due to strong public opposition at the time, and to allow time for resident participation uptake in the newly implemented, City-wide Green Bin program implemented in 2010. At that time, the City was also undergoing the most significant service change to date with the transition to bi-weekly garbage collection.

Most recently, the City has undertaken a number of efforts to divert waste from the landfill, including:

- **Green Bin Program Enhancements:** This initiative involved allowing plastic bag liners and dog waste in the green bin as of July 2019, to increase participation in the program, thereby increasing diversion. After a year and a half since the program enhancements were introduced, there are signs that the policy changes and communications and outreach efforts have been effective. The City sent four per-cent more organic and co-mingled leaf and yard waste to Convertus for processing in 2019 compared to 2018, with a further six per-cent increase in 2020 compared to 2019. In February, when there is minimal leaf and yard waste in green bins and thus a more representative picture of household organic waste, the City saw a nearly 19 per-cent increase in tonnage from 2019 to 2020, with nearly a 21 per-cent increase from 2020 to 2021. The City's curbside set-out study found an eight-per-cent increase in the number of households setting out a green bin in 2020 compared to 2018, for a total of 58 per cent of households setting out a bin in 2020, with 55-per-cent having a visible plastic bag liner in the green bin. Note that the COVID-19 pandemic has had an impact on waste disposal habits therefore this data should be viewed as a snapshot in time that includes a cultural and social shift in waste generation and disposal that may or may not be temporary. Staff reminded Council earlier this year that a second report on Green Bin performance be undertaken no earlier than one year after the pandemic ends.

- **Parks Waste Diversion Pilot:** The scope of the expanded 2021-2022 recycling in parks pilot services 31 parks of different sizes from across the City as well as one destination park (Mooney's Bay). Staff will be reporting back on the pilot and next steps.
- **Multi-Residential Waste Diversion Strategy:** This initiative is a component project of the Solid Waste Master Plan and involves the development of an action-oriented strategy that will provide recommendations on short-term pilots, programs, and initiatives to support increasing waste diversion at multi-residential properties. The strategy will be presented to Council for consideration in Q1 2022.
- **Curbside Diversion Options:** This initiative is a component project of the Solid Waste Master Plan and is exploring curbside garbage collection policy options to increase waste diversion from the City's 297,000 curbside households. Broad-based public engagement finished in September and a recommended option will be presented to Council for consideration in Q1 2022.

The projects listed above all support the City in its goal of extending the life of the Trail Waste Facility Landfill. As previously stated, building a new landfill would take approximately 10 to 15 years which includes securing the property, completing the Environmental Assessment process and construction and preparation the site for the acceptance of waste.

