

Title:	<i>Unauthorized Discharges of Untreated Sewage - Identification, Monitoring and Control Framework</i>	
Document #	<i>PW-WW-L-013-009</i>	<i>Document Level: 3 Divisional</i>
Issue #:	<i>1</i>	<i>Issue Date: June 2023</i>

1 INTRODUCTION

The following are programs and processes for identifying Spill(s) and unauthorized discharges of untreated sewage within the City of Hamilton sewer system, including program enhancements identified by addressing the items in Provincial Officers' Order Number 1-142403769 dated January 18, 2023. Note that the below programs include associated documents that support the programs.

2 SAMPLING & MONITORING

2.1 Dry Weather Sampling (PW-WW-P-013-012)

Note: Release of procedure is pending council approval for resources.

2.2 [Hamilton Water Surface Water Quality Program Framework](#)

3 MAINTENANCE

3.1 [Infrastructure Maintenance, Rehabilitation and Renewal \(PW-WW-P-026-001\)](#)

3.2 [Updating Asset Information Using WIMS Red Lining \(PW-WW-P-011-014\)](#)

4 SPILL RESPONSE

4.1 [Spills Response Notification, Coordination and Corrective Actions \(PW-WW-P-12-003\)](#)

5 COMMUNICATIONS

5.1 [External Regulatory and Other Communications \(PW-WW-P-008-002\)](#)

5.2 [Process for Issuing External Communications with the Public \(PW-WW-P-008-10\)](#)

5.3 Sewage Spills Communication Plan (PW-WW-P-012-018)

Note: Release pending.

BCOS software tracks the revision history of document.

1 PURPOSE

To describe how stormwater collection system dry weather sampling testing and monitoring is undertaken. This procedure also describes how results are communicated, as required, and how regulatory reporting requirements are met.

2 SCOPE

This procedure applies to the Hamilton Water Division. The procedure outlines the process to conduct dry weather in-pipe sampling for the stormwater collection system.

3 DEFINITIONS

CCC	Customer Contact Centre (Corporate), the 24-hour call centre for the City of Hamilton: 905-546-CITY (2489)
Chain of Custody Form	Form accompanying a sample that contains all pertinent information about the sample ensuring that a sample is traceable from collection through analysis
CHEL	City of Hamilton Environmental Laboratory
Combined Sewer Overflow (CSO)	A discharge to the environment from a combined sewer system that usually occurs as a result of a precipitation event when the capacity of the combined sewer is exceeded. It consists of a mixture of sanitary wastewater and stormwater runoff and often contains high levels of floatables, pathogenic microorganisms, suspended solids, oxygen-demanding organic compounds, nutrients, oil and grease, toxic contaminants and other pollutants.
C&R	Compliance and Regulations Section
Cross-Connection Control Project (CCCP)	Initiatives designed to locate and eliminate crossed sewer pipes that are discharging sewage into the City of Hamilton's storm sewer system, thus allowing that sewage to enter the harbour untreated
CS&CO	Customer Service and Community Outreach Section
CSG	Compliance Support Group

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ECA	Environmental Compliance Approval
EME	Environmental Monitoring & Enforcement Unit
Final Approved Lab Reports	Analytical results provided to CHEL clients
Grab Samples	Discrete samples representing characteristics at a particular time
Hamilton Water (HW)	The Hamilton Water Division, which is the water, wastewater, and stormwater Operating Authority for the City of Hamilton
IPS	Infor Public Sector (formerly HANSEN). Departmental and cross-sectional modular software system, offering a variety of packages designed to handle different aspects of municipal operations such as infrastructure assets inventory, work management, stock inventory systems, service applications and call centers, licensing and enforcement
LIMS	Laboratory Information Management System
MOE	Ontario Ministry of Environment as amended (i.e. Ministry of Environment (MOE), Ministry of Environment and Energy (MOEE), Ministry of Environment and Climate Change (MOECC), Ministry of Environment, Conservation and Parks (MECP))
Operating Authority	Staff within the Hamilton Water Division who are responsible for the operation, maintenance and providing support services to the COH DWSs and WWSs (including water treatment and distribution)
PO	Plant Operations Section
PWCS	Public Works Department- Engineering Services Division- Construction Services

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Regulators/Regulatory Bodies	Regulatory bodies which oversee activities, products and services of the HW Division including Ministry of the Environment (MOE), Ministry of Labour (MOL), Public Health Services (PHS) and others
SAC	MOE, Spills Action Center (1-800-268-6060)
WD&WWC	Water Distribution and Wastewater Collection Section
WM	Watershed Management group in Hamilton Water.

4 RESPONSIBILITY

4.1 Owner (Stormwater Systems)

- Oversee the sampling, testing and monitoring of the City of Hamilton’s Drinking Water and Wastewater Systems to ensure that regulatory requirements are met.
- Provide resources as required for sampling, testing and monitoring.

4.2 CHEL

- Complete testing and analysis of collected samples. CHEL may conduct the analysis or subcontract the analysis as required.
- Record analytical results from analyzed samples.
- Provide final analytical reports to the Operating Authority.
- Maintain records as per [Document and Records Control procedure PW-WW-CR-EL-P-010-P-010](#).

4.3 WD&WWC Section

- From time to time on an as needed basis, will support EME sample collection where complex sampling or complex traffic control situation exist.

4.4 CSG

- Provide analytical results and or other related information as may be requested by MOE inspectors.

4.5 EME

- Sampling plans, schedules, sampling, reporting, and spills response.

5 PROCEDURE

5.1 Sampling Requirements

- 5.1.1 Sampling schedule (to be developed).
- 5.1.2 Sampling location list (to be developed).
- 5.1.3 The list of sample analytes and trigger conditions for spill investigation related to this procedure will be maintained and updated from time to time by EME.
- 5.1.4 The In-Pipe Inspection and Sampling program operates in dry weather only.

5.2 Dry Weather Definition

- 5.2.1 Dry Weather for the In-Pipe Storm Sewer Inspection and Sampling Program, is defined as:
 - 5.2.1.1 24 hours following a 10 mm or less precipitation event and/or no significant snow melt (in keeping with Hamilton Water EME dry weather definition for permits); and
 - 5.2.1.2 48 hours following a 10.1mm up to 14.9 mm precipitation event and/or no major snow melt; and
- 5.2.2 72 hours following a 15 mm or greater precipitation event and / or following significant snow melt event.

5.3 Inspection of Storm Sewer Outfalls and Maintenance Holes

- 5.3.1 When inspecting a storm sewer outfall and/or maintenance hole (MH), document all observations of flow, no flow, debris build up at the base of the outfall, staining, and any odours.
- 5.3.2 Take a photograph of the full outfall pipe, if safe to do so.
- 5.3.3 If vegetation or tree build up is obstructing the outfall, or erosion around the outfall structure has occurred, contact the Wastewater Collection team to rectify.
- 5.3.4 If there is **no flow** from the outfall, document that there is no flow on the specific day and time for the Asset ID and move upstream to inspect the first accessible upstream MH.
- 5.3.5 If there is flow at the outfall or within an upstream MH, document the following findings:

- Date
- Asset ID number
- Staff member's name
- Street name: park name of MH location (add additional reference point if possible)
- Non-natural odours (e.g., sewage, chemicals, raw materials)
- Vegetation obstruction/excessive vegetation
- Erosion around outfall
- Cloudiness
- Colour
- Foam
- Suds (non-natural)
- Sanitary waste
- Orange staining
- Oily sheen
- Oil separated layers
- Floatables
- Algae
- Approximate flow rate
- Time sample was collected

5.3.6 Once the outfall has been inspected, sampled (if flow observed), and all documentation completed, proceed to the next upstream MH for inspection and sampling, if required. Continue to systematically inspect next upstream storm MH in dry weather, to complete the storm sewer outfall catchment area.

