



Chapter 7 – Policies for Surface Water Intake Protection Zones

7.1 Overview

There are nine municipal surface water intakes in the Cataraqui Source Protection Area for which intake protection zones were identified in the Assessment Report, as listed below. The reader is encouraged to review section 2.3.2 of the Plan and Chapter 6 of the Assessment Report for detailed information about each of the intake protection zones including:

- how the areas were determined
- how the vulnerability of the areas were quantified
- specific details about the intakes and surrounding areas
- an inventory of identified transport pathways, water quality issues and drinking water threats.

The policies in this chapter apply to the nine intake protection zones in the Cataraqui Source Protection Area as shown on **Schedules E through K**, and as specified in the policies. The policies in Chapters 4 and 5 may also apply to land in the Intake Protection Zones.

7.1.1 Sydenham Intake Protection Zone

The Sydenham water treatment plant in the Township of South Frontenac draws water from Sydenham Lake. The plant is operated by Utilities Kingston on behalf of the Township. The water is treated and distributed to residents and businesses in Sydenham (population 940).

As of March 2012, 60 per cent of the buildings were connected to the village's water supply. The rest continue to be serviced by private wells. The entire village and surrounding area are serviced by private septic systems or holding tanks.

The majority of the Sydenham Intake Protection Zone (IPZ) consists of Sydenham Lake (see **Schedule E**). On land, the IPZ consists mainly of shoreline residential properties. It also includes the Sydenham water treatment plant, a municipal park and boat launch facility, a few farms, and part of the village of Sydenham, which has a variety of residential, commercial and institutional land uses.

A number of landowners in the IPZ have implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties. IPZ-1 has a vulnerability score of 9.0, IPZ-2 has a score of 8.1, IPZ-3a has a score of 6.3 and IPZ-3b has a score of 3.6 based on the Assessment Report. Certain activities could be significant drinking water threats in Sydenham IPZ-1 and IPZ-2 based on their high vulnerability scores.

7.1.2 Brockville Intake Protection Zone

The Brockville water treatment plant in the City of Brockville draws water from the St. Lawrence River. The water is treated and distributed to 22,000 residents and businesses in the City of Brockville and 1,000 residents in the Township of Elizabethtown-Kitley along County Road 2.

The majority of the Brockville Intake Protection Zone (IPZ) consists of the St. Lawrence River (see **Schedule F**). On land, the IPZ consists mainly of urban and rural residential properties. The urban properties are connected to municipal sanitary servicing while the rural properties are connected to on-site sewage systems. It also includes the Brockville water treatment plant, a City park and docking facility, a golf course, and the Brockville downtown core, which has a variety of professional and retail land uses.

A number of landowners in the IPZ have implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties.

IPZ-1 has a vulnerability score of 9.0 and IPZ-2 has a score of 8.1 as shown in the Assessment Report. This area has a high vulnerability score, therefore certain activities could be significant drinking water threats in the Brockville Intake Protection Zone.

7.1.3 James W. King Intake Protection Zone

The James W. King water treatment plant in the Town of Gananoque draws water from the St. Lawrence River. The water is treated and distributed to the 5,200 residents and businesses in Gananoque.

The majority of the James W. King Intake Protection Zone (IPZ) consists of the St. Lawrence River (see **Schedule G**). On land, the IPZ consists mainly of urban and island residential properties. It also includes farmland, the James W. King water treatment plant, open spaces, marinas and docking facilities, and the Gananoque downtown core, which has a variety of professional and retail land uses.

A number of landowners in the IPZ have implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties.

IPZ-1 has a vulnerability score of 9.0 and IPZ-2 has a score of 8.1 based on the Assessment Report. Because of the high vulnerability score, certain activities can be considered to be significant drinking water threats in the James W. King IPZ.

7.1.4 Point Pleasant and Kingston Central Intake Protection Zones

The Kingston West (Point Pleasant) water treatment plant in the City of Kingston draws water from Lake Ontario. The water taken from the lake is treated and distributed to about 44,000 residents and businesses in Kingston West (urban area west of Little Cataraqui Creek).

The King Street (Kingston Central) water treatment plant in the City of Kingston also draws water from Lake Ontario. The water taken from the lake is treated and distributed to about 80,000

residents and businesses in Kingston Central (e.g., downtown) and Kingston East (e.g., urban part of the former Pittsburgh Township).

The majority of development in the Point Pleasant Intake Protection Zone (IPZ) and Kingston Central IPZ is residential in nature (see **Schedule H**). The Point Pleasant IPZ also includes a small portion of industrial lands and a wastewater treatment facility. The Kingston Central IPZ also contains a number of institutional uses including a university, hospital and former penitentiary.

The Point Pleasant IPZ-1 has a vulnerability score of 6.0 and IPZ-2 has a score of 4.2 as shown in the Assessment Report. In Kingston Central, the scores are 6.0 (IPZ-1) and 4.8 (IPZ-2). The Point Pleasant IPZ and Kingston Central IPZ are two of the areas where there cannot be any significant drinking water threats as defined in the *Clean Water Act* because of the low vulnerability of these areas. Moderate and low drinking water threats can occur in these intake protection zones.

7.1.5 Fairfield Intake Protection Zone

The Fairfield water treatment plant in Loyalist Township draws water from Lake Ontario. The water taken from the lake is treated and distributed to about 8,620 residents and businesses in the communities of Amherstview, Odessa, Harewood and Brooklands.

Amherstview, which is located entirely within the Fairfield Intake Protection Zone, consists mainly of residential development (see **Schedule I**). Commercial and retail land uses are concentrated along Highway 33. There is some farmland on the outskirts of the IPZ.



A number of landowners in the IPZ have implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties.

Fairfield IPZ-1 has a vulnerability score of 7.0 and IPZ-2 has a score of 6.3 based on the Assessment Report. This intake protection zone is one of the areas where there cannot be any significant drinking water threats as defined in the *Clean Water Act* because of the low vulnerability of the area. Moderate and low drinking water threats can occur in this intake protection zone.

7.1.6 Bath Intake Protection Zone

The Bath water treatment plant in Loyalist Township draws water from Lake Ontario. The water taken from the lake is treated and distributed to about 2,350 residents in the village of Bath as well as the nearby Correctional Services Canada facilities.

The main land-based activities occurring in the Bath area that are associated with drinking water threats are agriculture and transportation along Highway 33. There is also residential development in the Bath IPZ (see **Schedule J**).

A number of landowners in the IPZ have implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties.

Bath IPZ-1 has a vulnerability score of 7.0 and IPZ-2 has a score of 6.3 based on the Assessment Report. This intake protection zone is one of the areas where there cannot be any significant drinking water threats as defined in the *Clean Water Act* because of the low vulnerability of the area. Moderate and low drinking water threats can occur in this intake protection zone.

7.1.7 A.L. Dafoe and Sandhurst Shores Intake Protection Zones

The Sandhurst Shores water treatment plant in the Town of Greater Napanee draws water from Lake Ontario. The water taken from the lake is treated and distributed to 230 residents in Sandhurst Shores.

The A.L. Dafoe water treatment plant in the Town of Greater Napanee draws water from Lake Ontario. The intake pipe is located about 53 m offshore at a depth of 3.4 m. The water taken from the lake is treated and distributed to about 10,000 residents and businesses in Napanee, 14 km north of the lake.

The majority of the Sandhurst Shores IPZ and A.L. Dafoe IPZ consist of open water in Lake Ontario (see **Schedule K**).