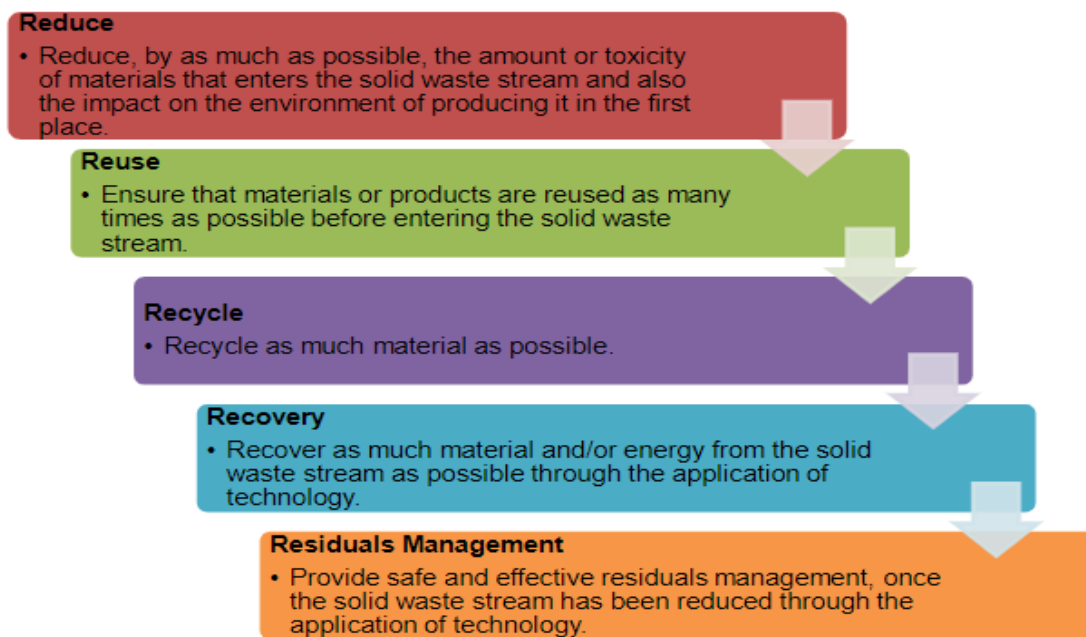
Residual Management

Council approved the vision of "A zero waste Ottawa achieved through progressive, collective, and innovative action" through the Phase 2 report of the City's Solid Waste Master Plan. The zero-waste strategic vision seeks to change lifestyles and practices over the long term by maximizing recycling, minimizing waste, reducing consumption, and sending next to no waste to landfill.

Along with the vision statement, Council approved eight guiding principles, one of which includes the 5Rs Waste Management Hierarchy which prioritizes options that support waste reduction, reuse, recycling, and recovery so that minimal residual waste is sent to

landfill. This hierarchy is commonly used in the development of waste plans, and focuses on the elements of Reduce, Reuse, Recycle, Recover, and Residuals Management, as detailed below.

Figure 1: 5Rs Waste Management Hierarchy



As outlined in the 2019 Solid Waste Master Plan Roadmap report, this hierarchy was identified as a key element for inclusion in the development of the City's Solid Waste Master Plan (SWMP), and staff have worked with the project's technical consultant to ensure it is followed throughout the SWMP planning process, including embedding these philosophies in the Plan's guiding principles and goals.

Residual management is the final treatment or disposal of waste that cannot be used or managed through any of the other 4 Rs. Subsequent to the various stages of waste prevention, including recycling programs and waste diversion technologies, residual wastes (ashes, non-recyclables, impurities, etc.) remain to be disposed. The final aim of a residual management is to reduce the volume of waste going to landfill, thereby extending the lifespan of the asset.

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The Solid Waste Master Plan currently in development is looking at ways to avoid, reduce and divert waste from the landfill, as well as the longer term need to secure future waste disposal capacity. The Residual Waste Management Strategy will work in alignment with the SWMP by expediting strategies to extend the life of the landfill in the short and medium term, while being guided by the Council approved vision statement, guiding principles and goals of the Solid Waste Master Plan.

DISCUSSION

The purpose of this report is to update Council on plans for a Residual Waste Management Strategy (RWMS) and seek approval to move forward with the next steps to advance the strategy as outlined within this document. Further, this report is seeking Council's approval to engage a consultant to develop the landfill life estimation methodology based on the scenarios considered in order to more accurately predict the remaining life of the Trail Waste Facility Landfill for long term planning purposes. This would give Council important information to help inform the long-term decisions it will make related to solid waste. Lastly, this report is seeking Council's direction for staff to begin exploring the potential to expand the landfill capacity within the current property boundaries, further extending its life.

The RWMS is being advanced ahead of the final policy directions of the SWMP to quickly action the short-term opportunities identified during the Needs Assessment to help extend the life of the Trail Waste Facility Landfill. The RWMS provides a framework and plan to act now to advance the more detailed analysis required to realize these short-term opportunities while the medium and long-term opportunities will continue to be explored through the SWMP process. This strategy, combined with ongoing waste reduction and diversion projects, and initiatives identified through the SWMP, will work together to further the goal of extending the life of the Trail Waste Facility Landfill.

Recommendation 1- Residual Waste Management Strategy

One of the approved goals of the SWMP and a continuing strategic direction of Council is to extend the life of the City's Trail Waste Facility Landfill. As previously stated, the Trail Waste Facility Landfill is filling up more quickly than previously expected, and if minimal effort is made in the short to immediate term to significantly increase the life of

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the landfill, the Waste Plan may fall short of meeting the proposed goal of extending the life of the landfill beyond the 30-year term of the Plan. Now is the time to advance a residuals waste management strategy to optimize capacity at Trail Waste Facility Landfill and extend its life.