5.4 Documenting Lake Level Influence on upstream Maintenance Access Holes

5.4.1 Documenting the influence of Lake levels on the storm sewer system is important to establish baseline conditions at submerged outfalls. This documentation will create a baseline record. It is understood that over time, outfalls and MHs influenced by lake water, may change depending on Lake Ontario water levels. Due to changing lake levels, inspections will begin at the visible Outfalls for this Program and will then move upstream to the MH. From the submerged storm sewer outfalls, the first upstream MH influenced by Lake water, is to be documented as such and then work backwards, upstream, inspecting, and documenting conditions in each upstream MH. This upstream MH inspection will continue until a MH, not influenced by lake

water levels, can be properly inspected and sampled, if flow is present.

5.5 Non-Lake water influence MH Inspection and Sampling

5.5.1 Once the first, non-Lake water influenced, upstream storm sewer MH from a submerged CSS storm sewer outfall catchment area is determined, it is to be inspected and where it is found to contain a flow, in dry weather, it shall be sampled, and observations documented.

- Date
- Asset ID number
- Staff member's name
- Street name: park name of MH location (add additional reference point if possible)
- Non-natural odours (e.g., sewage, chemicals, raw materials)
- Vegetation obstruction/excessive vegetation
- Erosion around outfall
- Cloudiness
- Colour
- Foam
- Suds (non-natural)
- Sanitary waste
- Orange staining
- Oily sheen
- Oil separated layers
- Floatables
- Algae
- Approximate flow rate
- Time sample was collected

5.6 In-Pipe Inspection Checks for Non-Lake influenced Storm Maintenance Access Holes Procedure

5.6.1 Assess the following Testing, Analysis & Recording of Results

- Is there flow in the Maintenance access Hole?
- Is there the presence of detectable odours of sewage, chemicals, or raw

materials within or emanating from of the MH, regardless of flow or absence of flow in the storm sewer?

- Record sewer conditions and observations
- Take photograph of internal MH condition

5.6.2 If no observations are made of flow or odours, document these conditions; continue to systematically inspect next upstream storm MH in dry weather, to complete the storm sewer outfall catchment area.

5.7 In-Pipe Inspection and Sampling

5.7.1 If a flow is present in the storm sewer MH, in dry weather, samples are to be collected.

5.7.2 As this program will have iterative improvements, regularly confirm with Program Supervisor the specific samples to be collected.

5.7.3 Collect and preserve samples as per [City of Hamilton Environmental Laboratory Sampling Protocols, PW-WW-CR-EL-V-011](#).

5.8 Determining if the flow is a spill

5.8.1 An observatory clear and known volume sample jar should be used to collect a sample from the storm sewer MH flow to estimate the flow rate; and, observe for any olfactory observations of non-natural odours This sample bottle will not be submitted to the Laboratory for analysis.

5.8.2 Should the initial observatory clear jar sample show cloudiness, colour, oily sheen, oil separated layers, foam, suds (non-natural foam determined from shake test), sewage odours, non-natural odours, suspended material, or solids:

- Take a photo of the MH condition
- Take a grab sample to be analyzed for the In-Pipe Program parameters
- Photograph filled sample bottles, which are lined up
- Document observations, time of sampling and sampling actions before proceeding to upstream Maintenance access hole
- Proceed to trace upstream to find the source in dry weather

5.8.3 When Source Not Found:

5.8.3.1 When working in the office to review sample data of flow in maintenance access

hole with no source found, determine if sample parameter trigger conditions, per above, were detected. Add to database that flow was detected, and whether trigger exceedances were recorded.

- 5.8.3.2 When no trigger exceedances of the program parameters occur – return to inspecting the next upstream maintenance access hole in the catchment area and inspect maintenance access hole and sample if flow is present and continue moving upstream inspecting and sampling as required.
- 5.8.3.3 When exceedances are detected return to maintenance access hole displaying exceedances and check for flow again and if present collect a sample for comparison with original sample and then attend upstream maintenance access hole and determine if flow is present and if so, collect sample and trace upstream to find the source.
- 5.8.4 When Source is found from tracing and deemed a spill under the Hamilton Sewer Use Bylaw and other Legislation:
 - 5.8.4.1 Report to MOE Spills Action Centre (SAC) at 1-800-565-4923 immediately.
 - 5.8.4.2 Report to the City Spill Reporting Centre (905-540-5188) for spill response initiated through Hamilton Water.
 - 5.8.4.3 Spill containment and cleanup may be required along with an updated report to MOE Spills Action Centre.
 - 5.8.4.4 Information is recorded in the database of spill found (add date) contributing to source of exceedance(s).
 - 5.8.4.5 Following spill remediation and clean-up and sampling data review return to catchment area and re-check that the maintenance access hole which had flow deemed as a spill to ensure no other flows exist and to confirm the spill had been the source of the observed flow. If flow exists, repeat 5.7.
- 5.8.5 Should the flow be traced to be between two maintenance access holes, (meaning there is no flow in upstream maintenance access holes, but there is flow in two downstream MHs), then this is to be documented in the database and a request for CCTV work is to be made to determine if the flow is from damaged infrastructure or unknown connection in between the two maintenance access holes.
 - 5.8.5.1 Following CCTV work and conclusion that infrastructure repairs are required and made, the master tracking spreadsheet is updated, and the downstream MH is re-inspected to confirm if the flow has ceased. If flow exists upon repairs being made,

this is likely indicative of another event occurring and the steps in 5.8 are repeated.

5.9 Initial In-Pipe Sampling Program Spill Investigation Trigger Conditions

5.9.1 Sample analytes will evolve and change over the life of this program and will be maintained in EME by the supervisor of this program. The initial analytes and trigger conditions are as follows:

5.9.2 Table of initial analytes:

Parameter	Rationale	Trigger Condition
Metals Group	Representative of ICI discharges and are within Hamilton's Sewer Use Bylaw & meets definition of OWRA Sewage	Storm parameter exceedances of Hamilton Sewer Use Bylaw 14-090 limits Presence of other metals without storm limits that should not be in the storm sewer and potentially a spill
Total Mercury	Recent findings of dental practices in Hamilton using low pH cleaners and solubilizing Mercury and meets definition of OWRA Sewage	Greater than 0.05 ug/L (microgram per Litre), which is the detection limit for Mercury Mercury should not be present in the storm sewer and is an indicator of a spill
Caffeine	Caffeine is only found in Human Sewage	Presence of Caffeine at or above the analytical detection level of 5 ug/L
Biochemical Oxygen Demand	Indicator of sewage	exceeds 15 mg/L. A number of Greater Toronto Area municipalities have this limit in their storm section of Sewer Use Bylaws and this would be an indicator of a sewage spill
E. coli	Indicator of sewage and animals	Over 3400 counts/100 ml to account for animal sewage
pH	Representative of ICI discharges and within Hamilton the Sewer Use Bylaw and meets definition of OWRA Sewage	Exceedance of the Hamilton Sewer Use Bylaw 14-090 storm sewer Limits and is an indicator of a spill.

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O-Phosphate	Indicator of potable water leak due to use of substance for lead control in watermains and an opportunity to find and fix nonrevenue water losses	Presence of O-Phosphate can indicate a leak of potable water or contributions from fertilizers or ICI discharges
Chloride	Indicator of saltwater pool discharge, road salt, and industrial dischargers and meets definition of OWRA Sewage	Greater than 1500 mg/L to detect industrial discharges, excessive de-icing salt or saltwater pool discharges
Temperature	Indicator of sewage, spill, or potable water leak and meets definition of OWRA Sewage	Greater than 40°C. A number of Greater Toronto Area municipalities have this limit in their storm section of Sewer Use Bylaws and would be indicative of Sewage under OWRA

5.10 Grab and Composite Samples

5.10.1.1 CHEL analyzes grab and composite samples as required. CHEL may also subcontract the analysis of samples.

5.10.1.2 CHEL records analytical data through LIMS.

5.11 Communication of Results

5.11.1.1 CHEL provides grab and composite sample analytical results to the Operating Authority through the provision of Final Approved Lab Reports.

