5. Fuel Tank (Home Heating Oil) Incentive Program

Programme d'encouragement pour les réservoirs de carburant (huile de chauffage domestique)

COMMITTEE RECOMMENDATIONS

That Council:

1. **Approve the Fuel Tank (Home Heating Oil) Incentive Program as described in this report to support the objective of eliminating threats to the drinking water source.**
2. **Delegate the authority to the General Manager of Infrastructure and Water Services or designate to implement the program as outlined in this report and to execute all agreements associated with this program.**
3. **Direct staff to report back to Committee and Council by early 2025 on the results of the program.**
4. **Approve the request for an additional $53,000 to support the Fuel Tank (Home Heating Oil) Incentive Program, funded from 906087 2018 Watermain Improvements.**
5. **Direct staff to amend the eligibility requirements for the Better Homes Ottawa Loan Program so that the minimum loan amount is decreased to $5,000 for only the 12 homes referenced in the Fuel Tank Incentive Program report. All other eligibility requirements would remain the same.**

RECOMMANDATIONS DU COMITÉ

Que le Conseil :

1. **approuve le Programme d'incitation pour les réservoirs de carburant (mazout de chauffage) comme le décrit le présent rapport à l'appui de l'objectif d'élimination de la menace pour la source d'eau potable.**

2. **Délègue à la directrice générale des Services d'infrastructure et d'eau ou à son mandataire le pouvoir de mettre le programme en place, comme le décrit le présent rapport, et de signer toutes les ententes qui y sont associées.**

3. **demande au personnel de présenter au Comité et au Conseil un rapport sur les résultats du programme d'ici le début 2025.**

4. **approuve la demande d'un supplément de 53 000 $ à l'appui du Programme d'incitation pour les réservoirs de carburant (mazout de chauffage), financé par le compte 906087 de remplacement des conduites d'eau principales de 2018.**

5. **demande au personnel de modifier les exigences d'admissibilité du Programme de prêts Maisons durables Ottawa pour réduire le montant minimal du prêt à 5 000 $ uniquement pour les 12 domiciles dont il est question dans le rapport sur le Programme d'incitation pour les réservoirs de carburant. Toutes les autres exigences d'admissibilité demeureraient inchangées.**

Documentation/Documentation

Manager's report, Asset Management, Infrastructure & Water Services Department, dated April 11, 2022 (ACS2022-IWS-AM-0003)

Rapport de la Gestionnaire, Gestion des biens, Services d'infrastructure et d'eau, daté le 11 avril 2022 (ACS2022-IWS-AM-0003)

Subject: Fuel Tank (Home Heating Oil) Incentive Program

File Number: ACS2022-IWS-AM-0003

Report to Agriculture and Rural Affairs Committee on 5 May 2022

and Council 11 May 2022

Submitted on April 11, 2022 by Gen Nielsen, Manager, Asset Management, Infrastructure & Water Services Department 613-580-2424 x12686, gen.nielsen@ottawa.ca

Contact Person: Tessa Di Iorio, Risk Management Official/Inspector, Hydrogeologist, Asset Management, Infrastructure & Water Services Department

613-580-2424 x17658, tessa.diiorio@ottawa.ca

Wards: Rideau-Goulbourn (21)

Osgoode (20)

West Carleton-March (5)

Objet : Programme d'encouragement pour les réservoirs de carburant (huile de chauffage domestique)

Dossier : ACS2022-IWS-AM-0003

Rapport au Comité de l'agriculture et des affaires rurales

le 5 mai 2022

et au Conseil le 11 mai 2022

Soumis le 11 avril 2022 par Gen Nielsen, Gestionnaire, Gestion des biens, Services d'infrastructure et d'eau 613-580-2424 x12686, gen.nielsen@ottawa.ca

Personne ressource : Tessa Di Iorio, Risk Management Official/Inspector, Hydrogeologist, Gestion des biens, Services d'infrastructure et d'eau

613-580-2424 x17658, tessa.diiorio@ottawa.ca

Quartier : Rideau-Goulbourn (21)

Osgoode (20)

West Carleton-March (5)

REPORT RECOMMENDATIONS

That the Agricultural and Rural Affairs Committee recommend that Council:

1. **Approve the Fuel Tank (Home Heating Oil) Incentive Program as described in this report to support the objective of eliminating threats to the drinking water source.**

2. **Delegate the authority to the General Manager of Infrastructure and Water Services or designate to implement the program as outlined in this report and to execute all agreements associated with this program.**