When outlining the Residual Waste Management Strategy, the following SWMP goals were considered:

- Extend the life of the Trail Waste Facility Landfill significantly beyond its existing anticipated end of life to eliminate the need for a new residential landfill within the 30-year timeframe of the SWMP;
- Reduce the amount of waste generated by residents and the City as a corporation; and
- Maximize cost containment, revenue generation and the efficient use of waste management resources to help minimize costs to taxpayers.

The RWMS outlines the framework to explore the possibility of implementing a combination of policies, programs, and mechanisms, all which have been previously identified through the SWMP Long-Term Waste Management Needs.. It will explore a suite of opportunities including banning the disposal of certain materials (e.g., construction and demolition waste) at the Trail Waste Facility Landfill, increasing tipping fees for certain types of materials, opportunities to dispose of waste at other local private sector disposal facilities, continuous improvement on operational optimization, increasing public awareness of the value of the landfill and exploring the potential to pilot residual management technologies.

The goal of the RWMS is to identify short-term opportunities to divert waste from the Trail Waste Facility Landfill and continue to make operational improvements at the site in order to preserve, to every extent possible, the remaining capacity at the landfill. Each opportunity will be quantified regarding the impact of implementing, including considering the amount of tonnage reduction received at the Trail Waste Facility Landfill, the environmental impact of each option and the financial implications of implementing each option. More specifically, the goals of the strategy are to:

1. Qualify the short-term and medium-term opportunities, as detailed below, to maximize the life of the Trail Waste Facility Landfill.
2. Remain consistent with what is being considered under the SWMP and its policy directions.
3. Explore innovative options with respect to managing the current/future residual waste volumes for the City of Ottawa.
4. Develop a pilot program for qualifying other residual waste disposal options outside of landfilling.
5. Develop a methodology to assess the remaining lifespan of the Trail Waste Facility Landfill for use in long-term planning decision evaluation.

The purpose of fast tracking this strategy ahead of the final SWMP being tabled is to identify “quick wins” to begin increasing the life of the Trail Waste Facility Landfill as soon as possible, to maximize the use of this important City asset.

The proposed RWMS to extend the life of the Trail Waste Facility Landfill identifies six specific opportunities (elements) that can be actioned in the short term (1-3 years) including:

1. Limiting types of waste received at the Trail Waste Facility Landfill.
2. Reviewing tipping fees.
3. Redirecting residential waste to private disposal facilities.
4. Continuing to make operational improvements to maximize airspace potential.
5. Increasing awareness of the value of the Trail Waste Facility Landfill through education and outreach.
6. Designing the framework for a future residual waste management technologies pilot program.

Each of the opportunities will be evaluated based on four main criteria including:

1. Analysis of the impact to the life of Trail Waste Facility Landfill.

2. Evaluation of the financial implications.
3. Evaluation of the environmental implications.
4. Risk analysis and mitigation strategies.

Common amongst residual management strategies is the desire to quantify the value of implementing an option based on the additional years of life it would provide to the landfill. As part of the Curbside Diversion Options (CDO) project, a financial model is being developed to explore the opportunity to defer capital and operating costs associated with citing and operating a new landfill or waste technology for each year we can extend the life of Trail Waste Facility Landfill. The RWMS will use the same analysis when considering the financial implications for an opportunity.

In addition to extending the life of the landfill, reducing the amount of waste diverted from Trail Waste Facility Landfill is aligned to the City's Climate Change Master Plan. The environmental implications of each opportunity of the strategy will be assessed according to a climate lens approved through the Climate Change Master Plan. This will include assessing how each opportunity both impacts emissions and is impacted by climate change, and what measures will be taken to both reduce emissions and adapt to future climate conditions. The analysis will draw on the City's Energy Evolution strategy, local climate projections and the climate vulnerability and risk assessment.

A risk assessment will also be conducted while evaluating each opportunity. The opportunities have the potential to be impacted by evolving legislation, climate change and resident and stakeholder participation. Other key risks and considerations that need to be considered as part of residual management planning include changes to lifestyles and consumer trends, the evolving nature of packaging and acceptance of new and emerging waste management technologies. Each of the opportunities will be developed in a way that remains flexible and adaptable to ensure that the risks mentioned above are considered and mitigated to every extent possible.