5.11.1.2 Analytical results will be provided to MOE Inspectors upon request.

5.12 Storage of Records

5.12.1 All records will be controlled as per the [Control of Records Procedure, PW-WW-P-016-001](#).

6 ASSOCIATED DOCUMENTS

- [City of Hamilton Environmental Laboratory Sampling Protocols, PW-WW-CR-EL-V-011](#)
- [Document Control and Records Control PW-WW-CR-EL-P-010-P-010](#)
- Sampling Schedule [to be developed]
- List of Sample Locations [to be developed]

Intelex software tracks the revision history of document.

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1 PURPOSE

The purpose of this procedure is to describe how the Hamilton Water Division implements infrastructure maintenance, rehabilitation and renewal programs. Infrastructure maintenance, rehabilitation and renewal depends on the condition of infrastructure, the life-cycle costs of various rehabilitation options, redundancy of equipment and the related operational risk.

2 SCOPE

This procedure provides a generic overview of infrastructure maintenance, rehabilitation and renewal programs within Hamilton Water. Connections to other City Departments will be highlighted in this procedure (e.g., AM of Engineering Services).

3 DEFINITIONS

AM Section	Asset Management Section of the Engineering Services Division
ArcGIS Online Application	ArcGIS Online Application is a cloud-based mapping and analysis solution used to make maps, analyze data, and to share and collaborate information
Asset	<p>Item, thing or entity controlled by Hamilton Water related to water, wastewater and stormwater operations that has potential or actual value to the City of Hamilton.</p> <p>Value can be tangible or intangible, financial or non-financial, and includes consideration of risks and liabilities. It can be positive or negative at different stages of the asset life. Physical assets usually refer to equipment, inventory and properties owned by the City. Physical assets are the opposite of intangible assets, which are non-physical assets such as leases, brands, digital assets, use rights, licences, intellectual property rights, reputation or agreements. A grouping of assets referred to as an asset system could also be considered as an asset.</p>
Asset Management	Integrated approach involving planning, engineering and finance to effectively manage existing and new municipal infrastructure in a sustainable manner to maximize benefits, reduce risk and provide satisfactory levels of service to the community user in an environmentally and ecologically responsible manner.

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Breakdown Emergency Maintenance	Emergency activities undertaken to restore the operation or function of an asset that has ceased to operate, or for which continued operation presents an unacceptable risk.
Breakdown Scheduled Maintenance	Planned activities undertaken to restore the operation or function of an asset that has ceased to operate, or for which continued operation presents an unacceptable risk.
CD	Capital Delivery Section
CMMS	Computerized Maintenance Management System
Corrective Emergency Maintenance	Emergency maintenance activities undertaken to restore the degraded operation or function of an asset or correct an identified deficiency before a loss of operation or function occurs (see table below).
Corrective Scheduled Maintenance	Planned maintenance activities undertaken to restore the degraded operation or function of an asset or correct an identified deficiency before a loss of operation or function occurs (see table below).
COH	City of Hamilton
CS&CO	Customer Service & Community Outreach Section
CSO Facilities	Includes Combined Sewer Overflow tanks and active control structures within the combined sewer system (e.g. motorized and non-motorized gates, stop logs, sensors and monitoring equipment).
DWQMS	Drinking Water Quality Management System
DWS	Drinking Water System
EAM	Enterprise Asset Management
ECA	Environmental Compliance Approval
Emergency Maintenance	Maintenance activities for a breakdown that requires immediate response. This may include declaring COH Policy#10 for emergency purchasing.
Engineering Services (ES)	The Engineering Services Division of the Public Works Department
Horizontal Infrastructure	Infrastructure controlled and maintained by the WDWWC Section, with capital rehabilitation and renewal services supplied by Engineering Services. For example, it includes watermains, valves, hydrants, trunk sewers, force mains, gravity mains, and storm drains.

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Hamilton Water (HW)	Hamilton Water Division, which is the water, wastewater, and stormwater Operating Authority for the City of Hamilton.
Infrastructure	Interconnected structural elements that provide the framework for supporting the operation of the DWS including buildings, workspaces, process equipment, hardware and software and supporting services such as transport or communication.
Infrastructure Renewal	Replacement of infrastructure
Infrastructure Rehabilitation	Any process of repairing or refurbishing infrastructure that returns the infrastructure to near-original condition and performance (e.g. concrete-lining of pipes, flushing watermains).
IPS	Infor Public Sector (formerly HANSEN). Departmental and cross-sectional modular software system, offering a variety of packages designed to handle different aspects of municipal operations such as infrastructure assets inventory, work management, stock inventory systems, service applications and call centers, licensing and enforcement.
Maintenance	All processes required to keep equipment operational. This includes scheduled maintenance (breakdown, corrective, preventative and predictive) and emergency maintenance (breakdown or corrective).
MOE	Ontario Ministry of Environment as amended (i.e. Ministry of Environment (MOE), Ministry of Environment and Energy (MOEE), Ministry of Environment and Climate Change (MOECC), Ministry of Environment, Conservation and Parks (MECP))
MDWL	Municipal Drinking Water Licence – Drinking Water System Licence issued by MOE
O&M	Operations and Maintenance Manual
Owner (DWS/WWS)	Every person who is a legal or beneficial owner of the City's DWSs and WWSs. Since the City's DWSs and WWSs are publicly owned and operated, the Mayor and Council of the City of Hamilton have been identified as Owners of the City's DWSs and WWSs.
ORO	Overall Responsible Operator
Predictive Maintenance	Planned maintenance actions aimed at the prevention of

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	breakdowns and failures (see table below).
Preventative Maintenance	Planned maintenance actions aimed at the prevention of breakdowns and failures. Includes performance-based maintenance. Includes routine or minor maintenance or inspection tasks to increase reliability of assets (see table below).
Project Wise	Electronic project management software used to keep project information by divisions throughout the City of Hamilton
PMATS	Plant Maintenance and Technical Services Section
PO Section	Plant Operations Section
RTC	Real Time Control
SCADA	Supervisory Control and Data Acquisition
Scheduled Maintenance	Activity that is planned, documented, and scheduled to reduce downtime, breakdowns or failures.
SMR	Systems Management Representative (for the BCOS, DWQMS, and WWQMS Systems) - Manager of Compliance and Regulations Section. Equivalent to QMS Representative as described in the DWQMS Standard.
Top Management (DWQMS/WWQMS)	The DWQMS and WWQMS Top Management has been identified as: the General Manager of Public Works and the Director of Hamilton Water Division.
Unit	Operational areas of sections within the Hamilton Water Division
Vertical Infrastructure	Infrastructure controlled by the PO Section and maintained by the PMATS Section including the water and wastewater treatment plants, communal well uptake and treatment systems. Although part of the water distribution and collection system, the PO and PMATS Sections are also responsible for water booster stations, storage reservoirs, water towers and re-chlorination systems (referred to as Outstations). Similarly, PO and PMATS Sections are responsible for CSO tanks, RTC structures, leachate stations and pump stations within the wastewater collection systems.
WTP	Woodward Water Treatment Plant
WDWWC	Water Distribution & Wastewater Collection Section

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Work Order (PO/ WDWWC)	Generated by CMMS to schedule and record maintenance and breakdown activities
Wastewater System (WWS)	Any works for the collection, transmission, treatment and disposal of sewage or any part of such works but does not include plumbing.
WUP	Woodward Upgrades Project
WWWSP	Water & Wastewater Systems Planning Section
WWQMS	Wastewater Quality Management System

Comparison of definitions for Types of Maintenance

	Emergency	Scheduled
Breakdown	Emergency maintenance activities that requires immediate response. These activities are undertaken to restore the operation or function of an asset that has ceased to operate, or for which continued operation presents an unacceptable risk. This may include declaring COH Policy#10 for emergency purchasing.	Planned activities undertaken to restore the operation or function of an asset that has ceased to operate, or for which continued operation presents an unacceptable risk.
Corrective	Emergency maintenance activities that requires immediate response. These activities are undertaken to restore the degraded operation or function of an asset or correct an identified deficiency before a loss of operation or function occurs. This may include declaring COH Policy#10 for emergency purchasing.	Planned maintenance activities undertaken to restore the degraded operation or function of an asset or correct an identified deficiency before a loss of operation or function occurs.
Preventative	NA	Planned maintenance actions aimed at the prevention of breakdowns and failures. Includes performance based maintenance. Includes routine or minor maintenance or inspection tasks to increase reliability of

Predictive **NA**

assets. Maintenance may include equipment downtime.

