

**TO: Chair and Members of the Source Protection Committee
Meeting #1/25, February 19, 2025**

**FROM: Behnam Doulatyari, Senior Manager, Watershed Plans and
Source Water Protection**

RE: Review of the CTC Source Protection Plan sewage policies

KEY ISSUES

RECOMMENDED RESOLUTION

THAT the CTC Source Protection Committee receive the staff report Review of the CTC Source Protection Plan sewage policies for information.

AND FURTHER THAT the CTC Source Protection Committee members provide their feedback utilizing the attached comment matrix.

AND FURTHER THAT staff be directed to take the necessary actions to implement the feedback and bring back the revised policies to the CTC Source Protection Committee for endorsement.

EXECUTIVE SUMMARY

Technical Rules, established under Section 107 of the *Clean Water Act, 2006* (“the Act”), govern the assessment of risks to drinking water sources covered under the Act. The most recent version of these Technical Rules were released in 2021, with the aim to provide clarity, ensure consistency with other provincial regulations, and support policy implementation. Amongst the changes made in 2021, were a number of amendments to the Tables of Drinking Water Threats, including updates to the circumstances describing where drinking water quality threats are possible. This includes updates to the circumstances describing the second prescribed drinking water threat listed in O. Regulation 287/07 s.1.1(1), that is, the establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.

Current CTC Source Protection Plan sewage (SWG) policies were written with previous versions of the Technical Rules in mind. Task 33 of the December 2018 CTC Section 36 Workplan, identifies updating the CTC Source Protection Plan to conform with the current Technical Rules. The July 2019 Minister’s Section 36 Order requires updating the Source Protection Plan to reflect the Technical Rules in effect as mandatory. Accordingly, CTC sewage policies are being reviewed

and updates being considered, for alignment with the 2021 Technical Rules; as well as to consider to the provincial regulatory landscape for sewage infrastructure over the past decade.

REPORT

Background

The December 2018 CTC Section 36 Workplan identified thirty-four anticipated updates to be completed to the CTC Source Protection Plan and three CTC Assessment Reports as part of future Section 34 amendments or the Section 36 update to the Plan. Amongst these tasks is:

- task thirty-three: Complete changes to the CTC SPP to conform with the current Director's Technical Rules.

In response to the Section 36 Workplan, the Minister of the Environment, Conservation and Parks issued a Section 36 Order in July 2019 to the CTC Source Protection Committee and Source Protection Authorities, which identified a number of mandatory updates to be included as a part of the Section 36 update to the CTC Source Protection Plan. In particular, it is required that the CTC Source Protection Committee update its Assessment Reports and Source Protection Plan to revise references to circumstances, chemicals of concern or thresholds that may have changed as a results of changes to the Technical Rules.

Following consultations on proposed revisions in 2019 and 2020, the Ministry of the Environment, Conservation and Parks (MECP) released updated Technical Rules for assessing source protection vulnerability and risks under the *Clean Water Act, 2006*, in December 2021. CTC Assessment Reports and the Source Protection Plan are now required to be updated to align with the 2021 Technical Rules. CTC staff have been working with the CTC Implementation Working Group to review current Source Protection Plan policies and the Assessment Reports to address the 2021 Rules through the upcoming Section 36 comprehensive update to the Plan. The Section 36 policy review is intended to address implementation challenges and policy gaps, as well as reduce the frequency of future policy revisions.

This report is focussed on reviewing the need to updated CTC Source Protection Plan sewage (SWG) policies. The 2021 Rules revised the threat circumstances of the second prescribed drinking water threat listed in O. Regulation 287/07 s.1.1(1), that being where the establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage can be identified as drinking water threats.