The following sections give a brief description of each opportunity, the proposed next steps and timing for potential implementation.

1 – Limiting types of waste received at the Trail Road Waste Facility

Staff will investigate and bring back recommendations for limiting waste received at the Trail Waste Facility Landfill. This will be investigated alongside the Curbside Diversion Options project which will be presented to Council for consideration in Q1 2022. There are two types of waste that will be studied - “quick-win” bulky waste alternatives where markets for diversion exist and limiting non-residential waste received at the gate of the landfill.

The amount of capacity consumed by waste at the landfill varies by type and composition. Bulky waste (i.e. furniture, and mattresses), does not compact well within the landfill and takes up more space. To address this issue, staff will conduct market research and a municipal scan to identify and evaluate best practices for diverting specific bulky waste, such as mattresses, and investigate opportunities to partner with local companies to divert these items from the landfill.

In addition to residual waste generated by curbside and multi-residential households, City facilities and parks and public spaces requiring disposal, the City accepts a small amount of Industrial, Commercial & Institutional (IC&I) and Construction and Demolition (C&D) waste directly at the landfill. This waste is generated mainly by small businesses regulated as part of the IC&I sector, and small businesses and households looking to dispose of construction and demolition waste. C&D waste is produced by construction, renovation and demolition projects and waste generation in each of these sectors varies significantly depending on economic activity from one year to another as well as development trends.

Though this volume is relatively small (37,227 tonnes of IC&I and C&D waste was disposed at Trail Waste Facility Landfill in 2019), not accepting this material would have a compounding reduction in the amount of material being sent to the landfill year-over-year. Staff will need to assess the financial implications of not receiving this waste versus the cost of landfill space it occupies and detail a robust communications plan for informing residents and contractors of any changes along with alternative solutions for their waste.

Next steps include:

1. Detailing types and amounts of non-residential waste received.

2. Performing financial implications analysis on the balance between tipping fees received versus landfill life preserved.
3. Conducting market research and a municipal scan to identify and evaluate best practices and “quick win” solutions for diverting bulky type materials.
4. Preparing recommendations for implementation.

Timing: Q1 2022

2 – Reviewing Tipping Fees

Tipping fees are used at the Trail Waste Facility Landfill as a means of charging a fee directly on waste brought to landfills and the price is based on the type and weight of the material. As a landfill operator, the City has the ability to set its fees, which is done and updated on an annual basis. The City’s current approach to setting tipping fees is based on a cost recovery basis and also considers market factors such as fees charged by other local private disposal facilities.

This opportunity will involve the City exploring a tipping fee strategy that would create an incentive to reduce the waste disposal of difficult to manage items. This could include:

- Increasing tipping fees for certain materials to discourage generators from disposing of these materials (e.g. C&D waste).
- Increasing tipping fees for non-residential waste.
- Increasing tipping fees for those materials that have other disposal options.

Next steps include:

1. Establishing a residual waste management lens for the annual review of tipping fees.
2. Applying lens to the 2023 and beyond tipping fee review.

Timing: Q1 2023

3 – Redirecting Residual Waste to Private Landfills

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Though the Province is predicting landfill shortfalls throughout Ontario, the Eastern Region of the Province, including the City of Ottawa, is comparatively landfill rich. Landfills within the City of Ottawa boundaries include the City owned Trail Waste Facility Landfill, two privately owned and operated landfills (Waste Management – West Carlton Environmental Centre and Transfer Station (Carp) and Waste Connections of Canada - Ottawa Landfill in Navan). There is one privately owned and operated landfill located just outside the City, the Eastern Ontario Waste Handling Facility in Moose Creek. In addition, the Capital Region Resource Recovery Centre (Russel) owned by Taggart Miller is expected to become an active waste management facility in the near future.