Planned maintenance actions aimed at the prevention of breakdowns and failures. Maintenance does not result in equipment downtime.

4 RESPONSIBILITY

4.1 Owner (**DWS/WWS**)

- Ensure adequate resources for implementation of maintenance, rehabilitation and renewal programs for water, **wastewater and stormwater** infrastructure.
- Review infrastructure maintenance, rehabilitation and renewal programs including the evaluation of their effectiveness as reported by the Operating Authority.

4.2 Top Management

- Provide the Owner with information regarding the maintenance, rehabilitation and renewal programs including the evaluation of their effectiveness as reported by the Operating Authority.
- Ensure the adequacy of infrastructure maintenance, rehabilitation and renewal programs to support the continued delivery of safe, clean drinking water to COH customers, **environmentally safe collection and processing of wastewater, and to ensure the health and safety of HW staff.**
- Communicate the status of maintenance programs to the Owner

4.3 SMR

- Ensure the effectiveness of infrastructure maintenance, rehabilitation and renewal programs are discussed at DWQMS **and WWQMS** Management Review meetings.
- Report DWQMS **and WWQMS** Management Review outcomes to the Owner.

4.4 Director HW

- Oversee the infrastructure maintenance, rehabilitation and renewal programs for vertical and horizontal infrastructure programs.
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required.

4.5 Director, Water & Wastewater Operations

- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required.
- Ensure that the long-term forecast is reviewed at least once every calendar year.
- Ensure adequate resources for infrastructure maintenance and rehabilitation programs for vertical, horizontal and SCADA infrastructure.
- Ensure the effectiveness of maintenance programs for vertical, horizontal and SCADA infrastructure to maintain compliance with regulation.

4.6 Director, Water & Wastewater Planning and Capital

- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required.

4.7 Manager, CD

- Development and use of an asset management database for vertical assets.
- Monitor and maintain the asset management program for vertical Infrastructure.
- Ensure adequate resources for the asset management program for vertical infrastructure.

4.8 Senior Project Managers, WWSP

- Develop plans for infrastructure programming
- Assist WDWWC Section with the infrastructure renewal program for horizontal infrastructure.

4.9 Manager, WDWWC

- Ensure adequate resources for infrastructure maintenance and rehabilitation programs for horizontal infrastructure.
- Ensure the effectiveness of horizontal infrastructure maintenance programs to maintain compliance with regulation.
- Oversee, in conjunction with relevant sections from Engineering Services, the infrastructure rehabilitation and renewal programs for horizontal infrastructure.
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required.

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4.10 Superintendent Water Distribution ORO

- Oversee water quality, customer service, and compliance programs for horizontal DWS infrastructure
- **Oversee Hydrant Painting Program.**
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required

4.11 Superintendents Water Distribution – (East & West Districts)

- Oversee the maintenance programs for horizontal DWS infrastructure.
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required

4.12 Superintendent – Contract Services & Wastewater Collection

- Oversee contracted programs for horizontal DWS and WWS infrastructure
- Oversee contracted programs for stormwater/drainage programs
- Oversee customer service, compliance and maintenance programs for horizontal WWS and stormwater infrastructure
- **Oversee the evaluation and** effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required
- **Oversee non-contract related work (e.g. inspections, in-house repairs, etc)**

4.13 **Project Manager – Stormwater Operations & Maintenance, WDWWC**

- **Ensure contracted monitoring and repair programs for stormwater infrastructure**
- **Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required**

4.14 **Stormwater Management Technologist - WDWWC (Stormwater & Drainage)**

- **Ensure work orders are scheduled in IPS for preventative and event driven group projects.**

4.15 Project Managers, CD

- Ensure relevant PMATS Section Maintenance Supervisors and Planners have information required to support maintenance of new assets (e.g. asset inventory with appropriate details, recommended maintenance schedules, warranty details)

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for projects under their area of responsibility.

4.16 **Manager, PMATS**

- Ensure adequate resources for infrastructure maintenance and rehabilitation programs for vertical infrastructure.
- Oversee, in conjunction with PO, the maintenance programs for vertical infrastructure and SCADA to ensure compliance with regulations.
- Ensure the effectiveness of maintenance programs for vertical infrastructure.
- Provide input, in conjunction with PO, WWWS, CD and WUP, the infrastructure rehabilitation and renewal programs for vertical infrastructure.
- Oversee, in conjunction with PO, WWWS, CD and WUP, the rehabilitation and renewal programs for SCADA infrastructure.
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required.

4.17 **Senior Project Manager – Capital & Technical Services, PMATS**

- Oversee maintenance and small capital work projects related to immediate needs and emergencies for vertical DWS and WWS assets utilizing maintenance capital budgets.
- Oversee DWS and WWS facility management program and projects (including contracted programs).
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required

4.18 **Superintendent Maintenance, PMATS**

- Ensure PMATS has information required to support maintenance of assets (e.g. asset inventory with appropriate details, maintenance schedules, warranty details).
- Oversee maintenance programs for vertical DWS, WWS and stormwater infrastructure.
- Oversee contracted programs for vertical DWS, WWS and stormwater infrastructure maintenance.
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required

4.19 **Superintendent – SCADA, PMATS**

- Ensure PMATS has information required to support maintenance of SCADA

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assets.

- Oversee maintenance programs for SCADA infrastructure.
- Oversee contracted programs for SCADA infrastructure renewal and maintenance.
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required

4.20 Maintenance Supervisors – Mechanical, Electrical and Instrumentation, PMATS

- Support the Maintenance planners with the development of maintenance schedules for vertical infrastructure.
- Assign Work Orders to trades staff for completion and coordinate activities for scheduled and emergency breakdown or corrective maintenance.
- Verify the completion of Work Orders, and the accuracy of EAM data.
- Ensure the effectiveness of vertical maintenance programs.

4.21 Maintenance Planners, PMATS

- Receive information required to support maintenance of assets (e.g. asset inventory with appropriate details, maintenance schedules, warranty details), and coordinate input into EAM.
- Receive input from Maintenance Supervisors for the development of maintenance schedules for vertical infrastructure.
- Ensure that resources are available and scheduled for the completion of maintenance work orders.
- Assign work orders to appropriate trades and communicate work schedules to trades supervisors, PO and other stakeholders as necessary.
- Develop and maintain maintenance schedules for vertical infrastructure in CMMS.
- Ensure that Work Order records are maintained in EAM.

4.22 Manager, PO

- Oversee, in conjunction with PMATS, WWWSP, CD and WUP, the infrastructure rehabilitation and renewal programs for vertical infrastructure.
- Oversee, in conjunction with PMATS, the maintenance programs for vertical infrastructure and SCADA to ensure compliance with regulations.
- Oversee, in conjunction with PMATS, WWWSP, CD and WUP, the rehabilitation and renewal programs for SCADA infrastructure.