The primary land-based activities occurring in the Sandhurst Shores and A.L. Dafoe areas that are associated with drinking water threats are agriculture and transportation along Highway 33 and County Road 21. There is also residential development in the Sandhurst Shores IPZ; these homes are the only ones connected to municipal water services. The area is serviced by private on-site sewage systems (e.g., septic systems). The A.L. Dafoe IPZ also has some residential development along Highway 33; these properties are serviced by private wells and on-site sewage systems. There is also industrial land within the IPZ.



A.L. Dafoe intake (top) and Sandhurst Shores Water Treatment Plant.

A number of landowners in the IPZs have implemented site-specific management practices to

reduce the risk to drinking water that is associated with the activities undertaken on their properties.

For both of these intake protection zones, IPZ-1 has a vulnerability score of 7.0 and IPZ-2 has a score of 5.6 based on the Assessment Report. The Sandhurst Shores IPZ and A.L. Dafoe IPZ are two of the areas where there are not and cannot be any significant drinking water threats because of the low vulnerability of the areas. Moderate and low drinking water threats can occur in these two Intake Protection Zones.

7.1.8 Identified Drinking Water Threats

Sydenham, Brockville and James W. King Intake Protection Zones

Significant drinking water threats exist or have the potential to occur in the Sydenham, Brockville and James W. King Intake Protection Zones, based on the vulnerability scores assigned to them.

The municipal intake for the village of Sydenham is located in Sydenham Lake, while the intakes for Brockville and Gananoque (James W. King) are located in the St. Lawrence River.

It is fortunate for the residents who receive their drinking water from the water treatment plants associated with these intake protection zones that the zones are primarily comprised of residential land uses. This means that most of the activities considered by the Ministry of the Environment to be significant drinking water threats do not exist and are unlikely to become established in the future. As a result, the intent of the Source Protection Plan for these locations is to make sure that these activities never become established, and that other activities that are moderate or low threats are managed through the promotion of best management practices and through education and outreach.



Agricultural activities such as pesticide application (shown here) and manure and sewage sludge storage, handling and application are significant drinking water threats in the Sydenham, James W. King and Brockville Intake Protection Zones.

The existing significant drinking water threats in these three intake protection zones relate to the application to land, handling and storage of agricultural source material and non-agricultural source material, and to the application of pesticides to land. These activities occur on fewer than five properties.

Out of the 175 properties inventoried in the Sydenham IPZ, 300 properties in the Brockville IPZ, and 180 properties in the James W. King IPZ, the most common moderate and low-ranked drinking water threats relate to:

- road salt application
- transportation, handling and storage of liquid fuel
- septic systems and holding tanks.

The Source Protection Plan includes policies to address existing and potential significant threats to drinking water. The Plan does not prohibit any existing activities. It also includes policies to address the most common existing moderate and low threats in these vulnerable areas, as well as those that have the potential to become established in the future.

The source protection policies are similar for these three intake protection zones except where the local situation warrants a different approach.

Lake Ontario Intake Protection Zones

There are six municipal intakes in Lake Ontario: Kingston Central (King Street), Point Pleasant (Kingston West), Fairfield (Amherstview), Bath, A.L. Dafoe (Napanee) and Sandhurst Shores.

Significant drinking water threats cannot occur in these six intake protection zones based on the vulnerability scores assigned to them in the Assessment Report. Activities that would be significant threats in the other intake protection zones may be moderate or low threats in the Lake Ontario intake protection zones even though they occur near a municipal intake (e.g., industrial discharge, the storage of agricultural source material - manure). In some instances where the vulnerability score is very low (e.g., less than 6), certain activities are not considered to be threats at all.

The Kingston Central, Point Pleasant and Fairfield Intake Protection Zones consist mainly of urban residential development. As we move west across the other Lake Ontario intake protection zones, the predominant land uses become more rural in nature (e.g., rural residential, agricultural).

The most common moderate and low drinking water threats inventoried in the Assessment Report for the Fairfield, Bath, A.L. Dafoe and Sandhurst Shores Intake Protection Zones relate to:

- road salt application
- transportation, handling and storage of liquid fuel
- septic systems and holding tanks
- activities involving agricultural source material and non-agricultural source material
- handling, storage and transportation of DNAPL and organic solvents.

These activities, excluding on-site sewage systems and agriculture, are also common to the Kingston Central and Point Pleasant Intake Protection Zones.

The intent of the Source Protection Plan for these locations is to make sure that activities that are moderate or low threats are managed through the promotion of best management practices, and through education and outreach, where appropriate.

The source protection policies are similar for these six intake protection zones except where the local situation warrants a different approach.

7.2 Policies for all Intake Protection Zones

On-site Sewage System Maintenance

The entire community in and around the Sydenham Intake Protection Zone is serviced by on-site sewage systems. On-site sewage systems in the IPZ-1 and IPZ-2 pose a moderate threat to the Sydenham intake, while those in IPZ-3a pose a low risk.

Although the majority of the properties in the Brockville Intake Protection Zone are within the City of Brockville and on municipal water and sanitary servicing, there are almost 170 residential properties upstream of the intake (in IPZ-1 and IPZ-2) that are serviced by private wells and on-site sewage systems. These on-site sewage systems pose a moderate threat to the Brockville intake.

Although the majority of the properties in the James W. King Intake Protection Zone are within the Town of Gananoque and on municipal water and sanitary servicing, there are 45 residential properties upstream of the intake (in IPZ-1 and IPZ-2) that are serviced by private wells and on-site sewage systems. These on-site sewage systems pose a moderate threat to the James W. King intake.



On-site sewage or septic systems, like this one shown during construction, are moderate drinking water threats in the Sydenham, James W. King and Brockville Intake Protection Zones.

The Ontario Building Code requires ongoing maintenance of every on-site sewage system (e.g., septic system) and the remediation of unsafe or failing systems. It is the responsibility of Principal Authorities (e.g., municipalities or health units) to enforce the Building Code. Owners/operators are responsible for septic system maintenance.

In addition, the *Building Code Act, 1992* and the Building Code contain provisions that allow the Principal Authority to establish maintenance inspection programs in the municipality. This Plan encourages the Township of South Frontenac, City of

Brockville, Township of Elizabethtown-Kitley, Town of Gananoque and Township of Leeds and the Thousand Islands to establish an on-site sewage system maintenance inspection program for these systems. Such a program would normally be organized and/or delivered by a municipality's principal authority for Part 8 of the Ontario Building Code; in these municipalities it is either KFL&A Public Health or the Leeds, Grenville, Lanark and District Health Unit.

The following policy is made under subsections 26(1) and (4) of Ontario Regulation 287/07 (General) and is to be implemented by the five municipalities identified above, in consultation with their principal authorities, for their respective Intake Protection Zones.

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- 7.2.1-NB a.** Municipalities, in consultation with their respective principal authorities under Part 8 of the Ontario Building Code, should establish an on-site sewage system (i.e. septic systems and holding tanks) maintenance inspection program consistent with the Ontario Building Code and the inspection guidelines under the Code for Sydenham, Brockville and James W. King IPZ-1 and IPZ-2 to address these moderate and low drinking water threats.
- b.** Consideration for the establishment of the program identified in **a.** should be done by October 6, 2016 (i.e., five years following the approval of the Assessment Report).
- c.** Any resulting program should provide information to landowners about the proper operation and maintenance of their on-site sewage systems (i.e. septic systems and holding tanks), and about the benefits of a well maintained system.
- d.** The implementation of this policy should be done with consideration for the inspection program that is encouraged in policy **5.4.1-NB**, as well as previous on-site sewage system inspection programs in the area.
- e.** If the foregoing is implemented, the Cataraqui Source Protection Authority should be provided notice of any on-site sewage system maintenance inspection program, including the applicable area, rationale, and a summary of inspection results, by February 15 of the year following program implementation.