Staff will investigate the cost and environmental impacts to re-directing residential waste destined for Trail Road Waste Facility to a private landfill. As was indicated as part of the SWMP Phase 2 report (8A2 Use of a Private Landfill), this practice is used throughout the Province to help municipalities extend the life of their landfills. For example, York Region issued a Request for Proposal in 2020 to secure processing capacity from one or more private landfills in order to divert up to 120,000 tonnes of waste per year until their current facility can be expanded. Similarly, the City of Toronto has three agreements in place with private landfills to divert materials as required and preserve the life of their City-owned Green Lane Landfill. Staff will investigate the potential operational and environmental benefits, including efficiency's and reduced transportation of the waste, to using private landfills on top of diverting waste from the Trail Waste Facility Landfill.

The work on qualifying this opportunity would feed into the 2025 curbside collection contract procurement process.

Next steps include:

1. Quantifying amount of waste that could be redirected to a local private landfill.
2. Identifying suitable facilities that are permitted to receive residential waste.
3. Performing financial implications analysis to understand cost of re-directing waste versus preserving landfill life.

4. Preparing recommendations for implementation.

Timing: Q2 2023

4 – Making Operational Improvements at Trail Road Waste Facility

An existing landfill is an asset that should be operated in a manner that is not only environmentally sound but preserves airspace and extends landfill life. Landfill optimization consists of making changes to an existing landfill to enhance its operation and review landfill equipment for improvements to increase the quantity of waste that can be deposited within the approved contours of the Trail Waste Facility Landfill. Staff at the Trail Waste Facility Landfill have long been committed to landfill optimization. This continuous focus has included ongoing final cover design improvements, recovery of airspace in Stages 1, 2, and 3, static loading, fill sequence planning, best management practice improvements for landfill operations, specialized equipment selection, operator support and training, GPS system upgrades, and planning support.

Staff will continue to consider methods of optimizing landfill operations in order to maximize remaining capacity and extend the site life of the landfill.

Next steps include:

1. Industry scan of techniques and tools used by other landfill operators world-wide.
2. Continuing to monitor and implement best practices and optimization techniques in landfill management.

Timing: On-going

5 – Increasing Awareness of the Value of the Trail Waste Facility Landfill Through Education and Outreach

A comprehensive two-phase communication and outreach plan to educate residents on the value of the landfill and encourage diversion will be developed as part of the Residual Waste Management Strategy.

Tactics similar to those used for the roll-out of the Green Bin Program Enhancements will be considered. Solid Waste Services has allocated a budget for communication and outreach products, and will consider a wide variety of tactics including, paid ads,

mailouts, graphic and video design, and printed promotional material. No-cost tactics like Councillor toolkits, social media and media interviews will also be evaluated and the market research done by Hill+Knowlton Strategies on which media types resonate with residents will also be used.

The Hill+Knowlton Strategies market research evaluated communication methods, tactics, and messages for specific target audiences. They found the most used channels when looking for information about City activities, programs and services are the City's website and 3-1-1. More specifically, those over 45 years-old prefer to use 3-1-1, while those between the ages of 35 and 54 are more likely to use Ottawa.ca, and those between the ages of 18 and 34 are more likely to access information via the City's Twitter, Instagram, and Facebook.

The first phase of the communication and outreach plan will concentrate on increasing awareness of the economic, environmental, and social value of the City-owned Trail Waste Facility Landfill. The second phase of the plan will focus on what residents can do to preserve this valuable asset through their own waste disposal behaviors.

The communication and outreach plan will be developed in collaboration with Public Information and Media Relations (PIMR) and presented to Council for information. The outreach will be planned so that it will not overlap with the work planned as part of SWMP Engagement Series 3.

Next steps include:

1. Developing an outreach strategy and plan.
2. Developing Councillor Toolkit.
3. Presenting Strategy to Council.

Timing: Q2 2022

6 – Designing a Future Residual Waste Management Technologies Pilot Program

Staff will investigate and detail plans for a pilot program that will enable potential residual management technologies to demonstrate their use, on a pilot scale, using Ottawa's residual waste. This will include a market scan for all existing, potential,

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planned and operational residual waste technologies and facilities. This plan will also detail the steps to establish a pilot program and outline its financial and permitting requirements. The plan will set the stage for implementation of a program upon considerations of the options provided in the SWMP.