2021 Technical Rules sewage policy implications

Attachment 1 provides a comparison, between the 2021 version and prior versions of the Technical Rules, of the sewage sub-threat categories and where significant sewage drinking water threats can occur. The following is a summary of the general changes to sewage threat circumstances in the 2021 version of the Technical Rules, as can be seen in the **Attachment 1** table and the [2021 Tables of drinking water quality threats](#):

- some sewage sub-threat categories have been combined, and some split, relative to the previous versions of the Technical Rules
- a number of sewage sub-threats have been renamed to more explicitly and accurately reflect the threat activity
- certain sewage sub-threats can now be a significant drinking water threat, or alternatively no longer a significant drinking water threat, in the same vulnerable area or scores, relative to previous Technical Rules versions
- sewage threat circumstances have been revised to more clearly identify the parts, facilities and structures associated with the activities that pose a risk to drinking water sources
- the revised circumstances where significant threats can occur will affect threat enumeration and may result in additional significant drinking water threats for some municipalities

More specific changes to the sewage circumstances, in the 2021 Rules, and relevant to CTC Source Protection Plan policies can be found in **Table 1**.

Table 1. Implications of 2021 Technical Rules changes to CTC Source Protection Plan policies

Sub-threat categories (2021 TRs)	Changes under 2021 Technical Rules	Current CTC policies	CTC implications
2.1 – Industrial effluent discharges	<ul style="list-style-type: none"> • WHPA A/B V.S.=10 now significant • industrial effluent discharges to "land", not just surface water 	SWG-17 (PI); SWG-18 (LUP)	<ul style="list-style-type: none"> • Current policies are zone/score specific, and therefore do not cover where WHPA-A/B VS=10 could be significant • Current policies identify pathogen ICA's, these no longer exist within CTC • Current policies specify discharge to surface water, and not to land • Update enumeration as per revised threat tables (e.g. WHPA-A/B v.10 and any discharge threats to land)
2.2 – On-site sewage works	<ul style="list-style-type: none"> • Formerly two separate sub-threat categories for septic systems and holding tanks • <i>Ontario Water Resources Act</i> regulated on-site sewage works can no longer be identified as significant drinking 	SWG-1 (SpcfyActn); SWG-2 (E&O); SWG-3 (LUP); SWG-4 (LUP); SWG-5 (SpcfyActn); SWG-6 (SpcfyActn); SWG-7 (SpcfyActn);	<ul style="list-style-type: none"> • Current policies identify pathogen ICA's, these no longer exist within CTC. • Some policies (e.g. SWG-7) are directed at significant threats in sodium or chloride issue contributing areas (ICAs), which are no longer possible • Current policies are zone/score specific • Update enumeration as per revised threat tables

Sub-threat categories (2021 TRs)	Changes under 2021 Technical Rules	Current CTC policies	CTC implications
	water threats in sodium or chloride ICAs	SWG-8 (PI); SWG-9 (LUP); SWG-10 (SpfyActn)	<ul style="list-style-type: none"> • Need to align policy threat category language with that of 2021 Technical Rules/tables of drinking water threats
2.3 – Storm water management facilities and drainage systems: outfall from a storm water management facility or storm water drainage system	Threat circumstances were amended to: <ul style="list-style-type: none"> • specify that the risk from the storm water management facility is either the outfall or discharge point; and • use the percentage of impervious surface areas and the type of land use to evaluate the risk. 	SWG-11 (PI); SWG-12 (LUP)	<ul style="list-style-type: none"> • Current policies identify pathogen ICA's, these no longer exist within CTC • Current policies do not include ICA (sodium), which can be significant under 2021 Rules • Current policies are zone/score specific • MECP guidance states that under the 2021 Rules, all storm water activities that are considered to be a significant threat are regulated by MECP under an Environmental Compliance Approval (ECA) • Need to align policy threat category language with that of 2021 Technical Rules/tables of drinking water threats • Update threat enumeration as per revised threat tables, circumstances and MECP guidance
2.4 – Storm water management facilities and drainage systems: storm water infiltration facility	Threat circumstances were amended to: <ul style="list-style-type: none"> • evaluate risk based on the sum of a contributing area of all infiltration facilities on a site rather than the contributing area of each infiltration facility. 	SWG-11 (PI); SWG-12 (LUP)	<ul style="list-style-type: none"> • Current policies do not include ICA (sodium), which can be significant under 2021 TR's • WHPA-E (VS=8,8.1) can no longer be significant • MECP guidance states that under the 2021 Rules, all storm water activities that are considered to be a significant threat are regulated by MECP under an ECA. • Need to align policy threat category language with that of 2021 Technical Rules/tables of drinking water threats • Update threat enumeration as per revised threat tables, circumstances and MECP guidance
2.5 – Wastewater collection facilities and associated	Former sub-threat “sanitary sewers and related pipes” amended to:	SWG-13 (PI); SWG-14 (LUP)	<ul style="list-style-type: none"> • Current policies identify pathogen ICA's, these no longer exist within CTC.