Land Use Planning and Development

Municipal Approvals

Municipalities regulate development through their powers under the *Planning Act* and the *Condominium Act*. The *Clean Water Act* requires decisions on planning matters to conform with significant threat policies or have regard to the moderate and low threat policies in the Source Protection Plan on the date the Plan takes effect.

The Official Plans for the Township of South Frontenac, City of Brockville, Township of Elizabethtown-Kitley, Town of Gananoque and Township of Leeds and the Thousand Islands must be amended to conform with the applicable Source Protection Plan policies no later than at the time of the next five year review required under section 26 of the *Planning Act*. Conformity of the official plan will ensure that decisions on planning matters conform to the significant threat policies and have regard to the moderate and low threat policies in the Source Protection Plan.

The intent of policies **7.2.2-CW** and **7.2.3-CW** is to ensure that the listed land uses, which are generally not currently permitted in the Sydenham, Brockville and Gananoque areas, never become established in areas where the associated activities would be significant drinking water threats.

The intent of policies **7.2.4-HR** and **7.2.5-HR** is to ensure that proposed development associated with the listed activities incorporates appropriate risk management measures to protect sources of drinking water for all of the communities that rely on surface water for their sources of drinking water.

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- 7.2.2-CW** The following land uses shall be prohibited from becoming established in the future in Sydenham, Brockville and James W. King IPZ-1:
- i. waste disposal sites involving one or more of the following activities that would be significant drinking water threats: the storage of mine tailings, land farming of petroleum refining waste, land filling of hazardous waste, land filling of municipal waste and land filling of solid non-hazardous waste
 - ii. wastewater treatment facilities and related infrastructure that would be significant drinking water threats (i.e. industrial effluent discharges, sewage treatment plant bypass discharge to surface water, sewage treatment plant effluent discharges and the storage of sewage).

- 7.2.3-CW** The following land uses shall be prohibited from becoming established in the future in Sydenham, Brockville and James W. King IPZ-2:
- i. wastewater treatment facilities and related infrastructure that would be significant drinking water threats (i.e. sewage treatment plant bypass discharge to surface water, industrial effluent discharges and sewage treatment plant effluent discharges).

- 7.2.4-HR a.** Proposals under the *Planning Act* or *Condominium Act* for new development and for expansions to existing development located in Sydenham, Brockville and James W. King IPZ-1, and involving one or more of the activities listed below, should incorporate measures/management practices to adequately manage the risk to the community's source of drinking water that is associated with those activities. This policy contains examples of land uses associated with these activities, which are moderate or low drinking water threats, and is not considered to be an exhaustive list.
- i. the handling and storage of more than 25 litres of dense a non-aqueous phase liquid (DNAPL) and/or an organic solvent (e.g., metal manufacturing, electroplating and fabrication industries, automotive or equipment repair shops, furniture refinishing shops, dry cleaning establishments)
 - ii. the handling and storage of more than 2,500 kg or litres of commercial fertilizer at a facility where it is sold or used for application at other sites, except where it is manufactured or processed (e.g., lawn and garden centres, farm supply stores, yard maintenance contractors, golf courses)
 - iii. the handling and storage of more than 2,500 litres of liquid fuel (e.g., gas stations, marinas)
- b.** Proposals under the *Planning Act* or *Condominium Act* for new development and for expansions to existing development located in Sydenham, Brockville and James W. King IPZ-2 or Sydenham IPZ-3a, and involving one or more of the activities listed below that are moderate or low drinking water threats, should incorporate measures/management practices to adequately manage the risk to the

community's source of drinking water that is associated with those activities. This policy contains examples of land uses associated with these activities, which are moderate or low drinking water threats, and is not considered to be an exhaustive list.

- i. the storage of sewage associated with a sewage system or sewage works
- ii. the handling and storage of more than 250 litres of a dense non-aqueous phase liquid (DNAPL) and/or an organic solvent (e.g., metal manufacturing, electroplating and fabrication industries, automotive or equipment repair shops, furniture refinishing shops, dry cleaning establishments)
- iii. the handling and storage of more than 2,500 kilograms or litres of commercial fertilizer and/or more than 2,500 kilograms or litres of pesticide at a facility where it is sold or used for application at other sites, except where it is manufactured or processed, (e.g., lawn and garden centres, farm supply stores, yard maintenance contractors, golf courses)
- iv. the handling and storage of more than 2,500 litres of liquid fuel (e.g., gas stations, marinas)
- v. the handling and storage of greater than 500 tonnes of road salt (e.g., public or private maintenance yards).

7.2.5-HR a. Proposals under the *Planning Act* or *Condominium Act* for new development and for expansions to existing development located in Point Pleasant IPZ-1, or Kingston Central, Fairfield, Bath, A.L. Dafoe or Sandhurst Shores IPZ-1 or IPZ-2, and involving one or more of the activities listed below, should incorporate measures/management practices to adequately manage the risk to the community's sources of drinking water that is associated with those activities. This policy contains examples of land uses associated with these activities, which are low drinking water threats, and is not considered to be an exhaustive list.

- i. the handling and storage of more than 250 litres of a dense non-aqueous phase liquid (DNAPL) and/or organic solvents (e.g., metal manufacturing, electroplating and fabrication industries, automotive or equipment repair shops, furniture refinishing shops, dry cleaning establishments)
- ii. the handling and storage of more than 2,500 kilograms or litres of commercial fertilizer and/or 2,500 kilograms or litres of pesticide at a facility

Municipalities can meet the intent of this policy in a number of ways:

- requiring up-front disclosure of activities
- site plan control
- development agreements
- conditional zoning.

Risk management measures like siting of storage facilities, spill containment and storm-water management can be implemented through site plan control or development agreements.

where it is sold or used for application at other sites, except where it is manufactured or processed, (e.g., lawn and garden centres, farm supply stores, yard maintenance contractors, golf courses)

- iii. the handling and storage of more than 2,500 litres of liquid fuel (e.g., gas stations, marinas)
- iv. the handling and storage of more than 500 tonnes of road salt (e.g., public or private maintenance yards)
- v. at or above-grade snow storage that is more than 1 hectare (e.g., public or private maintenance yards, snow dumps).

7.2.6-CW In order to monitor the implementation of policies **7.2.2-CW** and **7.2.3-CW**, the municipality shall provide the Cataraqui Source Protection Authority with a copy of any approvals under the *Planning Act* or *Condominium Act* for applications for properties in their respective IPZ-1 and IPZ-2 that relate to the activities listed in those policies, when the Notice of Decision is issued.

7.2.7-NB In order to monitor the implementation of policies **7.2.4-HR** and **7.2.5-HR**, the municipalities should provide the Cataraqui Source Protection Authority with a copy of any approvals under the *Planning Act* or *Condominium Act* for applications for properties in their respective Intake Protection Zone(s) that relate to the activities listed in the policy, when the Notice of Decision is issued.

Stormwater Management Retrofits

Stormwater means runoff from rainwater, roofs, snowmelt and the ground surface. This water picks up pollutants such as sand, oil, fertilizer and bacteria as it flows over the ground and carries them to streams and lakes.