Next steps include:

1. Performing a market scan for existing and potential residual waste technologies.
2. Establishing pilot program parameters and timelines.
3. Providing recommendation to Council.

Timing: Q2 2023

Recommendation 2 – Landfill Life Calculation Methodology

As Council will recall, the technical memorandum on the Long-Term Waste Management Needs of the City of Ottawa conducted during Phase 2 of the SWMP identified that the measure of landfill life for reporting as part of the Annual Monitoring report is less appropriate for long term planning purposes.

The primary purpose of the Annual Monitoring Report site life estimate is to demonstrate to the MECP that a Site Closure Report is not yet required (i.e. the site will not be closing in less than two years, and/or has not reached 90 per cent capacity). The calculation doesn't consider factors such as evolving landfill operational practices (compaction or use of cover), population growth, expansion of diversion programs, and increased diversion or changing consumption habits. For instance, through the COVID-19 pandemic, the City of Ottawa (and municipalities across Ontario) have seen a significant increase in garbage, recycling and green bin tonnage at the curb. As a result, more waste is currently being disposed of at the Trail Waste Facility Landfill.

Now that the need has been identified, work needs to be done to develop a methodology to estimate landfill life which will include an integrated, scenario-based calculation that is more suitable for planning purposes so that Council can make more informed decisions both with regard to the near-term opportunities to preserve life at the

Trail Waste Facility Landfill and in consideration of future policy recommendations as part of the SWMP.

Staff propose retaining an industry expert to review landfill life expectancy methodologies and adopt a best practice methodology for planning purposes that estimates a more appropriate applicable range of remaining years. This methodology will calculate landfill life as a range which is critical to reflecting the dynamic nature of landfill operations, and the many variables that can impact available airspace into the future and can be readily updated as policies are considered and developed.

This approach will give Council a best practice calculation methodology that provides a more reliable range in terms of years of remaining capacity at the Trail Waste Facility Landfill, critical for Council decision-making.

Recommendation 3 – Exploring Expanding the Trail Road Waste Facility

Extending and optimizing the capacity of the Trail Waste Facility Landfill was identified as a goal of the SWMP and a future need through the Needs Assessment analysis process of the SWMP. This goal was identified in recognition that this is an important community asset, especially in light of the fact that overall landfill capacity available across the Province is diminishing, with most recent estimates highlighting that province-wide landfill capacity could be depleted in the next 15 years.

Staff will investigate and report on the feasibility, cost, and timeframe to expand the capacity within the Trail Waste Facility Landfill property. Both landfill geometry and footprint area impact additional available airspace and estimated lifespan.

Next steps include:

1. Conducting a feasibility study, including timeline and financial implications, to expand the Trail Waste Facility Landfill.
2. Providing recommendations to Council.

Timing: Q2 2022

Conclusion

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The Trail Waste Facility Landfill is a significant City-owned and community asset and must be utilized to the greatest extent possible. Both short and long-term options need to be considered to preserve and extend its life. While improvements to operations are important, further considerations are also required to extend and optimize this critical asset. To delay the requirement for the potential siting of a new City-owned landfill or alternative waste management technology, it is imperative to maximize the available remaining airspace and extend the landfill life for as long as possible. There are viable short and medium-term options for increasing capacity and extending its life, including specific material bans, tipping fee adjustments and sourcing additional private landfill capacity. The feasibility of the opportunities outlined in this report for increasing capacity will be further explored over the next year in the RWMS and implemented as soon as possible. Staff will evaluate the six opportunities based on their potential impact on the life of the landfill, financial and environmental implications, and risks, and either begin implementation or bring forward recommendations to Council starting next year through mid-2023.

Staff would engage a consultant to develop a new landfill life estimation methodology to be used to inform policy decisions and for planning purposes. This work would ensure Council has an appropriate insight for the remaining life of the Trail Waste Facility Landfill which includes scenarios that consider diversion and tonnage reduction predictions, a critical piece of information as Council makes long-term decisions related to solid waste services.

Staff would also begin exploring the potential to expand landfill capacity within its current boundaries, thus further extending the landfill's life, with recommendations coming to Council by mid-2022.