Sub-threat categories (2021 TRs)	Changes under 2021 Technical Rules	Current CTC policies	CTC implications
parts: sanitary sewers	<ul style="list-style-type: none"> refer to risks associated with wastewater collection; and list sanitary sewers as its own sub-threat (#2.5) 		<ul style="list-style-type: none"> Need to align policy threat category language with that of 2021 Technical Rules/tables of drinking water threats
2.6 – Wastewater collection facilities and associated parts: Outfall of a combined sewer overflow (CSO), or a sanitary sewer overflow (SSO) from a manhole or wet well	<p>Former sub-threat “Combined Sewer discharge from a stormwater outlet to surface water” amended to:</p> <ul style="list-style-type: none"> refer to risks associated with wastewater collection; capture risks associated with SSOs; include former sub-threat called “combined sewer discharge from a storm water outlet to surface water”; and expand area where CSO significant threats could occur to include WHPA A and B with a vulnerability score of 10 	SWG-17 (PI); SWG-18 (LUP); SWG-19 (Research))	<ul style="list-style-type: none"> Need to include WHPA-A/B (VS=10) in policies, as now significant Current policies identify pathogen ICA's, these no longer exist within CTC. Need to align policy threat category language with that of 2021 Technical Rules/tables of drinking water threats Update threat enumeration as per revised threat tables, circumstances and MECP guidance Current policies would prohibit future sewage works in this category, including manholes
2.7 – Wastewater collection facilities and associated parts: Sewage pumping station or lift station wet	<p>Former sub-threat “sanitary sewers and related pipes” amended to:</p> <ul style="list-style-type: none"> refer to risks associated with wastewater collection; 	SWG-13 (PI); SWG-14 (LUP))	<ul style="list-style-type: none"> WHPA-E (VS=9) is significant for this new threat sub-category, was not previously Need to align policy threat category language with that of 2021 Technical Rules/tables of drinking water threats Update threat enumeration as per revised threat tables, circumstances and MECP guidance

Sub-threat categories (2021 TRs)	Changes under 2021 Technical Rules	Current CTC policies	CTC implications
well, a holding tank or a tunnel	<ul style="list-style-type: none"> • explicitly refer to wet wells in the threat circumstances; and • added threat circumstances for the holding tank or tunnel 		
2.8 – Wastewater treatment facilities and associated parts (WWTF&AP)	<p>Formerly three (3) sub-threats (Categories renamed and combined into Sub-threat 2.8):</p> <ul style="list-style-type: none"> • Sewage treatment plant bypass discharge to surface water • Sewage treatment plant effluent discharges (including lagoons) • Sewage works storage – treatment plant or holding tanks 	<p>1. A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility: SWG-17 (PI); SWG-18 (LUP); SWG-19 (Research)</p> <p>2. A sewage lagoon that forms part of a wastewater treatment facility and that may discharge sewage to groundwater: SWG-17 (PI); SWG-18 (LUP); SWG-19 (Research)</p> <p>3. A sewage treatment plant process tank or a sewage</p>	<ul style="list-style-type: none"> • A final effluent outfall or a sewage treatment plant overflow outfall that is part of a wastewater treatment facility: WHPA A/B VS=10 now significant • A sewage lagoon that forms part of a wastewater treatment facility and that may discharge sewage to groundwater: no longer significant for WHPA-E VS of 8, 8.1, and 9 • A sewage treatment plant process tank or a sewage treatment plant holding tank that is part of a wastewater treatment facility and that may discharge sewage to groundwater: no longer significant in WHPA B/C VS=8 • Need to align policy threat category language with that of 2021 Technical Rules/tables of drinking water threats • Update threat enumeration as per revised threat tables, circumstances and MECP guidance