This runoff can pose a moderate threat to a community's drinking water in the Sydenham, Brockville, James W. King, Fairfield and Bath Intake Protection Zones. This runoff would be a moderate threat in IPZ-1 and a low threat in IPZ-2 for the balance of the Intake Protection Zones.

Only a small portion of stormwater from urban areas is treated or adequately managed, meaning that it flows directly from the streets and gutters into the nearest waterbody.

There are ways to control this runoff in order to avoid flooding and erosion in watercourses, allow for groundwater recharge, provide sediment control, limit nutrient and bacteria loading to the



Stormwater management ponds provide a way to remove sediment and pollutants from runoff. Stormwater runoff is a moderate threat in the Brockville, James W. King and Sydenham Intake Protection Zones.

waterways and reduce the impact of changes on the aquatic environment.

It is costly to retrofit existing situations to provide stormwater management. The following policy applies to all nine Intake Protection Zones.

- 7.2.8-NB**
- a.** The municipalities should develop a strategy to address untreated stormwater runoff or inadequate treatment in IPZ-1 and IPZ-2, within their respective jurisdictions, within two years of the Source Protection Plan taking effect. Discharge of stormwater from a stormwater retention pond is a moderate drinking water threat in the Intake Protection Zone.
 - b.** Such a strategy could include mapping existing storm sewers, catch basins and outfalls, and monitoring storm water quality, so that treatment can be incorporated at the right location(s); and ensure that road reconstruction projects include appropriate storm runoff controls.
 - c.** The strategy should be implemented as funding becomes available.

Provincial Approvals

Provincial ministries have an important role to play in protecting municipal sources of drinking water from contamination, most notably through their decision-making frameworks for specific types of approvals, and through existing programs, policies and procedures.

The next few policies identify the actions to be taken by the Ministry of the Environment under the *Environmental Protection Act* and the *Ontario Water Resources Act* in order to prohibit or manage activities that are threats to surface water intakes.

- 7.2.9-CW** The Ministry of the Environment shall not permit the establishment of new waste disposal sites where the following drinking water threats would be significant.
- a.** In Brockville, James W. King and Sydenham IPZ-1:
 - i.** the application of non-agricultural source material to land
 - ii.** the application of untreated septage (i.e., hauled sewage) to land
 - iii.** landfarming of petroleum refining waste
 - iv.** landfilling of hazardous waste
 - v.** landfilling of municipal waste
 - vi.** landfilling of solid non-hazardous waste and industrial or commercial waste.
 - b.** In Brockville, James W. King and Sydenham IPZ-2:
 - i.** the application of non-agricultural source material to land
 - ii.** the application of untreated septage (i.e., hauled sewage) to land.

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- 7.2.10-HR a.** The Ministry of the Environment, when reviewing applications for the establishment of new waste disposal sites that would be moderate or low drinking water threats, should incorporate available source protection information in its decision-making process, and require the incorporation of appropriate risk management measures to protect the source of drinking water as part of any environmental compliance approval.
- b.** The provision in **a.** applies to the following types of waste disposal sites where they would be a moderate or low drinking water threat as identified in the Assessment Report:
- i.** for the Brockville and James W. King Intake Protection Zones 1 and 2 and Sydenham Intake Protection Zones 1, 2 and 3a:
 - i.** landfarming of petroleum refining waste
 - ii.** landfilling of hazardous, municipal, or solid non-hazardous industrial or commercial waste
 - iii.** liquid industrial waste injection into a well.
 - ii.** for the A.L. Dafoe, Bath, Fairfield, Kingston Central, Point Pleasant, and Sandhurst Shores Intake Protection Zones 1 and 2:
 - i.** the application of non-agricultural source material to land
 - ii.** the application of untreated septage (i.e., hauled sewage) to land
 - iii.** land farming of petroleum refining waste
 - iv.** landfilling of hazardous, municipal, solid non-hazardous industrial or commercial waste
 - v.** liquid industrial waste injection into a well.

- 7.2.11-CWa.** The Ministry of the Environment shall not permit the establishment of new sewage works that collects, stores, treats or disposes of sewage in Brockville, James W. King and Sydenham Intake Protection Zones 1 and 2 where the following activities would be significant drinking water threats:
- i.** combined sewer discharges from a stormwater outlet to surface water
 - ii.** sewage treatment plant bypass discharge to surface water
 - iii.** industrial effluent discharges
 - iv.** sewage treatment plant effluent discharges (including lagoons)
 - v.** storage of sewage (e.g., treatment plant tanks).

- 7.2.12-HR a.** The Ministry of the Environment, when reviewing applications for the establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage should incorporate available source protection information

in its decision-making process, and require the incorporation of appropriate risk management measures to protect the source of drinking water as part of any environmental compliance approval.

- b.** The provision in **a.** applies to the following types of sewage works where they would be a moderate or low drinking water threat:
- i.** for the Brockville and James W. King Intake Protection Zones 1 and 2 and Sydenham Intake Protection Zones 1, 2 and 3a:
 - i.* discharge of stormwater from a stormwater retention pond
 - ii.* industrial effluent discharges
 - iii.* management of agricultural source material where land or water is used for aquaculture
 - iv.* storage of sewage (e.g., treatment plant tanks)
 - ii.** for the A.L. Dafoe, Bath, Fairfield, Kingston Central, Point Pleasant and Sandhurst Shores Intake Protection Zones 1 and 2:
 - i.* combined sewer discharge from a stormwater outlet to surface water
 - ii.* discharge of stormwater from a stormwater retention pond
 - iii.* industrial effluent discharges
 - iv.* sanitary sewers and related pipes
 - v.* sewage treatment plant bypass discharge to surface water
 - vi.* sewage treatment plant effluent discharges (including lagoons)
 - vii.* sewage storage (e.g., treatment plant tanks)
 - viii.* management of agricultural source material where land or water is used for aquaculture.

7.2.13-CW In order to monitor the implementation of policies **7.2.9-CW** and **7.2.11-CW**, the Ministry of the Environment shall publish information to demonstrate implementation in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority.

7.2.14-NB In order to monitor the implementation of policies **7.2.10-HR** and **7.2.12-HR**, the Ministry of the Environment should publish information to demonstrate implementation in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority.

The following polices to account for intake protection zones in spill prevention, spill contingency and emergency response plans are made in accordance with subsection 26(6) of Ontario Regulation 287/07 (General).

7.2.15-NB a. The Ministry of the Environment should include requirements for spill contingency plans for businesses that haul septage by barge in the following areas as part of any new or amended licenses or environmental compliance approvals under the *Environmental Protection Act*, as appropriate, to identify the locations of the municipal intake(s) and intake protection zone(s) in relation to the business' travel routes, and to update their procedures to better manage the risk to the drinking water source(s) in the event of an emergency, spill or unauthorized discharge related to the transportation and handling of hauled sewage:

- i. on the St. Lawrence River in Brockville IPZ-1 and IPZ-2
- ii. on the St. Lawrence River in James W. King IPZ-1 and IPZ-2
- iii. on Sydenham Lake in Sydenham IPZ-1, IPZ-2 and IPZ-3a.

b. The Ministry of the Environment should publish information to demonstrate implementation of this policy in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority.

7.2.16-NB a. The Ministry of the Environment should encourage industries that are located in and adjacent to the Intake Protection Zones (IPZ) to review and amend the applicable operational plans, spill prevention and contingency plans and pollution prevention plans, as appropriate, to identify the locations of municipal intake(s) and intake protection zone(s) in relation to their operations, and to update their procedures to better manage the risk to the drinking water source(s) in the event of an emergency, spill or unauthorized discharge.

b. The Ministry of the Environment should implement **a.** within three years of the Source Protection Plan taking effect, or such other date as the Director determines based on a prioritized review of environmental compliance approvals that govern activities that are drinking water threats.