3. **Direct staff to report back to Committee and Council by early 2025 on the results of the program.**

4. **Approve the request for an additional $53,000 to support the Fuel Tank (Home Heating Oil) Incentive Program, funded from 906087 2018 Watermain Improvements.**

5. **Direct staff to amend the eligibility requirements for the Better Homes Ottawa Loan Program so that the minimum loan amount is decreased to $5,000 for only the 12 homes referenced in the Fuel Tank Incentive Program report. All other eligibility requirements would remain the same.**

RECOMMANDATIONS DU RAPPORT

Que le Comité de l'agriculture et des affaires rurales recommande au Conseil :

1. **D'approuver le Programme d'incitation pour les réservoirs de carburant (mazout de chauffage) comme le décrit le présent rapport à l'appui de l'objectif d'élimination de la menace pour la source d'eau potable.**

2. **De déléguer à la directrice générale des Services d'infrastructure et d'eau ou à son mandataire le pouvoir de mettre le programme en place, comme le décrit le présent rapport, et de signer toutes les ententes qui y sont associées.**

3. De demander au personnel de présenter au Comité et au Conseil un rapport sur les résultats du programme d'ici le début 2025.

4. D'approuver la demande d'un supplément de 53 000 $ à l'appui du Programme d'incitation pour les réservoirs de carburant (mazout de chauffage), financé par le compte 906087 de remplacement des conduites d'eau principales de 2018.

5. De demander au personnel de modifier les exigences d'admissibilité du Programme de prêts Maisons durables Ottawa pour réduire le montant minimal du prêt à 5 000 $ uniquement pour les 12 domiciles dont il est question dans le rapport sur le Programme d'incitation pour les réservoirs de carburant. Toutes les autres exigences d'admissibilité demeureraient inchangées.

EXECUTIVE SUMMARY

Staff Recommendation

Infrastructure and Water Services (IWSD) staff recommend approval of the Fuel Tank (Home Heating Oil) Incentive Program to help eliminate threats to the municipal drinking water sources, to delegate the authority to the General Manager of IWSD or designate to implement the program and to execute all associated agreements. IWSD staff further recommend that Council approve the request for an additional $53,000 to support the incentive program, funded from 906087 2018 Watermain Improvements. And that the Better Homes Ottawa Loan program eligibility be amended to provide an additional financial incentive to support the green energy home heating option.

Other Matters

Home heating oil (fuel storage) is considered a significant drinking water threat within the highest vulnerable areas near municipal supply wells. There are policies within local Source Protection Plans that require Risk Management Plans (RMPs) for fuel storage in these zones to manage the threat. The policies identify that a RMP is required to ensure that fuel tanks near municipal wells meets specific design and operational standards. The fuel tank must be protected from physical damage, fuel tanks are required to be inspected annually and a spills prevention and mitigation plan must be in place, including knowledge of who to contact in case of a spill. Once a RMP is in place, there is still a need to monitor it in perpetuity to ensure ongoing compliance, so eliminating all

fuel tank threats will ultimately save homeowner and staff time, as well as protect the drinking water supply in the long-term.

The City contracted local Conservation Authorities (Source Protection Regions) to verify existing threats and negotiate RMPs, where required. Since the project was initiated in 2017, 15 fuel oil tanks were identified as potential significant drinking water threats.

City staff and Conservation Authority staff have been working towards RMP negotiations since 2017 using a 'soft approach' (politely requesting compliance, multiple visits). There are currently six outstanding fuel threats that are not managed and need to be addressed. Options to move forward with managing the existing fuel threats are enforcement (i.e. enforce a RMP) or revise the approach to work cooperatively with the landowners and provide additional incentives to remove the fuel oil tanks.

The proposed Fuel Tank Incentive Program offers financial incentives to remove existing fuel oil tanks that are located near municipal wells and replace them with an alternate heating source (air source heat pump or natural gas), which are not considered a significant drinking water threat. Additional incentives will be provided to support the green energy option (air source heat pump). The goal of the program is to eliminate the existing threats and protect the rural communal drinking water resources.

Applicable Policy

The following policy under Section 4.9.5 in the City's Official Plan is applicable for this report:

1) Any activity or use within designated vulnerable areas shown on Schedule C15, that is considered a significant drinking water threat, shall conform with all applicable approved Source Protection Plan policies and may be prohibited, restricted or otherwise regulated. Related municipal decisions shall conform with the mapping and policies contained within the most recent version of the applicable Source Protection Plan.