Sub-threat categories (2021 TRs)	Changes under 2021 Technical Rules	Current CTC policies	CTC implications
		treatment plant holding tank that is part of a wastewater treatment facility and that may discharge sewage to groundwater: SWG-15 (PI); SWG-16 (LUP)	
PI = Prescribed Instrument policy LUP = Land Use Planning policy E&O = Education & Outreach policy SpcfyActn = Specify Action policy Research = Research policy VS = Vulnerability Score			

Current CTC Source Protection Plan policy approaches

As can be seen in **Table 1**, there are nineteen current CTC source protection plan sewage policies, which can be summarized by the type of policy tool used as follows:

- Prescribed Instrument policies (7 policies) for any sewage activities regulated by the Ministry of Environment, Conservation and Parks through Environmental Compliance Approvals. These include both prohibitions or review of Environmental Compliance Approvals
- Land Use Planning policies (5 policies) that direct sewage activities outside of vulnerable areas or to include specific design criteria during *Planning Act* or *Building Code Act* approvals; or to act as complementary policies to Prescribed Instruments policies for activities governed through Environmental Compliance Approvals
- Specify Action policies (5 policies) that are to be implemented to achieve the Source Protection Plan’s objectives. These include policies:
 - directed at municipalities conducting onsite sewage system inspections (SWG-1) and providing education and outreach materials (SWG-7), and to pass by-laws requiring connections to sewer systems (SWG-6);
 - requesting the Ministry of Municipal Affairs and Housing amend the *Building Code Act* to permit municipalities to require higher standards for onsite sewage works (SWG-5); and
 - requesting the Ministry of the Environment, Conservation and Parks develop guidelines for managing significant drinking water threats from

large onsite sewage works regulated by the *Ontario Water Resources Act* (SWG-10)

- A Education & Outreach policy (SWG-2) directed at the Ministry of Environment, Conservation and Parks for provision of materials for onsite sewage systems.
- A Research policy (SWG-19) directed the Town of Orangeville and Credit Valley Source Protection Authority to investigate sodium and chloride loading from the Town's wastewater treatment plant.

Suggested approaches for CTC Source Protection Plan Section 36 policy updates

Similar to the CTC Source Protection Committee's endorsement of the review and proposed update of other prescribed drinking water threat categories, CTC staff have been in discussion with the CTC Implementation Working Group on using the following approaches to consider sewage policy revisions for the Section 36 update:

- update the preamble text in Section 10.3 of the [CTC Source Protection Plan](#), as well as Explanatory Document to remove out-of-date references to older versions of the Technical Rules, Tables of Drinking Water Threats circumstances, and provide alignment with the 2021 Technical Rules
- update policy text and descriptions to conform with the 2021 Technical Rules, including its Tables of Drinking Water Threats. As they can no longer be considered as significant threats, this includes removal of sodium and chloride issue contributing areas from policies SWG-6 through SWG-10.
- remove vulnerable scoring/zones from the text of the policies, where possible. This may simplify or eliminate the need for future policy updates due to future changes in threat circumstances, reduce duplication of information, and prevent inconsistencies between the drinking water threats tables and CTC Source Protection Plan. Note: removal of vulnerable scoring/zones will not be completed for any policies where the Committee has endorsed different approaches within a single policy for addressing drinking water threats across different vulnerable scoring/zones
- consider implications of updating policies to address activities that will now be considered significant drinking water threats due to changes in circumstances under the 2021 Rules, including impacts to significant threat enumeration
- add minimum requirements to prescribed instrument policies for inclusion of vulnerable area information and protocols for emergency and spills response in provincial instruments