7.2.17-CW The Ministry of Agriculture, Food and Rural Affairs shall not approve NASM Plans for the application to land, handling and/or storage of non-agricultural source material where these activities are or would be significant drinking water threats in:

A spill or discharge associated with any of the prescribed threats to drinking water quality can be a significant threat in some of the intake protection zones (IPZs). There are a number of industries in or near the IPZs on Lake Ontario that could discharge into the drinking water supply.

Local industries have developed protection programs that have been implemented to protect water quality. They are to be commended for this work and encouraged to continue.

It is essential that these industries and the agencies that respond to spills and emergencies have up-to-date information and procedures.

This would improve local response to spills. Similar policies are directed to municipal and Ministry of the Environment operating procedures.

- i. Brockville IPZ-1 and IPZ-2
- ii. James W. King IPZ-1 and IPZ-2
- iii. Sydenham IPZ-1 and IPZ-2.

7.2.18-HR

The Ministry of Agriculture, Food and Rural Affairs should make approvals for new and/or revised NASM plans conditional on the implementation of risk management measures and/or best management practices addressing the application to land and/or handling and storage of non-agricultural source material for sites in:

- i. A.L. Dafoe IPZ-1 and IPZ-2
- ii. Bath IPZ-1 and IPZ-2
- iii. Fairfield IPZ-1 and IPZ-2
- iv. Sandhurst Shores IPZ-1 and IPZ-2.

The next few policies identify the actions to be taken by the Ministry of Agriculture, Food and Rural Affairs under the *Nutrient Management Act* Regulation 267/03 (General) in order to prohibit or manage activities that are threats to surface water intakes.

These threats include application and storage of materials such as manure.

There are limited opportunities for these activities to occur in the Brockville, James W. King or Sydenham IPZs.

7.2.19-CW

Approvals for new and/or revised nutrient management strategies and/or plans should be conditional on the implementation of risk management measures and/or best management practices addressing the application to land and/or storage of agricultural source material where they are significant drinking water threats for sites in:

- i. James W. King IPZ-2
- ii. Sydenham IPZ-1 and IPZ-2.

7.2.20-HR

Approvals for new and/or revised nutrient management strategies and/or plans should be conditional on the implementation of risk management measures and/or best management practices addressing the application to land and/or storage of agricultural source material for sites in:

- i. A.L. Dafoe IPZ-1 and IPZ-2
- ii. Bath IPZ-1 and IPZ-2
- iii. Fairfield IPZ-1 and IPZ-2
- iv. Sandhurst Shores IPZ-1 and IPZ-2.

7.2.21-CW

In order to monitor the implementation of policies **7.2.17-CW** and **7.2.19-CW**, the Ministry of Agriculture, Food and Rural Affairs or the Ministry of the Environment shall publish information to demonstrate that source protection considerations were made pertaining to these policies in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority.

7.2.22-NB In order to monitor the implementation of policies **7.2.18-HR** and **7.2.20-HR**, the Ministry of Agriculture, Food and Rural Affairs or the Ministry of the Environment should publish information to demonstrate that source protection considerations were made pertaining to these policies in a timely manner and in a location that is readily accessible to the Cataraqui Source Protection Authority

7.2.23-NB When making decisions on applications under Ontario Regulation 664/98 (Fish Licensing) of the *Fish and Wildlife Conservation Act* for the establishment of new caged aquaculture operations in Brockville IPZ-1, James W. King IPZ-1, or Sydenham IPZ-1, IPZ-2 or IPZ-3a, the Ministry of Natural Resources should ensure that appropriate risk management measures are included in the facility design to protect these drinking water sources from the risk associated with the management of agricultural source material.

To establish a new commercial aquaculture facility, a license must be obtained under the *Fish and Wildlife Conservation Act*. This is one of several pieces of legislation that govern the licencing of aquaculture.

There are currently no commercial fish farms in the Brockville, James W. King or Sydenham intake protection zones.

Other Approvals

The creation of new transport pathways and the modification of existing transport pathways may change the delineation and vulnerability score of an intake protection zone. Additional landowners and business owners may become subject to source protection policies as a result of this change.

Transport pathways to surface water intakes include new and modified storm sewers, roadside ditches, sanitary sewers, and tile drainage.

Municipalities are required under subsection 27(3) of Ontario Regulation 287/07 (General) to provide notice to the Source Protection Authority and the Committee if a person applies for approval of a proposal that may result in the creation or modification of a transport pathway within a wellhead protection area. However, municipalities will only have the opportunity to provide notice when the proposed work requires municipal approval.

The Cataraqui Region Conservation Authority sometimes issues permits for work to create or modify transport pathways where no municipal review is needed. The following policy made under section 27 of Ontario Regulation 287/07 (General) is to fill this gap.

7.2.24-NB a. The Cataraqui Region Conservation Authority should notify the Cataraqui Source Protection Authority and the Cataraqui Source Protection Committee of any proposals under Ontario Regulation 148/06 (Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) to engage in activities within or in close proximity to the A.L. Dafoe, Bath, Brockville, Fairfield, James W. King, Kingston Central, Point Pleasant, Sandhurst Shores, and Sydenham Intake Protection Zones 1 and 2 that may result in the creation of a new transport pathway or the modification of an existing transport pathway. This notice shall include a description of the proposal, the identity of the person responsible for the

proposal and a description of the approvals the person requires to engage in the proposed activity.

- b. The Cataraqui Source Protection Authority will use the information from **a.** to conduct an assessment to determine the potential impact of the proposal on the delineation and or the vulnerability score of the intake protection zone, and may make recommendations to the municipality, or propose an amendment to the Source Protection Plan that relates to the implementation of the proposal, as per subsection 48(2) of Ontario Regulation 287/07 (General).
- c. The notification specified in **a.** is not required in situations where the municipality having jurisdiction provides notification to the Source Protection Authority under subsection 27(3) of Ontario Regulation 287/07 (General).

7.3 Policies Specific to Sydenham Intake Protection Zone

Part IV of the Clean Water Act

Part IV of the *Clean Water Act* provides municipalities with new tools to regulate existing and future activities that are significant drinking water threats. The tools include prohibition, risk management plans and restricted land uses. These tools cannot be used for most waste disposal and all sewage-related activities.



Risk Management Plans

Risk management plans were selected to manage existing and future significant threats to drinking water for which there are no management options using prescribed instruments, and where the Cataraqui Source Protection Committee believed that the threat could be managed. The intent is that effective best management practices will be implemented. This means that those activities already adhering to good management practices may not require any additional measures, while others will be brought up to industry standards.

7.3.1-CW a. The following activities, where they are or would be significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities in Sydenham IPZ-1 and IPZ-2:

- i. the storage of agricultural source material
- ii. the application of agricultural source material to land
- iii. the use of land as livestock grazing or pasturing, an outdoor confinement area or farm animal yard.

- b.** A risk management plan is not required where the activity listed in **a.** is already managed by a nutrient management strategy and/or plan through Ontario Regulation 267/03 (General).
- c.** The risk management plan should be consistent with the requirements of Ontario Regulation 267/03 and agriculture best management practices, and recognize existing good management practices, as appropriate.
- d.** If one or more of the activities listed in **a.** is engaged in immediately before the Source Protection Plan takes effect, the risk management plan shall be established within two years of the Source Protection Plan taking effect.
- e.** If one or more of the activities listed in **a.** is to be engaged in after the Source Protection Plan takes effect, the risk management plan shall be established before the activity becomes established.