This report relates to fuel oil tanks that are considered significant drinking water threats located within Wellhead Protection Areas for municipal supply wells, as per Ontario's *Clean Water Act*. The fuel threats must be managed as per the Policy: FUEL-1-LB-S58 in the Mississippi-Rideau Source Protection Plan or Policy: FUEL-1 in the Raisin-South Nation Source Protection Plan, as applicable.

Financial Implications

Funding was established in the 2022 budget process in account 910460 Fuel Oil Tank Incentive Program. The estimated additional cost of the program is $53,000 based on Green Energy Options and are available from 906087 2018 Watermain Improvements. Pending Council approval, 910460 Fuel Oil Tank Incentive Program will be increased from $207,000 to $260,000.

Public Consultation/Input

City staff have consulted with the Conservation Authorities (Source Protection Regions), who have identified that they support the program and are willing to administer the program, as discussed in the program summary.

All homeowners impacted have been previously contacted as part of the source protection threats verification program (initiated in 2017).

SYNTHÈSE ADMINISTRATIVE

Recommandation du personnel

Le personnel de la Direction générale des services d'infrastructure et d'eau (DGSIE) recommande l'approbation du Programme d'incitation pour les réservoirs de carburant (mazout de chauffage) pour aider à éliminer les menaces pour les sources d'eau potable municipales, de déléguer à la directrice générale de la DGSIE ou à son mandataire le pouvoir de mettre le programme en place et de signer toutes les ententes qui y sont associées. Le personnel de la DGSIE recommande également au Conseil d'approuver la demande d'un supplément de 53 000 $ à l'appui du programme d'incitation, financé par le compte 906087 de remplacement des conduites d'eau principales de 2018, et de modifier les exigences d'admissibilité du Programme de prêts Maisons durables Ottawa de façon à fournir un incitatif supplémentaire pour l'option de chauffage vert.

Autres questions

Le mazout de chauffage (l'entreposage de carburant) constitue une importante menace pour l'eau potable dans les secteurs les plus vulnérables à proximité des puits d'approvisionnement en eau de la Ville. Des politiques existent au sein des plans locaux de protection des sources qui demandent des plans de gestion des risques pour l'entreposage de carburant dans ces secteurs afin de gérer la menace. Selon ces politiques, un plan de gestion des risques est nécessaire pour faire en sorte que les

réservoirs à proximité des puits municipaux répondent aux normes précises de conception et de fonctionnement. Le réservoir doit être protégé des dommages physiques, faire l'objet d'une inspection annuelle et être assujetti à un plan de prévention et de gestion des déversements qui comprend les coordonnées de la personne à contacter en cas de déversement. Lorsque le plan de gestion des risques est en place, il faut tout de même le surveiller constamment pour en assurer la conformité continue, donc en fin de compte, l'élimination de toutes les menaces liées aux réservoirs épargnera du temps pour le propriétaire et le personnel et protègera l'approvisionnement en eau potable à long terme.

La Ville a retenu les services d'offices de protection de la nature locaux (régions de protection des sources) pour évaluer les menaces actuelles et négocier des plans de gestion des risques au besoin. Depuis la mise en place du projet en 2017, 15 réservoirs de mazout ont été signalés comme étant d'importantes menaces pour l'eau potable.

Le personnel municipal et le personnel des offices de protection de la nature se consacrent aux négociations du plan de gestion des risques depuis 2017 en adoptant une « approche douce » (demander la conformité poliment, visites multiples). À l'heure actuelle, il y a six menaces non réglées liées au carburant qui ne sont pas gérées et doivent être abordées. Les options à mettre en œuvre pour gérer ces menaces sont l'application (c.-à-d. l'application du plan de gestion des risques) ou la révision de l'approche pour travailler en collaboration avec les propriétaires et offrir des incitatifs supplémentaires pour éliminer les réservoirs de mazout.

Le Programme d'incitation pour les réservoirs de carburant proposé offre des incitatifs financiers pour l'élimination de réservoirs de mazout existants situés à proximité de puits municipaux pour les remplacer par une autre source de chauffage (thermopompe à air ou gaz naturel) qui ne constitue pas une menace importante pour l'eau potable. Des incitatifs supplémentaires seront offerts à l'appui de l'option d'énergie verte (thermopompe à air). L'objectif du programme est d'éliminer les menaces existantes et protéger les ressources collectives rurales d'eau potable.