Staff continue to work with the CTC Implementation Working Group on the following specific sewage considerations, which will be brought back with proposed sewage policies for consideration by the Committee at an upcoming meeting:

- removal of all applicable areas from policy SWG-7 (as noted above, sodium and chloride issue contributing areas can no longer be identified as significant threats for on-site sewage systems)
- whether any policies are no longer relevant (e.g. SWG-19 which has been fully implemented) and should be considered for revision or removal

- MECP 2021 Technical Rules guidance for stormwater sewage management sub-threats 2.3 and 2.4 states that only stormwater management or infiltration facilities that require Environmental Compliance Approvals (ECA) can be identified as significant drinking water threats. However, MECP has been made aware of examples of storm water management activities that do not have an ECA (e.g. due to facility age, residential properties, or low-impact development measures); and have indicated they will be providing updated guidance to all Source Protection Regions.
- implications of current SWG-17 and SWG-18 policy prohibitions with respect to the updated sewage sub-threat 2.6: Wastewater collection facilities and associated parts: Outfall of a combined sewer overflow (CSO), or a sanitary sewer overflow (SSO) from a manhole or wet well
- whether the current prescribed instrument policies are sufficient with respect to the new Consolidated Linear Infrastructure Environmental Compliance Approvals (CLI ECA) required by municipalities. CLI ECAs are single environmental permission for all the sewage works components of a municipal sewage collection system or a municipal stormwater management system, replacing the various Environmental Compliance Approvals (ECAs) that were previously issued for these components.
- text updates to Source Protection Plan policies and/or Explanatory Document to clarify policy intent, improve implementation and support better protection of drinking water sources
- CTC staff continue to monitor, for updates, the Province's proposal to streamline approvals for some storm water management facilities through the Environmental Activity and Sector Registry (see Meeting #3/23 [Report 7.1c](#)). Should this proposal go forward the Committee may need to consider whether the current prescribed instrument policies remain sufficient to protect CTC drinking water sources

Next Steps

The comment matrix (**Attachment 2**) shared with the CTC Source Protection Committee will remain active until March 4, 2025, to capture any additional feedback from Committee members. Staff will incorporate any feedback received into proposed revisions to Source Protection Plan sewage policies and the Explanatory Document, following discussions with the CTC Implementation Working Group. The proposed revisions will be brought back to the Committee at an upcoming meeting to be considered for endorsement and incorporation into the Section 36 update of the CTC Source Protection Plan.

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Attachments (2):

Attachment 1: Where sewage may be a significant drinking water threat in CTC (2009/2013/2017/2021 Table of Drinking Water Threats)

Attachment 2: CTC sewage policies comment matrix

Attachment 1: Where sewage may be a significant drinking water threat in CTC (2009/2013/2017/2021 Table of Drinking Water Threats)

Prescribed Drinking Water Threat: The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.					
Threat Sub-Category		Area and Vulnerability Score (VS)	Threat Classification Level		
			Significant		
2009/2013/2017 TR's	2021 TR's		2009 /2013 TR's	2017 TR's	2021 TR's
Industrial Effluent Discharges	2.1 Industrial Effluent Discharges	WHPA-E (VS=9)	✓	✓	✓
		WHPA-E (VS=8.1 & 8)	✓	✓	✓
		WHPA-A/B (VS=10)	N/A	N/A	✓
		ICA - Nitrates and Chloride	✓	✓	✓
Septic System Holding Tank/Onsite Sewage Systems Holding Tank	2.2 Onsite Sewage Works	WHPA-A/B (VS=10)	✓	✓	✓
		ICA – Nitrates	✓	✓	✓
		ICA – Chloride and Sodium	✓	N/A	N/A
Septic System/Onsite Sewage Systems	2.2 Onsite Sewage Works	WHPA-A/B (VS=10)	✓	✓	✓
		ICA - Nitrates	✓	✓	✓
		ICA - Chloride and Sodium	✓	N/A	N/A
Discharge Of Untreated Stormwater From A Stormwater Retention Pond/Discharge from a Stormwater Management Facility	2.3 SWM facilities and drainage systems: Outfall from a storm water management facility or storm water drainage system	WHPA-E (VS=9)	✓	✓	✓
		WHPA-E (VS=8.1 & 8)	✓	✓	✓
		WHPA-A/B (VS=10)	✓	✓	✓
		ICA - Sodium	N/A	N/A	✓