What is a Risk Management Plan?

A document outlining the actions required to address a threat to drinking water. These actions manage the risk associated with the potential threat so that drinking water is better protected.

Some quick facts about these plans:

- they are site-specific and customized to fit the property, activity or business
- they account for risk management measures that are already in place — some property owners will only need to document what they are already doing to protect drinking water
- they can address multiple activities so that only one plan is required for a property that has fuel storage, pesticide storage and livestock, for example.

In most cases, waste disposal sites are regulated directly by the Ministry of the Environment via environmental compliance approvals; however, the short-term storage of some wastes where they are generated is exempt. This means that another method of managing these drinking water threats is necessary.

The intent of this policy is to ensure proper storage of subject the wastes at businesses and facilities that by their nature necessitate this activity (e.g., waste oil at an auto repair shop, liquid waste from a hospital, waste chemicals from photo finishing). It is not intended to be applied to infrequent events such as the cleanup of an accidental spill of waste oil during a do-it-yourself oil change at a private residence.

- 7.3.2-CW a.** The storage of hazardous waste at disposal sites in Sydenham IPZ-1, where they are significant drinking water threats are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities where they relate to existing or future uses.
- b.** The risk management plan should consider, at a minimum, the suitability of the storage container(s), the repair and/or replacement of defective or unsuitable storage equipment, staff training and collection of waste materials by a licensed and qualified hazardous waste collector, as per Ministry of the Environment guidelines.

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- c. The risk management plan shall be established within two years of the Source Protection Plan taking effect.

Prohibition

Part IV prohibition is used for activities, which cannot be managed through land use planning (e.g., the handling and storage of pesticides), and do not require approval through a prescribed instrument. The intent of the following policy is to ensure that the listed activities never become established in areas where they would be significant drinking water threats.

- 7.3.3-CW a.** The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*, and are therefore prohibited from becoming established in Sydenham IPZ-1:
- i. the application of pesticides to more than 1 hectare of land, containing MCPA or Mecoprop
 - ii. the management of runoff that contains chemicals used in the de-icing of aircraft
 - iii. the handling and storage of more than 2,500 kilograms or litres of pesticide containing MCPA or Mecoprop at a facility where it is sold or used for application at other sites, except where it is manufactured or processed
 - iv. the handling and storage of more than 5,000 tonnes of road salt in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt
 - v. at or above-grade snow storage that is more than 1 hectare.

Restricted Land Uses

The restricted land use policies are made under section 59 of the *Clean Water Act*. This tool is used to flag specific land uses in a given area that are or may be associated with the activities that are prohibited under section 57 of the *Clean Water Act* or that require a risk management plan under section 58 of the *Clean Water Act*.

Where section 59 of the Act applies, a notice from the Risk Management Official is required before the municipality shall process an application for any development made under the *Planning Act* or *Condominium Act* or the Ontario Building Code in the specified areas of the Sydenham Intake Protection Zone. The notice will state that the activity (or activities) related to the proposal:

1. is not prohibited under section 57 of the *Clean Water Act*, or
2. does not require a risk management plan under section 58 of the Act, or
3. requires a risk management plan under section 58 of the Act, and that the plan has been agreed to or established.

The Risk Management Official would also let the proponent know if the activity (or activities) is prohibited.

7.3.4-CW The following activities, where they would be significant drinking water threats, are included in Section 59 designations under the *Clean Water Act* for the Sydenham Intake Protection Zone as follows:

- a. All land uses except residential are designated in IPZ-1 for:
 - i. the application of agricultural source material to land
 - ii. the application of pesticide to land
 - iii. the management of runoff that contains chemicals used in the de-icing of aircraft
 - iv. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
 - v. the handling and storage of pesticides
 - vi. the storage of agricultural source material
 - vii. the handling and storage of road salt
 - viii. the storage of snow
 - ix. the storage of hazardous wastes at waste disposal sites.
- a. All land uses except residential are designated in IPZ-2 for:
 - i. the application of agricultural source material to land
 - ii. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
 - iii. the storage of agricultural source material.

Land Use Planning and Development

- 7.3.5-HR** a. Municipalities should require proponents to incorporate stormwater management features in accordance with best practices and that provides enhanced protection (i.e., 80 per cent suspended solids removal), into building and site plans that reduce the volume of contaminants entering storm sewer systems and roadside ditches draining to Sydenham IPZ-1 and/or IPZ-2, or directly to Sydenham Lake, where discharge of stormwater from a stormwater retention pond is a moderate or low drinking water threat.
- b. In addition to the municipal official plan, the requirement identified in **a.** should be reflected in the site plan control by-law and any development guideline documents.

Strategic Actions

Subsection 26(1)(v) of Ontario Regulation 287/07 (General), allows the Source Protection Plan

to set out policies that specify actions to be taken to implement the Source Protection Plan or to achieve the plan's objectives. The Source Protection Committee strongly recommends that the following policies be given due consideration and be implemented in the interest of protecting Sydenham's source of drinking water.

Parks and Recreation

There are three municipal sports fields adjacent to the water treatment plant in Sydenham IPZ-1 on which commercial fertilizer may be applied. Runoff containing fertilizer can pose a moderate threat to Sydenham's drinking water.

It is a best practice to maintain a buffer between sports fields and nearby waterbodies so that runoff from the fields is attenuated before it reaches the waterbody.

7.3.6-NB The Township of South Frontenac should establish fertilizer-free buffer zones between the sports fields in IPZ-1 and Sydenham Lake to address the moderate drinking water threat of application of commercial fertilizer to land within two years of the Source Protection Plan taking effect.

Lakeshore Capacity Assessment

There are many activities that occur around Sydenham Lake that have the potential to affect its water quality. Discharge from septic systems poses a moderate threat to Sydenham's drinking water. Runoff from agricultural activities can pose a significant threat.

A lakeshore capacity assessment can provide the Township of South Frontenac with an accurate and quantitative linkage between the level of development and the level of phosphorus in the lake. It can be used to predict the impacts of development on water quality. Implementation of the results of an assessment requires collaboration between various stakeholders including the municipality and residents. The following policy was made under subsection 26(1)(iv) of Ontario Regulation 287/07 (General).

- 7.3.7-CW a.** To assist in identifying the best local risk management measures to address significant drinking water threats related to agricultural runoff (i.e. the application of agricultural source material and the use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard) in IPZ 1 and 2, the Township of South Frontenac shall consider undertaking a lakeshore capacity assessment for Sydenham Lake using the Ministry of the Environment Lakeshore Capacity Model, or another appropriate model, to determine the impact of on-site sewage systems, and agricultural runoff, on the water quality of Sydenham Lake.
- b.** The Township should implement the findings of this research to inform land use planning decisions and to promote best management practices.
- c.** A proposal to undertake this strategic action should occur within five years of the Source Protection Plan taking effect, and be shared with the Cataraqui Source Protection Authority at that time.

7.4 Policies Specific to Brockville Intake Protection Zone

Part IV of the Clean Water Act

Part IV of the *Clean Water Act* provides municipalities with new tools to regulate existing and future activities that are significant drinking water threats. The tools include prohibition, risk management plans and restricted land uses. These tools cannot be used for most waste disposal and all sewage-related activities that are managed through an environmental compliance approval or certificate of approval.