Politique applicable

La politique suivante en vertu de l'article 4.9.5 du Plan officiel de la Ville s'applique au présent rapport :

1) Toutes les activités ou tous les aménagements se déroulant dans des zones vulnérables désignées représentées dans l'annexe C15 et considérés comme des

menaces importantes pour l'eau potable doivent respecter l'ensemble des politiques applicables du Plan de protection des sources approuvé et peuvent être interdits, restreints ou réglementés par ailleurs. Les décisions municipales afférentes doivent respecter la cartographie et les politiques reproduites dans la version la plus récente du Plan applicable à la protection des sources.

Le présent rapport porte sur les réservoirs de mazout qui constituent une menace importante pour l'eau potable des puits d'approvisionnement en eau de la Ville au sein des zones de protection des têtes de puits, en vertu de la *Loi de 2006 sur l'eau saine* de l'Ontario. La menace que représente le mazout doit être gérée conformément à la Politique FUEL-1-LB-S58 du Plan de protection des sources de Mississippi-Rideau ou la Politique FUEL-1 du Plan de protection des sources de Raisin-Nation Sud, selon le cas.

Répercussions financières

Le financement a été établi dans le cadre du processus budgétaire de 2022 dans le compte 910460 du Programme d'incitation pour les réservoirs de carburant. Le coût additionnel estimatif du programme est de 53 000 $ selon les options d'énergie verte et peut être tiré du compte 906087 de remplacement des conduites d'eau principales de 2018. Sous réserve de l'approbation par le Conseil, le compte 910460 du Programme d'incitation pour les réservoirs de carburant augmentera de 207 000 $ à 260 000 $.

Consultations publiques et commentaires

Le personnel municipal a consulté les offices de protection de la nature (régions de protection des sources), qui ont indiqué leur appui au programme et qui souhaitent l'administrer, comme il est indiqué dans le résumé du programme.

On a déjà communiqué avec tous les propriétaires touchés dans le cadre du programme de vérification des menaces pour la protection des sources (initié en 2017).

BACKGROUND

Fuel tanks (home heating oil) located near Municipal supply wells are identified under the *Clean Water Act* as potential threats to the shared drinking water resource. This incentive program will protect Municipal drinking water sources by eliminating the potential threat through the conversion of existing home heating oil tanks to alternate heating sources.

Source Water Protection

Source Water Protection safeguards public health from drinking water threats by raising awareness and protecting our groundwater and surface water resources. Under the *Clean Water Act*, municipalities must implement Source Protection Plans to protect existing and future sources of municipal drinking water from various threats.

The City of Ottawa has a proactive approach to raising public awareness and managing threats to drinking water resources as part of the Source Water Protection program, this includes developing risk management plans for existing threats, screening new development applications to ensure that new threats are prohibited or managed, and outreach and communications to impacted residents. The City of Ottawa encompasses two source protection plans that contain policies to protect municipal drinking water resources:

- Mississippi-Rideau Source Protection Plan
- Raisin-South Nation Source Protection Plan

The areas where policies apply are delineated in Source Protection Plans, these include Intake Protection Zones (IPZ) around municipal surface water intakes and Wellhead Protection Areas (WHPA) around municipal wells. The *Clean Water Act* and the associated Tables of Drinking Water Threats and Circumstances identify specific activities that are considered significant drinking water threats to municipal drinking water supplies.

Provincial Ministries, Conservation Authorities, and Municipalities all have different responsibilities for implementing Source Protection Plans. Municipalities have the primary responsibility to implement and enforce policies locally to manage drinking water threats and to implement planning and restricted land use policies.

Fuel Threats (Home Heating Oil) in the City of Ottawa

Home heating oil (fuel storage) is considered a significant drinking water threat within the highest vulnerable areas near municipal supply wells. There are policies within local Source Protection Plans that require Risk Management Plans (RMPs) for fuel storage in these zones to manage the threat. The requirement is identified in the following policies:

- Policy: FUEL-1-LB-S58 in the Mississippi-Rideau Source Protection Plan (See Section 3.5.2, page 47)
- Policy: FUEL-1 in the Raisin-South Nation Source Protection Plan (See Section 3.3, page 18)

Both policies identify that a RMP is required to ensure that fuel tanks near municipal wells meets specific design and operational standards. The fuel tank must be protected from physical damage, fuel tanks are required to be inspected annually and a spills prevention and mitigation plan must be in place, including knowledge of who to contact in case of a spill.