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- Ensure that equipment failures and maintenance issues are entered into **EAM** and communicated to the PMATS Section for action.
- Assist in evaluating the effectiveness of maintenance, rehabilitation and renewal programs and authorize changes, as required.

4.23 PO Maintenance Operators

- Conduct inspections and routine maintenance as required.
- Notify Process Supervisor immediately of any abnormal operating conditions or SCADA alarms/malfunctions.

4.24 CS&CO

- Update IPS and **EAM** with information about new assets
- Ensure the functionality and effectiveness of IPS and **EAM** to support maintenance, rehabilitation and renewal programs.
- Assign service request through IPS for inspection or maintenance of Horizontal infrastructure.
- Conducts community outreach about infrastructure renewal programs as necessary

4.25 Superintendent, Inventory & Fleet Management (IFM)

- Ensure the effectiveness of supply chain and inventory management programs/functions to support the vertical, horizontal and SCADA infrastructure maintenance programs.

5 PROCEDURE

5.1 Infrastructure Renewal

- 5.1.1 Horizontal - The **Infrastructure Renewal** Section, Engineering Services has developed an asset management program for horizontal infrastructure. The horizontal asset management program identifies the condition (i.e. age, material, repair history, life span estimates) of watermains, **sewers** and other infrastructure (e.g. underground chambers, outfalls, etc.) to prioritize infrastructure rehabilitation and renewal projects for linear infrastructure.

The Infrastructure Renewal Section produces the following two reports for the Wastewater Collection System:

Operational Report: This report identifies recently completed inspections with high ratings (indicating poor condition) in operational codes such as debris, surcharging,

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and obstructions. It helps identify areas where flushing or maintenance may be required to address the identified issues. The report is shared with WD&WWC.

Structural Report: This report identifies recently completed inspections with high ratings (indicating poor condition) in structural defect codes such as broken pipes, fractures, and deformations. The Infrastructure Renewal Section reviews this report to assess the need for rehabilitation or replacement of the sewer based on the identified structural issues.

WDWWC administers the Substandard Water Service Replacement program to replace substandard water service pipes. The CS&CO Scheduler / Dispatcher assigns service requests to WDWWC through IPS as per [Scheduler/Dispatcher – Water Service Line Operation PW-WW-CS-CS-P-011-010](#).

5.1.2 Vertical – CD is in the process of developing an asset management program for vertical infrastructure. The procedure entitled [Review and Provision of Infrastructure procedure \(PW-WW-P-025-001\)](#) has been developed to document the process followed by Hamilton Water in reviewing the adequacy of its drinking-water, wastewater and stormwater systems infrastructure for both horizontal and vertical infrastructure. This procedure defines the Hamilton Water infrastructure renewal program.

5.2 Horizontal Infrastructure Maintenance & Rehabilitation

5.2.1 IPS

5.2.1.1 HW uses the IPS database to maintain records (for horizontal infrastructure) related to scheduled and emergency maintenance, defective infrastructure and customer complaints regarding drinking water, stormwater and wastewater infrastructure. WDWWC Section Staff are responsible for logging maintenance activities into the IPS database and reporting incorrectly tagged field assets as per [Updating Asset Information Using WIMS Redlining \(PW-WW-P-011-014\)](#) ensuring the accuracy of the IPS data.

5.2.1.2 CS&CO update IPS with information about new horizontal assets as per [Transfer of Assets \(PW-WW-P-004-003\)](#).

5.2.2 Water Distribution Preventive Maintenance

5.2.2.1 The inspection and preventive maintenance program for horizontal infrastructure is overseen by WDWWC staff. The program items in the table below are completed by WDWWC staff as well as by Contract Services. WDWWC directs the inspection program conducted by Contract Services.

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Water Distribution Preventive Maintenance Program	Frequency
Valve Exercising/Inspection Program	<ul style="list-style-type: none"> Once every year for large watermains (≥400mm) in the Hamilton DWS. Once every three years for small watermains (<400mm) in Hamilton DWS and all valves in the Fifty Road DWS. Once every three years for the Communal Well Systems - Carlisle, Freelton, Greenville, Lynden
Hydrant Flow and Code Program	<ul style="list-style-type: none"> Inspect hydrants once every year to meet the requirements of the Ontario Fire Code Flow testing hydrants every 3 years
Hydrant Painting Program	<ul style="list-style-type: none"> Hydrants are painted as required. Colour of hydrant tags indicates flow range.
Dead End Flushing Program	<ul style="list-style-type: none"> Flushing select dead ends to prevent low chlorine residuals, promote low tuberculation levels and improve water clarity. Automatic Flushing Stations are set up by including the use of blow offs and post hydrants.
PRVs and Check Valves	<ul style="list-style-type: none"> Annual inspection check of valves in the water distribution system Annual inspection of PRV settings and check valves to ensure they are functioning as designed
Auto Flusher Units	<ul style="list-style-type: none"> Twice a year perform preventative maintenance and inspection
Sample Stations	<ul style="list-style-type: none"> Twice a year perform preventative maintenance and inspection
Anti-stagnation Valves	<ul style="list-style-type: none"> Annual inspection of valves, replace batteries and ensure that valves are functioning as designed
Air Valves	<ul style="list-style-type: none"> Once every five (5) year inspect for operation and maintenance of the air valves

5.2.2.2 Scheduled Breakdown or Corrective Maintenance, and Emergency Breakdown or Corrective Maintenance, is completed as per Repairs - Watermains, Valves and Hydrants PW-WW-DC-WD-P-011-005. This procedure outlines the process and requirements for horizontal WDS infrastructure repairs.

5.2.3 Wastewater Collection Preventive Maintenance

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5.2.3.1 WDWWC manages the Sewer Lateral Cross Connection Program to help isolate cross connections between storm and sanitary/combined sewers.

5.2.3.2 Inspections completed by the Wastewater and Stormwater Collection team outlined below may have instances where follow up maintenance is required. The maintenance is completed either immediately or scheduled for a later date, as required.

Wastewater & Stormwater Collection Preventive Maintenance Program	Frequency
Sanitary Air Valves	• Inspect and maintain all sanitary air valves annually or more frequently as required
Sewer Boom Inspections	• Inspect all floating sewer booms weekly for debris and signs of CSOs
Sensitive Inlets/Outfalls	• Inspect monthly or more frequently as required
Inlets/Outfalls	• Inspect Annually
Syphons	• Inspect bi-monthly for blockages or more frequently as required
CSO Outfalls	• Inspect monthly
Odour Lids	• Inspect all odour lids annually
Biofilters	• Inspect every 4 months
Manholes	• Inspect as required based on historical needs
Oil Grit Separator	• Inspect monthly
Critical regulator	• Inspect biannually, or more frequently as required
Non-critical regulator	• Inspect annually
Glanbrook Forcemain swabbing	• Biannually or more/less frequently depending on pumping output

5.2.4 Stormwater and Drainage Assets

Stormwater and Drainage Assets: stormwater ponds, watercourses, and municipal drains. It does not include the linear assets described above (5.2.3.2)

Stormwater Technologist schedules stormwater infrastructure maintenance in IPS as work orders for preventative maintenance and event driven group projects. Upon completion, the records are stored in the ArcGIS Online Application. All necessary

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forms are found in the ArcGIS Online Application. These forms include, but are not limited to: compliance inspection, rainfall inspection, grass cutting and litter collection inspection, encroachment inspection, graffiti inspection, and watercourse inspection. Engineering drawings and ECAs are stored in Project Wise.