This strategy, in combination with operational optimization initiatives at the Trail Waste Facility Landfill, the SWMP and work on existing component projects aimed at increasing waste diversion from landfill in the short-term, will collectively work to achieve Council's goal of extending the life of the Trail Waste Facility Landfill beyond the life of the 30-year SWMP. Advancing this work aligns with the City's Term of Council priorities, related to environmental stewardship and service excellence through innovation, as well

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as the vision statement, guiding principles and goals of the City's Solid Waste Master Plan.

FINANCIAL IMPLICATIONS

This report has no 2021 budget implications. The consultant assignment is expected to cost approximately \$40,000 and funding for this requirement will be included in the 2022 Solid Waste Services Draft Capital Budget to be tabled with Council on November 3, 2021 in Capital Internal Order 909431 Long Term Planning.

ACCESSIBILITY IMPACTS

Staff will ensure all applicable accessibility standards are adhered to during the execution of the initiatives and activities identified in this report including consultation with the Accessibility Advisory Committee and other residents with disabilities when engaging the community to identify any potential impacts to these groups in terms of service access, experiences and outcomes. Barriers identified will be addressed prior to the implementation of the components of the Residual Waste Management Strategy.

LEGAL IMPLICATIONS

There are no legal impediments to Committee and Council's approval of the recommendations of this report.

COMMENTS BY THE WARD COUNCILLOR(S)

This is a city-wide report.

ADVISORY COMMITTEE(S) COMMENTS

There are no advisory committee comments for this report.

CONSULTATION

Extensive consultation on waste management was conducted through the Solid Waste Master Plan, including engagement on the lifespan of the landfill. The results of those consultations have been considered throughout the Residual Waste Management Strategy.

INDIGENOUS, GENDER AND EQUITY IMPLICATIONS

As part of the Solid Waste Master Plan's public consultation through Engagement Series 2 which will begin shortly, a culturally and contextually appropriate Equity and Inclusion engagement process will take place, as it is recognized that Waste Plan options have the potential to impact these groups in terms of service access, experiences, impacts and outcomes. Any results from Engagement Series 2 that warrant consideration in the assessment and implementation of the Residual Waste Management Strategy will be promptly addressed.

ASSET MANAGEMENT IMPLICATIONS

The recommendations documented in this report are consistent with the City's [Comprehensive Asset Management \(CAM\) Program](#) objectives. The implementation of the Comprehensive Asset Management program enables the City to effectively manage existing and new infrastructure to maximize benefits, reduce risk, and provide safe and reliable levels of service to community users. This is done in a socially, culturally, environmentally, and economically conscious manner.

CLIMATE IMPLICATIONS

The City of Ottawa's Climate Change and Resiliency Unit have been consulted on the contents of this report to ensure it is aligned with the Climate Change Master Plan. A climate lens will be applied to all components of the strategy and environmental impacts is a major consideration of each option. Staff will continue to engage the Climate Change and Resiliency Unit throughout implementation of the strategy as needed.

ECONOMIC IMPLICATIONS

Preliminary economic implications have been discussed in this report. Any additional economic impacts that are identified through the assessment and implementation of the strategy will be detailed in future reports.

ENVIRONMENTAL IMPLICATIONS

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Extending the life of the landfill ensures the City is an environmental steward of the assets in its care and control. As owners of the Trail Waste Facility Landfill, the City will ensure all environmental compliance requirements are met during the implementation of any strategy elements.

RISK MANAGEMENT IMPLICATIONS

There are risk implications. These risks have been identified and explained in the report and are being managed by the appropriate staff.

RURAL IMPLICATIONS

This is a city-wide report.

TECHNOLOGY IMPLICATIONS

There are no technology implications in this report.

TERM OF COUNCIL PRIORITIES

The Residual Waste Management Strategy aligns with the Environmental Stewardship priority, to grow and protect a healthy, beautiful and vibrant city that can adapt to changes. Outcomes that support this priority include:

- The City is a leader in energy management and in conserving, recycling and reusing resources.
- The City's long-term plan for solid waste includes more diversion from landfills.

SUPPORTING DOCUMENTATION

There are no supporting documents to this report.

DISPOSITION

Upon approval of this report, staff will begin the assessments and implementation of the components of the Residual Waste Management Strategy.