The City contracted local Conservation Authorities (Source Protection Regions) to verify existing threats and negotiate RMPs, where required. Since the project was initiated in 2017, 15 fuel oil tanks were identified as potential significant drinking water threats. Some fuel threats have been managed and some are still outstanding:

- three homes with fuel tanks converted to natural gas, eliminating the threat
- six landowners with fuel tanks negotiated RMPs with the City
- six landowners have been non-responsive or non-compliant and refuse to work with the City to negotiate a RMP

Table 1 (below) shows a summary of existing and recently converted fuel oil tanks near municipal wells where they are considered a significant drinking water threat under the *Clean Water Act.*

Ward	Conservation Authority	System Name	Number of fuel tanks replaced since 2017	Number of existing managed fuel threats	Outstanding fuel threats (no RMP, some not inspected yet)	Total
Rideau-Goulbourn	Rideau Valley	Munster	2	3	3	8
		Richmond	0	1	0	1

West Carleton-March	Mississippi Valley	Carp	0	1	2	3
Osgoode	South Nation	Greely – Shadow Ridge	1	1	1	3
Total			3	6	6	15

Table 1: Summary of residential fuel threats in Ottawa

Conservation Authority staff have been working on source protection threats verification and RMP negotiation since 2017 using a 'soft approach' of working cooperatively with landowners, however there are still six outstanding fuel threats that need to be managed and are in non-compliance with Source Protection Plan policies.

Once a RMP is negotiated, the threat is considered "managed" under the *Clean Water Act*, however regular communication with the landowner is required to confirm compliance in perpetuity. For example, fuel RMPs require landowners to maintain records regarding annual inspections by the fuel supplier for verification by the Risk Management Official if requested, and the fuel tank must be replaced every 10 to 25 years depending on the type of fuel tank. As such, eliminating all fuel tank threats will ultimately save staff time as well as protect the drinking water supply in the long-term.

Note that the Regulation of drinking water threats is outlined in Part IV of the *Clean Water Act*. Section 47 of the *Act* identifies that Municipalities are responsible for Part IV enforcement and implementation of Source Protection Plan Part IV policies.

DISCUSSION

Fuel Tank (Home Heating Oil) Incentive Program

City staff and Conservation Authority staff have been working towards RMP negotiations since 2017 using a 'soft approach' (politely requesting compliance, multiple visits). There are six outstanding fuel threats that are not managed and need to be addressed. Options to move forward with managing the existing fuel threats are (A) enforcement or (B) change in approach to work cooperatively with the landowners.

(A) Enforcement:

The *Clean Water Act* establishes enforcement powers for the Municipally appointed Risk Management Official and Risk Management Inspector to ensure significant drinking water threats to municipal drinking water sources cease to be a threat.

Under the *Act*, the Risk Management Official and/or Inspector have Powers of Entry for inspections (Sections 62), to cause a thing to be done (Section 66) and to collect information/data (Section 88). In addition, the Risk Management Official can issue an Order and establish a Risk Management Plan (Section 58), if a RMP has not been negotiated. To our knowledge, the enforcement powers listed above have not been used by any other Municipality in Ontario to date.

Note that once the City signs a fuel RMP with a landowner, there is the requirement to maintain records for annual reporting and replace the fuel tank after 10 to 15 years (depending on the type of tank). Landowners may be less compliant to follow requirements in the RMP if it was established through an Order.

Due to the reasons listed above, enforcement is not a recommended option for amicable compliance.

(B) Fuel Tank Incentive Program:

An alternate option to establishing RMPs for the existing fuel threats is to eliminate the fuel threat by replacing the home heating oil with another heating source. Two alternative heating source options include conversion to a clean energy source, specifically an air source heat pump, or conversion to natural gas. Alternate heating sources, such as air source heat pumps and natural gas are not considered a significant threat to drinking water resources. Pursuing either option would include replacing the 12 existing residential fuel threats near municipal water supplies, which includes 6 fuel tanks with RMPs and six fuel tanks without RMPs.

Note that the City can not force residents to convert their existing fuel oil tank to another heating source since fuel policies in the Source Protection Plans only require a Risk Management Plan. If residents with an existing RMP decide not to convert, then the RMP will be maintained as status quo. For the outstanding fuel threats, if residents decide not to convert their fuel source, then the next step will be enforcement by the City to establish an RMP. This will be clearly communicated to eligible residents.