Wastewater & Stormwater Collection Preventive Maintenance Program	Frequency
Storm Storage basin, compliance inspections	• Annual
Storm Storage basin, sensitive pond inspections	• Biweekly (less frequent during fall/winter season)
Watercourse inspections (Program under development)	• TBD
Municipal Drains (Program under development)	• TBD

Divisional responsibility for stormwater infrastructure can be found in the [Stormwater Asset Responsibility in Public Works PW-P-026-001](#).

5.2.5 Effectiveness of Maintenance

5.2.5.1 The effectiveness of maintenance programs is continually tracked within the WDWWC section through the monitoring of performance metrics and KPIs. Program summaries are prepared, presented and discussed annually as part of the HW Sectional Annual Reporting process.

5.3 Vertical Infrastructure Maintenance & Rehabilitation

5.3.1 CMMS/EAM

5.3.1.1 The PMATS Section staff uses an EAM database that houses data related to the asset number (unique identifier) for vertical infrastructure, preventative maintenance, predictive maintenance, emergency or scheduled breakdowns and calibration of equipment. Asset IDs are structured as per [CMMS Naming Structure \(PW-WW-MT-V-011-003\)](#).

5.3.1.2 PMATS update EAM with information about new assets as per [Transfer of Assets \(PW-WW-P-004-003\)](#).

5.3.2 SCADA Maintenance

5.3.2.1 Superintendent – SCADA oversees the maintenance of vertical infrastructure through SCADA system reports.

5.3.3 Technical Services

5.3.3.1 Facilities

Facilities Maintenance utilises the EAM database for vertical infrastructure preventative maintenance, predictive maintenance and corrective emergency and corrective scheduled maintenance of assets and record keeping. In addition, some facility assets are maintained independent of the EAM system through external service contracts.

5.3.3.2 Capital Maintenance Projects

Capital Maintenance Projects are needs identified by Asset Management – condition assessments immediate needs, operational immediate needs, cyclical maintenance and emergencies. Maintenance projects are prioritized through stakeholder consultation using Failure Mode, Effects & Criticality Analysis (FMECA).

Projects are delineated between Capital Delivery (CD) and Technical Services – Small Capital using the [CD/PMATS Decision Tree](#).

5.3.4 Preventative Maintenance

5.3.4.1 See [Preventative Work Order Process for Maintenance \(PW-WW-MT-P-011-003\)](#) for outline of process and requirements.

5.3.4.2 PMATS performs maintenance related to condition assessments including Capital Maintenance Projects.

5.3.5 Scheduled Breakdown or Corrective Maintenance and Emergency Breakdown or Corrective Maintenance

5.3.5.1 See [Breakdown and Corrective Work Order Process for Maintenance \(PW-WW-MT-P-011-002\)](#) for outline of process and requirements.

5.3.6 Effectiveness of Maintenance

5.3.6.1 Effectiveness of maintenance programs is monitored through KPIs utilizing data from the EAM program. Technical services meets with stakeholders every 6 months to review and prioritize projects.

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5.3.6.2 The procedure [Review and Provision of Infrastructure PW-WW-P-025-001](#) discusses the infrastructure review process.

5.4 Reporting To the Owner (DWS/WWS)

5.4.1 Top Management reviews the effectiveness of infrastructure maintenance, rehabilitation and renewal programs at the [Management Review meetings \(PW-WW-P-018-001\)](#). DWQMS and WWQMS Management Review outcomes are reported to the Owner (DWS/WWS).

6 ASSOCIATED DOCUMENTS

[Control of Documents Procedure \(PW-WW-P-010-001\)](#)

[Control of Records Procedure \(PW-WW-P-016-001\)](#)

[Management Review \(PW-WW-P-018-001\)](#)

[Review & Provision of Infrastructure \(PW-WW-P-025-001\)](#)

[Transfer of Assets \(PW-WW-P-004-003\)](#)

[Breakdown and Corrective Work Order Process for Maintenance \(PW-WW-MT-P-011-002\)](#)

[Preventative Work Order Process for Maintenance \(PW-WW-MT-P-001-003\)](#)

[CMMS Naming Structure \(PW-WW-MT-V-011-003\)](#)

[Repairs - Watermains, Valves and Hydrants \(PW-WW-DC-WD-P-011-005\)](#)

[Scheduler/Dispatcher – Water Service Line Operation \(PW-WW-CS-CS-P-011-010\)](#)

[BCOS + DWQMS Operation - Water Service Size and Type \(PW-WW-DC-WD-P-011-007\)](#)

[Stormwater Asset Responsibility in Public Works \(PW-P-026-001\)](#)

[CD/PMATS Decision Tree](#)

[Updating Asset Information Using WIMS Redlining \(PW-WW-P-011-014\)](#)

BCOS software tracks the revision history of document.

Title:	Updating Asset Information Using WIMS Redlining		
Document #	<i>PW-WW-P-011-014</i>	Document Level	<i>III (Scoped)</i>
Issue #:	<i>1</i>	Issue Date:	<i>April 2023</i>

1 PURPOSE

The redline function in WIMS allows users to indicate changes to water, stormwater, and sewer assets by placing a point or line on the map and adding text comments. This procedure outlines the process by which these changes are requested and updated.

2 SCOPE

This procedure applies to staff in HW that submit Redlining updates within WIMS.

Redlines submitted by staff are reviewed by the Water Information Systems (WIS) team and update e-mails are sent to users when assets have been added, edited, or retired. Redlines can also lead to the WIS team making changes in IPS (Hansen). Water and sewer assets displayed in WIMS are synchronized to reflect potential changes every evening

This process does not include alterations in the water and wastewater systems that require approvals, as per the following Level III procedures: DWQMS Approvals Process for Alterations of Drinking Water Systems PW-WW-P-004-001 and Procedure for Wastewater Approvals PW-WW-P-004-006.

3 DEFINITIONS

Asset	Tangible item or entity connected to City of Hamilton water, wastewater or stormwater infrastructure. These items may be part of the infrastructure operations that has potential or actual value to the City of Hamilton.
COH	City of Hamilton
CS&CO	Customer Service and Community Outreach Section
Hamilton Water (HW)	Hamilton Water Division, which is the water, wastewater, and stormwater Operating Authority for the City of Hamilton.

Title:	Updating Asset Information Using WIMS Redlining		
Document #	<i>PW-WW-P-011-014</i>	Document Level	<i>III (Scoped)</i>
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IPS	Infor Public Sector (formerly HANSEN). Departmental and cross-sectional modular software system, offering a variety of packages designed to handle different aspects of municipal operations such as infrastructure assets inventory, work management, stock inventory systems, service applications and call centers, licensing and enforcement.
WD&WWC	Water Distribution and Wastewater Collection System
WIMS	Water Information Management System
WIS	Water Information Systems unit of CS&CO

4 RESPONSIBILITY

4.1 Sectional Managers

- Ensure that staff follow this procedure and are trained on this procedure

4.1.1 Senior Spatial Systems Application Analyst, Asset Management Application Technologist, Asset Management Application Specialist, WIS

- Responsible to understand this procedure and ensure that this process is completed when required