Prescribed Drinking Water Threat: The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.					
Threat Sub-Category		Area and Vulnerability Score (VS)	Threat Classification Level		
			Significant		
2009/2013/2017 TR's	2021 TR's		2009 /2013 TR's	2017 TR's	2021 TR's
		ICA - Nitrates and Chloride	✓	✓	✓
	2.4 SWM Facilities and Drainage Systems: Storm Water Infiltration Facility	WHPA-E (VS=9)	✓	✓	✓
		WHPA-E (VS=8.1 & 8)	✓	✓	N/A
		WHPA-A/B (VS=10)	✓	✓	✓
		ICA - Sodium	N/A	N/A	✓
		ICA - Nitrates and Chloride	✓	✓	✓
Sanitary Sewers and related pipes	2.5 WWCF and Associated Parts: Sanitary Sewers	WHPA-A/B (VS=10)	✓	✓	✓
		ICA - Nitrates	✓	✓	✓
	2.7 WWCF and Associated Parts: Sewage Pumping Station or Lift Station Wet Well, a Holding Tank or a Tunnel	WHPA-A/B (VS=10)	✓	✓	✓
		WHPA-E (VS=9)	N/A	N/A	✓
Combined Sewer discharge from a stormwater outlet to surface water	2.6 WWCF and associated parts: Outfall of a combined sewer overflow (CSO), or a sanitary sewer overflow (SSO) from a manhole or wet well	WHPA-E (VS=9)	✓	✓	✓
		WHPA-E (VS=8.1 & 8)	✓	✓	✓
		WHPA-A/B (VS=10)	N/A	N/A	✓
		ICA - Nitrates	✓	✓	✓
		WHPA-E (VS=9)	✓	✓	✓

Prescribed Drinking Water Threat: The establishment, operation or maintenance of a system that collects, stores, transmits, treats or disposes of sewage.					
Threat Sub-Category		Area and Vulnerability Score (VS)	Threat Classification Level		
			Significant		
2009/2013/2017 TR's	2021 TR's		2009/2013 TR's	2017 TR's	2021 TR's
Sewage treatment plant bypass discharge to surface water	2.8 WWTF and Associated Parts: A final effluent outfall or a sewage treatment plant overflow outfall	WHPA-E (VS=8.1 & 8)	✓	✓	✓
		WHPA-A/B (VS=10)	N/A	N/A	✓
		ICA - Nitrates	✓	✓	✓
Sewage Treatment Plant Effluent Discharges (Includes Lagoons)	2.8 WWTF and Associated Parts: Sewage Lagoons	WHPA-E (VS=9)	✓	✓	N/A
		WHPA-E (VS=8.1 & 8)	✓	✓	N/A
		WHPA-A/B (VS=10)	✓	✓	✓
		ICA - Nitrates	✓	✓	✓
Storage Of Sewage (E.G. Treatment Plant Tanks)/Sewage Works Storage - Treatment or Holding Tanks	2.8 WWTF and Associated Parts: A sewage treatment plant process tank or a sewage treatment plant holding tank	WHPA-E (VS=9)	✓	✓	✓
		WHPA-A/B (VS=10)	✓	✓	✓
		WHPA-B/C (VS=8)	✓	✓	N/A
		ICA - Nitrates	✓	✓	✓
TR's refers to Technical Rules WHPA: Well-head Protection Area ICA: Issue Contributing Area SWM: Storm Water Management WWCF: Wastewater Collection Facilities WWTF: Wastewater Treatment Facilities Note: There are no current intake protection zones (IPZ) with vulnerability score >6 within CTC. Therefore, such vulnerable areas are not included within this table.					