Green Energy Option (Air Source Heat Pump)

To help support the City's climate change and resiliency initiatives, this program will provide eligible residents with option to convert to a cleaner, non-fossil fuel based, energy source, specifically an air source heat pump. This option can be provided at a greatly supplemented cost as an incentive. Note that it is about double the cost compared to natural gas, however there are additional benefits that will be highlighted when providing options to eligible residents.

Benefits of conversion to air source heat pump:

- Protection of drinking water: Elimination of fuel oil tank as a significant drinking water threat to municipal water supplies.
- Energy/Carbon Reduction: A heat pump system will reduce the overall energy consumption of the heating system. The carbon footprint is greatly reduced when a heat pump replaces a fossil fuel (natural gas, propane, oil) heating system. Carbon footprint is also reduced by a large percentage when a heat pump replaces an electric heating system however the starting point for carbon footprint in these systems is already low.
- Utility Cost Reduction: Heating utility costs will decrease when a heat pump replaces a propane, oil, or electric heating system. Depending on the usage patterns, heating costs may increase when a heat pump replaces a natural gas heating system. When coupled with cooling costs, the annual utility bills of a heat pump are lower than a natural gas plus air conditioner.
- System provides home cooling in addition to heating: Heat pump will provide energy efficient heating during the winter and cooling during summer months.
- Quieter fan noise then a furnace
- Runs at a lower fan speed and circulates the air more steadily, so it feels less drafty, and the air is cleaned more.
- Limited maintenance and no air pollutants as there is no combustion on site.

Potential drawbacks of conversion to air source heat pumps:

- Electric heating during extreme cold weather: System includes ducted heat pump air handler with built in electric furnace. The systems installed will be cold climate heat pumps. In extreme cold the electric furnace supplements the heat pump heating.

- Installation Cost: Installation costs will vary depending on site conditions at each home and are higher than conversion to natural gas (where services are available). Expected installation cost for a ducted system is $15,000-$20,000, costs can vary and may be outside of these bounds. Electrical service upgrades from 100 Amps to 200 Amps are sometimes required. If an electrical upgrade is required, they can range from $3,000-$5,000.

Newer technology: There may be resistance to conversion to green energy due to the newer technology not being widely used or understood by the public. Residents may be resistant to investing in a newer, less familiar technology.
Partnership with the Better Homes Ottawa Loan Program and other grant programs to support green energy; City staff can help provide guidance and support in accessing additional resources to encourage residents to convert to a green energy home heating option.

- Better Homes Ottawa: The Better Homes Ottawa Loans Program can be made available to project participants who want to convert their furnace oil tank to an air source heat pump. The program would include:

    - Low interest financing loan through Better Homes Ottawa: this would require an amendment to the eligibility requirements for the Better Homes Ottawa Loan Program since the Fuel Tank Program will provide $15,000 to each participant who converts to green energy and the net minimum loan amount is $15,000. This report includes a resolution to amend the eligibility requirements to a minimum loan amount of $5,000 (all other eligibility requirements remain in place) for the 12 homes who currently have a furnace oil tank and are eligible for the fuel tank incentive program.

    - An energy audit is required (pre and post retrofit) to access funding, which may identify requirements for other beneficial home upgrades, such as air sealing; costs are redeemable through the federal Greener Homes grant program or could be included in the loan amount from the City's Better Homes Ottawa Loan Program. The energy audit will provide a scope of

feasibility of retrofitting homes for the air source heat pump (size of heat pump and feasibility in terms of electrical capacity) but will not provide the costs of the measures; quotes will also need to be obtained to meet the program eligibility.

- Greener Homes Federal Grant Program: Project participants may also be eligible for the Greener Homes Program through the federal government, which provides up to $5,000 rebate for the upgrade to green energy as well as $600 for the energy audit. City staff will assist homeowners in applying for these grants.

- Low-Income Grants: There are grants available through the energy utilities for low-income participants to supplement the cost of conversion to various green energy options.

Natural Gas

Natural gas is not considered a significant drinking water threat under the *Clean Water Act*. The proposed program would fund the conversion from home heating oil to natural gas to eliminate the threat to municipal drinking water resources; note that natural gas connections are accessible to the 12 eligible residences.

Benefits of conversion to natural gas:

- Protection of drinking water: Elimination of fuel oil tank as a significant drinking water threat to municipal water supplies.

- Installation Cost: Lower cost of conversion from fuel oil to natural gas since each eligible residence has a natural gas line available.

- Public Perception and Acceptance: May be easier for residents to understand and support since natural gas is widely used and recognized.