4.2 All HW WIMS end users

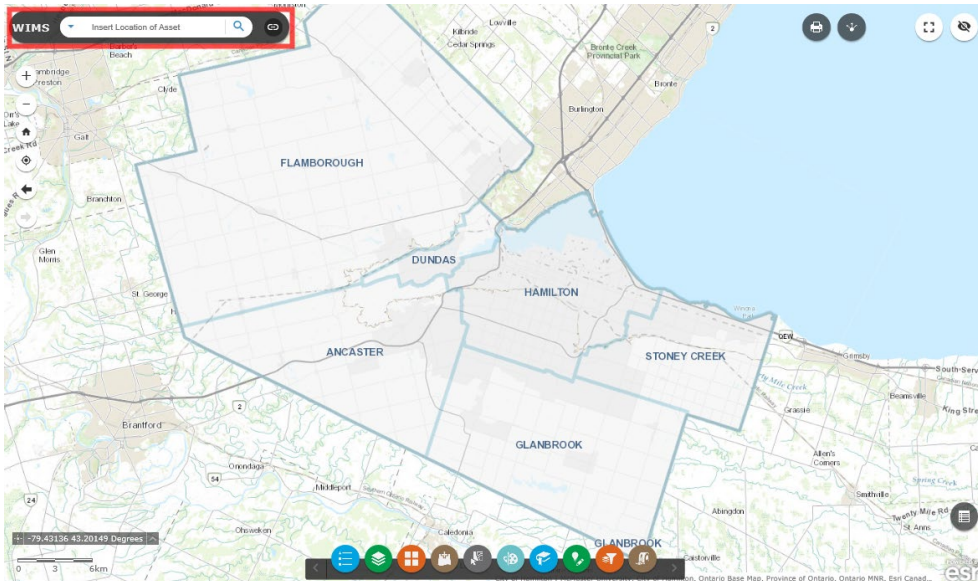
- Submit redlining points in WIMS to indicate changes to water and sewer assets

5 PROCEDURE

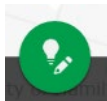
5.1 Directions

1. To begin the redline process, open [WIMS](#).
2. Navigate to the location that requires changes by searching for an address or asset using the indicated widget or by panning and zooming the map.

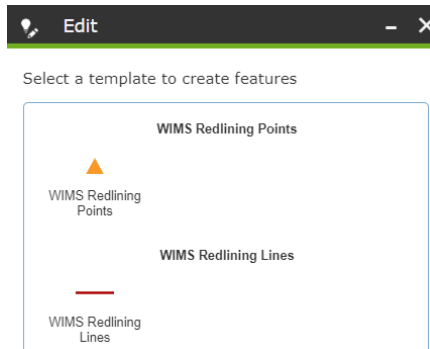
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3. Click the Edit widget on the bottom toolbar.



4. Select WIMS Redlining Points or WIMS Redlining Lines from the Edit pop-up.



5. Click on the map to add a point. (Line can also be used with multiple points)

6. Enter a USER_NAME, ASSET_INFO and COMMENTS into the first three boxes of the WIMS Redlining pop-up.

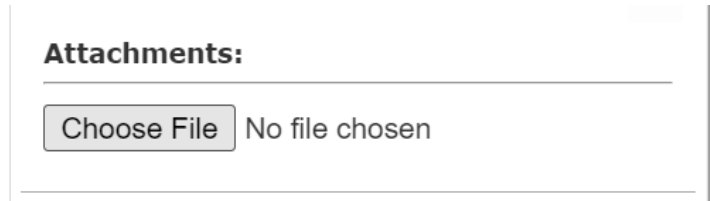
USER_NAME – User’s name indicating who is requesting the change. First initial and last name is acceptable. User name may be used to contact the requestor for more details.

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ASSET_INFO – Asset identifier (i.e. AN16V042) or type of asset that requires a change. If indicating multiple changes with one redline, multiple asset ID’s can be included here.

COMMENTS – Explanation of the required changes.

- Staff can also choose to upload an attachment near the bottom of the editing window.



- Click ‘Save’ to submit the redline.
- To add another redline, repeat steps 5-8. If redlining is complete, click the ‘x’ in the Edit pop-up to dismiss the tool.

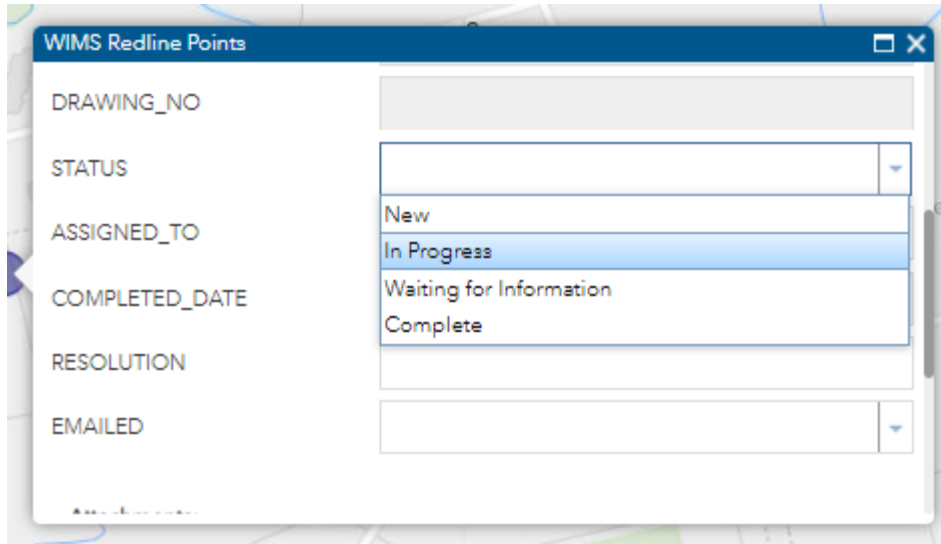
5.2 Directions to Edit an Existing Redline

- Navigate to an existing redline location.
- Click the redline point on the map to view a pop-up containing COMMENTS, ASSET_INFO and USER_NAME.
- Click the menu option in the pop-up and select Edit to make changes to COMMENTS, ASSET_INFO and/or USER_NAME.
- Click ‘Save’ to submit the updated redline.
- Staff will receive an email from a WIS member upon completing redline actions.

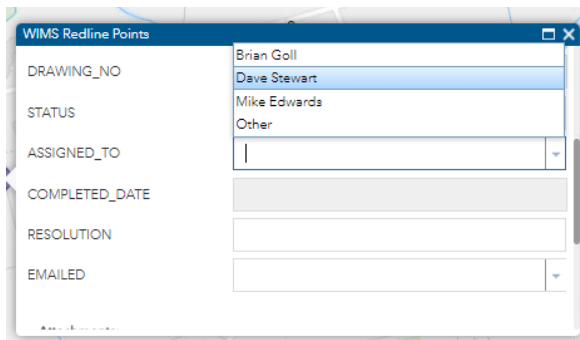
5.3 WIS

- Navigate to the following:
<https://hamiltonwater.maps.arcgis.com/apps/webappviewer/index.html?id=f6b472f2135246dc9f358d1140919567> using your HW AGOL account or tap into the redline layers via the corporate database in order to make edits (GEODBA.WIMS_REDLINE_POINTS and GEODBA.WIMS_REDLINE_LINES)
- Select a redline to review.
- Update the status field accordingly.

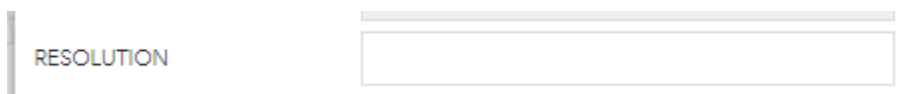
Title:	Updating Asset Information Using WIMS Redlining		
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4. Fill in the “Assigned to” field

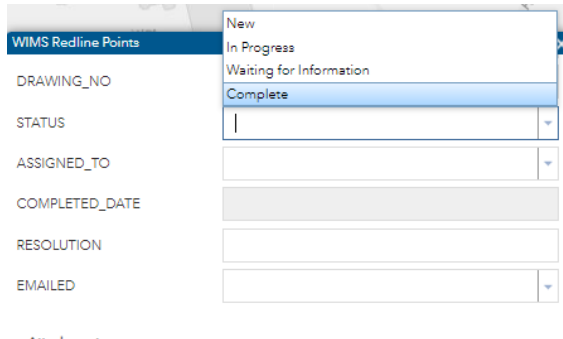


5. Review the request and make appropriate actions. Some back and forth communications may be necessary to ensure interpretation is correct.
6. Send email to redline requestor that the redline has been completed. Details/ snapshots may be included if needed.
7. Add resolution details if necessary.