Risk Management Plans

Risk management plans were selected to manage existing and future significant threats to drinking water for which there are no management options using prescribed instruments, and where the Cataraqui Source Protection Committee believed that the threat could be managed. The intent is that effective best management practices will be implemented. This means that those activities already adhering to good management practices may not require any additional measures, while others will be brought up to industry standards.

- 7.4.1-CW a.** The application of pesticide to land containing MCPA to land areas more than ten (10) hectares, where it is or would be a significant drinking water threat, is designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan shall be required in Brockville IPZ-2 for this activity.
- b.** The risk management plan may recognize existing best management practices and/or pesticide management plans.
 - c.** If this activity is engaged in immediately before the Source Protection Plan takes effect, the risk management plan shall be established within two years of the Source Protection Plan taking effect.
 - d.** If this activity is to be engaged in after the Source Protection Plan takes effect, the risk management plan shall be established before the activity becomes established.

In most cases, waste disposal sites are regulated directly by the Ministry of the Environment via environmental compliance approvals; however, the short-term storage of some wastes where they are generated is exempt. This means that another method of managing these drinking water threats is necessary.

The intent of this policy is to ensure proper storage of subject the wastes at businesses and facilities that by their nature necessitate this activity (e.g., waste oil at an auto repair shop, liquid

waste from a hospital, waste chemicals from photo finishing). It is not intended to be applied to infrequent events such as the cleanup of an accidental spill of waste oil during a do-it-yourself oil change at a private residence.

- 7.4.2-CW a.** The storage of hazardous waste at disposal sites in Brockville IPZ-1, where they are significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities where they relate to existing or future uses.
- b.** The risk management plan should consider, at a minimum, the suitability of the storage container(s), the repair and/or replacement of defective or unsuitable storage equipment, staff training and collection of waste materials by a licensed and qualified hazardous waste collector, as per Ministry of the Environment guidelines.
- c.** The risk management plan shall be established within two years of the Source Protection Plan taking effect.

Prohibition

Part IV prohibition is used for activities which cannot be addressed through land use planning (e.g., the handling and storage of pesticides), and do not require approval through a prescribed instrument. The intent of the following policies is to ensure that the listed activities never become established in areas where they would be significant drinking water threats.

7.4.3-CW The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*, and are therefore prohibited from becoming established in Brockville IPZ-1:

- i.** the application and/or storage of agricultural source material to land
- ii.** the management of runoff that contains chemicals used in the de-icing of aircraft
- iii.** the use of land as livestock grazing or pasturing, an outdoor confinement area or farm animal yard
- iv.** the handling and storage of more than 2,500 kilograms or litres of pesticide at a facility where it is sold or used for application at other sites, except where it is manufactured or processed
- v.** the storage of agricultural source material
- vi.** the handling and storage of more than 5,000 tonnes of road salt in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt
- vii.** at or above-grade snow storage that is more than 1 hectare.

7.4.4-CW The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*, and are there-

fore prohibited from becoming established in Brockville IPZ-2:

- i. the application of agricultural source material to land
- ii. the use of land as livestock grazing or pasturing, an outdoor confinement area or farm animal yard
- iii. the storage of agricultural source material.

Restricted Land Uses

The restricted land use policies are made under section 59 of the *Clean Water Act*. This tool is used to flag specific land uses in a given area that are or may be associated with the activities that are prohibited under section 57 of the *Clean Water Act* or that require a risk management plan under section 58 of the *Clean Water Act*.

Where section 59 of the Act applies, a notice from the Risk Management Official is required before the municipality shall process an application for any development made under the *Planning Act* or *Condominium Act* or the Ontario Building Code in the specified areas of the Brockville Intake Protection Zone. The notice will state that the activity (or activities) related to the proposal:

1. is not prohibited under section 57 of the *Clean Water Act*, or
2. does not require a risk management plan under section 58 of the Act, or
3. requires a risk management plan under section 58 of the Act, and that the plan has been agreed to or established.

The Risk Management Official would also let the proponent know if the activity (or activities) is prohibited.

7.4.5-CW The following activities, where they would be significant drinking water threats, are included in Section 59 designations under the *Clean Water Act* for the Brockville Intake Protection Zone as follows:

- a. All land uses except residential are designated in IPZ-1 for:
 - i. the application of agricultural source material to land
 - ii. the management of runoff that contains chemicals used in the de-icing of aircraft
 - iii. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
 - iv. the handling and storage of pesticides
 - v. the storage of agricultural source material
 - vi. the handling and storage of road salt
 - vii. the storage of snow
 - viii. the storage of hazardous wastes at waste disposal sites.

- b. All land uses except residential are designated in IPZ-2 for:
 - i. the application of agricultural source material to land
 - ii. the application of pesticides to land
 - iii. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
 - iv. the storage of agricultural source material.

The following policy, made under subsection 26(1)(v) of Ontario Regulation 287/07 (General), is to address limited inclusion of agricultural land parcels along the fringe of Brockville IPZ-2.

7.4.6-CW a. The Cataraqui Source Protection Authority shall provide information to agricultural operators in the Brockville Intake Protection Zone about the extent of this vulnerable area and agricultural best management practices that reduce the risk of negative source water impacts related to the following significant drinking water threats in IPZ-2:

- i. the application of agricultural source material to land
- ii. the use of land as livestock grazing or pasturing land, an outdoor confinement area or a farm animal yard
- iii. the storage of agricultural source material.

7.5 Policies Specific to James W. King Intake Protection Zone

Part IV of the Clean Water Act

Part IV of the *Clean Water Act* provides municipalities with new tools to regulate existing and future activities that are significant drinking water threats. The tools include prohibition, risk management plans and restricted land uses. These tools cannot be used for most waste disposal and all sewage-related activities.

Risk Management Plans

Risk management plans were selected to manage existing and future significant threats to drinking water for which there are no management options using prescribed instruments, and where the Cataraqui Source Protection Committee believed that the threat could be managed. The intent is that effective best management practices will be implemented. This means that those activities already adhering to good management practices may not require any additional measures, while others will be brought up to industry standards.



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- 7.5.1-CW a.** The following activities, where they are or would be significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities in James W. King IPZ-2, within the Township of Leeds and the Thousand Islands:
- i. the application of agricultural source material to land
 - ii. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
 - iii. the storage of agricultural source material.
- b.** A risk management plan is not required where the activity listed in **a.** is already managed by a nutrient management strategy and/or plan through Ontario Regulation 267/03 (General).
- c.** The risk management plan should be consistent with the requirements of Ontario Regulation 267/03 and agriculture best management practices, and recognize existing management practices, as appropriate.
- d.** If one or more of the activities listed in **a.** is engaged in immediately before the Source Protection Plan takes effect, the risk management plan shall be established within two years of the Source Protection Plan taking effect.
- e.** If one or more of the activities listed in **a.** is to be engaged in after the Source Protection Plan takes effect, the risk management plan shall be established before the activity becomes established.

In most cases, waste disposal sites are regulated directly by the Ministry of the Environment via environmental compliance approvals; however, the short-term storage of some wastes where they are generated is exempt. This means that another method of managing these drinking water threats is necessary.

The intent of this policy is to ensure proper storage of subject the wastes at businesses and facilities that by their nature necessitate this activity (e.g., waste oil at an auto repair shop, liquid waste from a hospital, waste chemicals from photo finishing). It is not intended to be applied to infrequent events such as the cleanup of an accidental spill of waste oil during a do-it-yourself oil change at a private residence.