Potential drawbacks to conversion to natural gas:

- Environmental considerations: Conversion to natural gas does not meet City's climate change and resiliency initiatives, since both heating oil tanks and natural gas are greenhouse gas emitting activities.

- Lacking long-term benefits of conversion to green technology: residents who opt to convert to air source heat pump would require an energy audit, which would identify other opportunities to save energy and costs in the long-term.
- Missed opportunity: City will offer an increased rebate for conversion to green energy; this is an opportunity for residents to upgrade their homes to newer technology which provides potential benefits for home values and long-term cost savings.

Homeowners who previously converted to natural gas:

As part of the initial source protection threats assessment and RMP negotiation project (which began in 2017), three residents had replaced their furnace oil tank with natural gas. This program would retroactively reimburse cost of that previous conversion, up to $10,000. This should be done in fairness to the residents who were proactive and completed this work prior to the program covering the costs. Note that the Risk Management Office has records of the residents who converted as part of the initial project, and two of the residents were provided with partial coverage ($1000) to complete the conversion, the remainder will be covered through this program.

Cost of Conversion:

In consultation with the City's Grants and Contributions policy and procedures, the Source Water Protection Fuel Tank Incentive program will provide a set of incentives to reduce the financial barriers on residential properties to convert fuel tanks to either green energy options or natural gas.

Conversion to Air Source Heat Pump

The City will promote the green energy option to convert to an air source heat pump. The cost to convert varies depending on the size of the house and the existing electrical service (which may require upgrades). The cost may be $15,000 to $25,000. The City is proposing to cover up to $15,000 for the conversion, as well as other financial incentives (low interest loan, grants) discussed in the section above.

The cost of 12 (outstanding) conversions would be ($180,000), plus $10,000 each for the fuel tanks converted since 2017, plus $50,000 for administration costs, for a total program cost of $260,000.

The cost to recycle and properly decommission the oil and oil tank, replace with a new natural gas furnace, and connect to natural gas is about $10,000 (depending on the size of house and the furnace type, the cost can range from $6,000 to $15,000). Thus, the cost of 15 (12 outstanding in addition to the three homes already converted to natural gas) conversions would be about $150,000.

The cost of program delivery and administration through the Conservation Authorities is about $50,000. For a total program cost of $200,000.

The upper limit for the program is thus $260,000.

Project Funding

Funding was established in the 2022 budget process in account 910460 Fuel Oil Tank Incentive Program. The estimated additional cost of the program is $53,000 based on Green Energy Options and are available from 906087 2018 Watermain Improvements. Pending Council approval, 910460 Fuel Oil Tank Incentive Program will be increased from $207,000 to $260,000.

Program Administration and Delivery

The program would be administered through the local Conservation Authorities (CAs). The CAs employ Risk Management Officials and Inspectors that are experts in local Source Protection Plans and policies. The CAs have been working with the City to negotiate RMPs and are familiar with the landowners involved with this project. In addition, CAs are experienced with administering incentive and stewardship programs, such as the Rural Clean Water Program. We have spoken with CA staff, and they have confirmed that they will administer the program; which includes communication with residents and contractors, and developing educational material to support the program.

Program Outline

Eligibility – Program eligibility is based on the definition of fuel oil tanks (home heating oil) as a significant drinking water threat under the *Clean Water Act*. As such, the program is only eligible to residents who have a heating oil tank (greater than 250 Litres located below grade or greater than 2,500 Litres located above grade) and are located within a Wellhead Protection Area (WHPA) with a vulnerability score of 10. There are 12 existing residences who meet the criteria and are eligible (outlined in Table 1 above).

Note that all other residences within the WHPAs (score 10) have been previously screened as part of a threats verification exercise and do not meet the eligibility criteria.

In addition, eligibility will be extended to the three residences that converted their fuel oil tanks since the threat verification program was initiated in 2017. These residents proactively converted their fuel oil tanks to natural gas following discussions with risk management staff, instead of negotiating a Risk Management Plan.