- 7.5.2-CW a.** The storage of hazardous waste at disposal sites in James W King IPZ-1, where they are significant drinking water threats, are designated for the purpose of section 58 of the *Clean Water Act*. Therefore a risk management plan is required for these activities where they relate to existing or future uses.
- b.** The risk management plan should consider, at a minimum, the suitability of the storage container(s), the repair and/or replacement of defective or unsuitable storage equipment, staff training and collection of waste materials by a licensed and qualified hazardous waste collector, as per Ministry of the Environment guidelines.
- c.** The risk management plan shall be established within two years of the Source

Protection Plan taking effect.

Prohibition

Part IV prohibition is used for activities which cannot be addressed through land use planning (e.g., the handling and storage of pesticides), and do not require approval through a prescribed instrument. The intent of the following policies is to ensure that the listed activities never become established in areas where they would be significant drinking water threats.

7.5.3-CW The following activities, where they would be significant drinking water threats, are designated for the purpose of section 57 of the *Clean Water Act*, and are therefore prohibited from becoming established in James W. King IPZ-1:

- i. the application of agricultural source material to land
- ii. the management of runoff that contains chemicals used in the de-icing of aircraft
- iii. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
- iv. the handling and storage of more than 2,500 kilograms or litres of pesticide containing MCPA or Mecoprop at a facility where it is sold or used for application at other sites, except where it is manufactured or processed
- v. the storage of agricultural source material
- vi. the handling and storage of more than 5,000 tonnes of road salt in a manner that may result in its exposure to precipitation or runoff from precipitation or snow melt
- vii. at or above-grade snow storage that is more than 1 hectare.

Restricted Land Uses

The restricted land use policies are made under section 59 of the *Clean Water Act*. This tool is used to flag specific land uses in a given area that are or may be associated with the activities that are prohibited under section 57 of the *Clean Water Act* or that require a risk management plan under section 58 of the *Clean Water Act*.

Where section 59 of the Act applies, a notice from the Risk Management Official is required before the municipality shall process an application for any development made under the *Planning Act* or *Condominium Act* or the Ontario Building Code in the specified areas of the Sydenham Intake Protection Zone. The notice will state that the activity (or activities) related to the proposal:

1. is not prohibited under section 57 of the *Clean Water Act*, or
2. does not require a risk management plan under section 58 of the Act, or
3. requires a risk management plan under section 58 of the Act, and that the plan has been agreed to or established.

The Risk Management Official would also let the proponent know if the activity (or activities) is prohibited.

7.5.4-CW The following activities, where they would be significant drinking water threats, are included in Section 59 designations under the *Clean Water Act* for the James W. King Intake Protection Zone as follows:

- a. All land uses except residential are designated in IPZ-1 for:
 - i. the application of agricultural source material to land
 - ii. the management of runoff that contains chemicals used in the de-icing of aircraft
 - iii. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
 - iv. the handling and storage of pesticides
 - v. the storage of agricultural source material
 - vi. the handling and storage of road salt
 - vii. the storage of snow
 - viii. the storage of hazardous wastes at waste disposal sites.
- b. All land uses except residential are designated in IPZ-2 for:
 - i. the application of agricultural source material to land
 - ii. the use of land as livestock grazing or pasturing, an outdoor confinement area or a farm animal yard
 - iii. the storage of agricultural source material.

7.6 Policies Specific to Point Pleasant and Kingston Central Intake Protection Zones

Sewage Infrastructure

Due to the low vulnerability scores assigned to Kingston Central IPZ-1 and IPZ-2, the only activity that is a moderate drinking water threat in this Intake Protection Zone is discharge from combined sewers in IPZ-1.

The City of Kingston has an adopted pollution control plan and a sewage infrastructure master plan which contain numerous recommendations that would help protect the quality of Kingston's source of drinking water. The goals of the Sewage Infrastructure Master Plan for the City of Kingston Urban Area (September 2010) include virtual elimination of combined sewer overflows, maximizing the effectiveness of the existing sewer system, providing adequate capacity for growth, prioritizing projects, and providing information to stakeholders.

- 7.6.1-NB** The City of Kingston should implement the program and policy recommendations of the Pollution Control Plan Update for the City of Kingston (July 2010) and the Sewage Infrastructure Master Plan for the City of Kingston Urban Area (September 2010), particularly to continue work to separate the downtown combined sewers, as these actions would help protect the quality of Kingston Central's source water where combined sewer discharge from a stormwater outlet to surface water is a moderate or low drinking water threat.

Wolfe Island Ferry Emergency Response

The transportation of certain substances is a local drinking water threat. Since the Wolfe Island Ferry route travels through the Kingston Central IPZ-2, it is important that the Ministry of Transportation have up-to-date information and procedures that would help improve local response to a spill. The following policy was made under subsection 26(1)(v) of Ontario Regulation 287/07 (General).

- 7.6.2-NB a.** The Ministry of Transportation (MTO) should update its Shipboard Oil Pollution Emergency Plan for the Wolfe Island Ferry such that MTO will automatically contact the operators of the King Street (Kingston Central) and Kingston West (Point Pleasant) Water Treatment Plants in the event of an emergency, a spill, as defined by section 91 of the *Environmental Protection Act*, or an unauthorized discharge where the local transportation of specified substances would be a low drinking water threat.



Kingston Central (top) and Point Pleasant Water Treatment Plants.

- b.** This update should occur within one year of the Source Protection Plan taking effect.

7.7 Policies Specific to Bath Intake Protection Zone

Land Use Planning and Development

- 7.7.1-HR a.** Loyalist Township should require proponents to incorporate stormwater management features in accordance with best practices and that provides enhanced protection (i.e., 80 per cent suspended solids removal), into building and site plans that reduce the volume of sediments and contaminants entering storm sewer systems and roadside ditches draining to Bath IPZ-1 or IPZ-2, where discharge of stormwater from a stormwater retention pond is a moderate or low drinking water threat.
- b.** In addition to the municipal official plan, the requirement identified in **a.** should be reflected in the site plan control by-law and any development guideline documents.



Improvements for Local Transport Pathways and Watercourses

As mentioned before, a number of landowners in the IPZ have implemented site-specific management practices to reduce the risk to drinking water that is associated with the activities undertaken on their properties.

Although it is not possible to have significant drinking water threats, as defined in the *Clean Water Act*, in the Bath Intake Protection Zone, Loyalist Township is encouraged to work with property owners in the IPZ to continue to manage or to better manage the risk associated with existing activities to better protect the community's source of drinking water as per the following policy that was developed under subsection 26(1) of Ontario Regulation 287/07 (General).

- 7.7.2-NB a.** Loyalist Township should determine the cause of increased sedimentation at the Bath water treatment plant by evaluating a series of samples along watercourses and storm sewers in Bath IPZ-1 and IPZ-2.
- b.** The Township should then work with landowners of properties in Bath IPZ-1 and IPZ-2 to reduce incidents and volumes of sedimentation. Sediment can carry contaminants associated with activities that are moderate or low drinking water threats such as the application of agricultural or non-agricultural source material, commercial fertilizer and pesticide to land, as well as the use of land as livestock grazing or pasturing land, an outdoor confinement area or farm animal yard and waste disposal sites.

- c.** Some actions that may be appropriate include establishing vegetative buffers along the creek, fencing out livestock, and installing catch basins and settling ponds for tile drainage and stormwater runoff.
- d.** A strategy to implement the action outlined in **a.** should be developed within two years of the Source Protection Plan taking effect.