Procedure - Roles and Responsibilities

- Conservation Authority (CA) staff will prepare communication material, communicate with landowners, and outline the incentive program and funding support available for the different options. CA staff will support landowners in completing grant funding applications and direct landowners to City staff to provide support for the fuel tank conversion to an air source heat pump. For the natural gas conversion option, CA staff will support landowners in obtaining quotes from contractors.
- City staff will be responsible for the following:
    - Asset Management will manage the program, liaise between City departments and with Conservation Authority staff, review grant funding applications, provide funding agreement, and confirm completion of work.
    - Resiliency & Climate Change Unit will support landowners by recommending contractors for an energy audit and contractors for quotes to install an air source heat pump and associated home energy efficiency upgrades, and support landowner through Better Homes Ottawa Loans program. City staff will also support eligible residents through the application process for additional funding to support the green energy option, this includes the Greener Homes federal program and grants available for low-incomes residents.
    - Finance will process grant applications to provide funding.
- The landowner will apply for the grant through the City, as supported by CA and City staff. The landowner will be responsible to book the energy audit (if applicable) and obtain quotes for the conversion to an air source heat pump (and home energy efficient upgrades, if required) or natural gas connection, and the proper

decommissioning/disposal of the fuel oil tank. The landowner will inform City staff once work is complete so that the grant application can be processed.

Communications and outreach:
Conservation Authority staff will communicate with eligible landowners and prepare communication material regarding:

- Fuel oil as a significant threat under the Clean Water Act and the requirement to manage or eliminate the threat
- The Fuel Tanks Incentive Program and options to convert the existing fuel tank to an alternate heating source
- The benefits of conversion to air source heat pump and available support
- Enforcement powers under the Clean Water Act for non-compliance

Timeline for program implementation:

If approved, the program would be initiated in summer 2022. As part of the legislated annual reporting to the MECP regarding implementation of significant drinking water threat policies, the Source Protection Regions must provide estimated deadlines for compliance. Source Protection Region identified that existing threats would be addressed by end of year 2024. The City aims to meet the 2024 deadline to eliminate or manage the existing fuel threats by either converting existing home heating systems to an alternate heating source or negotiating Risk Management Plans to meet the Source Protection Plan policy.

RURAL IMPLICATIONS

This project will benefit rural communities by protecting the drinking water supplies for Carp, Munster, Richmond, and Greely (Shadow Ridge), by eliminating fuel threats near municipal wells.

CONSULTATION

All homeowners impacted have been previously contacted as part of the source protection threats verification program (initiated in 2017).

City staff have consulted with the Conservation Authorities (Source Protection Regions), who have agreed to administer the program, as discussed in the program summary.

COMMENTS BY THE WARD COUNCILLOR(S)

The ward councillors have been made aware of the report.

LEGAL IMPLICATIONS

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

RISK MANAGEMENT IMPLICATIONS

The purpose of the program is to eliminate or mitigate risks to municipal drinking water supplies.

If eligible residents decide not to participate in the program, City staff will move forward with enforcement actions, as legalised under the *Clean Water Act*, to ensure threats to drinking water resources are managed.

ASSET MANAGEMENT IMPLICATIONS

The purpose of the program is to protect municipal drinking water resources by eliminating threats that could potentially contaminate the City's drinking water supplies. This project will protect City assets and prevent the need for future costly remediation (if even possible) or the need to seek a replacement drinking water source.

FINANCIAL IMPLICATIONS

The total project cost is $260,000. Funding was established in the 2022 budget process in account 910460 Fuel Oil Tank Incentive Program. The estimated additional cost of the program is $53,000 based on Green Energy Options and are available from 906087 2018 Watermain Improvements. Pending Council approval, 910460 Fuel Oil Tank Incentive Program will be increased from $207,000 to $260,000.

ACCESSIBILITY IMPACTS

There are no accessibility impacts associated with this report.

CLIMATE IMPLICATIONS

The purpose of this report is to eliminate home heating oil tanks located near municipal supply wells, which are considered a significant threat to the City's drinking water resources.

In consideration for the City's Climate Change and Resiliency initiatives, the program will encourage conversion of residential home heating oil to an air source heat pump, which is non-fossil fuel-based heating source. Additional incentives have been included to encourage and support the conversion to air source heat pumps which would reduce greenhouse gas emissions.

ENVIRONMENTAL IMPLICATIONS

The purpose of the program is to protect municipal drinking water resources by eliminating drinking water threats that could potentially contaminate the City's drinking water supply. The program has a positive environmental implication by protecting supply aquifers from potential contamination.

TERM OF COUNCIL PRIORITIES

This project addresses the following Term of Council Priority:

Environmental Stewardship and Sustainable Infrastructure.

DISPOSITION

Infrastructure and Water Services staff will work with the Conservation Authorities to deliver the Fuel Tank Incentive Program and continue to work with the affected home owners.