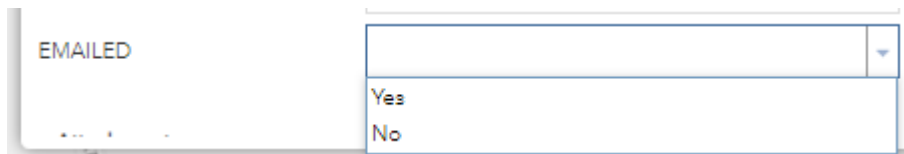


8. Change status to “Complete”. This will auto trigger the completed date to be filled in.
9. This task is actioned on a weekly basis.

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10. Change “Emailed” field to “Yes”



5.4 Notes

1. All redlines are stored and kept within the redline layers.
2. Completed redlines are filtered out of WIMS.
3. For efficiency purposes a batch editor was added to our internal redline app.

6 ASSOCIATED DOCUMENTS

- [Transfer of Assets PW-WW-P-004-003](#)
- [DWQMS Approvals Process for Alterations of Drinking Water Systems PW-WW-P-004-001](#)
- [Procedure for Wastewater Approvals PW-WW-P-004-006](#)
- [BCOS + DWQMS Water Main - Dead end Flushing Procedure PW-WW-DC-WD-P-011-022](#)
- [Operation – Water Valves and hydrants PW-WW-DC-WD-P-011-002](#)

BCOS software tracks the revision history of document.

1 PURPOSE

To explain the protocol for notification and coordination among HW staff to ensure that immediate and sufficient corrective actions are implemented in a consistent and efficient manner in the case of spills of various magnitudes.

2 SCOPE

Spills originating from HW infrastructure, caused by HW staff, HW contractors or that have potential to enter HW property or infrastructure.

For spills occurring within CHEL, lab staff follow the [Chemical Hygiene Plan PW-WW-CR-EL-P-019-065](#).

3 DEFINITIONS

BCOS	Beyond Compliance Operating System – Environmental, Health and Safety Management System for the Hamilton Water Division. BCOS is an umbrella system to the Environmental Laboratory QMS and the DWQMS sub-systems and the WWQMS sub-systems.
CCC	Customer Contact Centre (Corporate), the 24-hour call centre for the City of Hamilton: 905-546-CITY (2489)
C&R	Compliance & Regulations Section
CD	Capital Delivery Section
CHEL	City of Hamilton Environmental Laboratory
COH	City of Hamilton
Corporate EOC	The City of Hamilton’s Emergency Operations Centre located at 1227 Stone Church Road. This EOC can be activated in the event of a city-wide emergency
CS&CO	Customer Service and Community Outreach Section
EEO	Environmental Enforcement Officer
EME	Environmental Monitoring & Enforcement Unit

Title: <i>Spills Response Notification, Coordination and Corrective Actions</i>	
Document # PW-WW-P-012-003	Document Level III (Divisional)
Issue #: 8.2	Issue Date: June 2023

External Spill	A spill that is caused by anyone other than HW Staff or those working on behalf of HW
Hamilton Water (HW)	The Hamilton Water Division, which is the water and wastewater Operating Authority for the City of Hamilton.
HW Staff Having Control of Spill	Staff who are responsible for capital projects at HW sites or operational staff from WD&WWC, PO, PMATS, CD and the Woodward Capital Upgrade Project.
HW - SMT	The Hamilton Water Senior Management Team includes the Directors & Section Managers of the Hamilton Water Division
Intake Protection Zone (IPZ)	<p>The contiguous area of land and water immediately surrounding a surface water intake, which includes:</p> <p>The distance from the intake;</p> <p>A minimum travel time of the water associated with the intake of a municipal residential system or other designated system, based on the minimum response time for the water treatment plant operator to respond to adverse conditions or an emergency;</p> <p>The remaining watershed area upstream of the minimum travel time area, as applicable to inland water courses and inland lakes only.</p>
Internal Spill	A spill that is caused or permitted by HW Staff or those working on behalf of the COH .

Title:	<i>Spills Response Notification, Coordination and Corrective Actions</i>		
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IPS (HANSEN) Infor Public Sector (formerly HANSEN). Departmental and cross-sectional modular software system, offering a variety of packages designed to handle different aspects of municipal operations such as infrastructure assets inventory, work management, stock inventory systems, service applications and call centers, licensing and enforcement. **Also, will be defined as designated work order management system**

Leadership Teams Specific Teams in the City of Hamilton DLT (Departmental Leadership Team), SLT (Senior Leadership Team), EMT (Extended Management Team),

Major Spill The release of a substance of such magnitude and nature that it requires resources outside the normal scope of HW staff to control, contain, and clean-up and/or remediate the affected area. The spill may or may not have entered the COH sewage system, a COH WTP or WWTP, the natural environment, an IPZ, or a WHPA; is beyond the normal scope of the owner or person having control of the spill to control, contain, and clean-up; and may cause or is likely to cause adverse effects or public concerns in the immediate vicinity of the spill or beyond.

Any spill that is likely to cause significant adverse effects or public concerns in the immediate vicinity of the spill or beyond.

Minor Spill A minor spill is the release of a substance of such a magnitude and nature that it has not entered, and has no potential to enter the sewage system, a COH WTP or WWTP, the natural environment, an IPZ, or a WHPA; the spill can be easily controlled, contained and cleaned by the owner or person having control of the spill without adverse effects or public concerns.

Moderate Spill A moderate spill is the release of a substance of such magnitude and nature that may or may not have entered the sewage system, a COH WTP or WWTP, the natural environment, an IPZ, or a WHPA; the spill is beyond the normal scope of the owner or person having control of the spill to control, contain, and clean-up. There may be adverse effects or public concerns in the immediate vicinity of the spill, but the resources required to control, contain, and clean-up the spill and/or remediate the affected area are within the normal scope of HW staff.

Title:	<i>Spills Response Notification, Coordination and Corrective Actions</i>		
Document #	<i>PW-WW-P-012-003</i>	Document Level	<i>III (Divisional)</i>
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MOE	Ontario Ministry of Environment as amended (i.e. Ministry of Environment (MOE), Ministry of Environment and Energy (MOEE), Ministry of Environment and Climate Change (MOECC), Ministry of Environment, Conservation and Parks (MECP))
Natural Environment	The land, water, air or any combination or part thereof, within the COH municipal boundaries.
Overflow	Sewage flows to the environment outside of normal operating conditions. Means a discharge to the environment from the sewage works at a location other than the approved effluent disposal facilities or via the effluent disposal facilities downstream of the Final Effluent sampling point. All diversions of sewage from the collection system (including pumping stations) are Overflows. The definition of overflow contained within MECP approvals takes precedent.
Person Having Control of Spill	The person and the person's employee or agent, if any, having the charge, management or control of the spilled substance immediately before the spill.
PMATS	Plant Maintenance & Technical Services
PO	Plant Operations Section
Policy #10	COH policy for emergency purchasing (refer to the COH Purchasing Policy By-law 20-205 , As Amended).
PW-EOC	Public Works Emergency Operations Centre located at 330 Wentworth. This EOC may be activated if an emergency event requires support from multiple Divisions within the Public Works Department. It may also be activated by the Corporate EOC in support of a city-wide emergency.
RFQ	Request for Quotations
SAC	MOE, Spills Action Center (1-800-268-6060)
Sewage	According to Sewer Use By-Law 14-090 defined as: The composite of water and water-carried matter from agricultural, commercial, industrial, institutional or residential premises or any other source, but does not include stormwater.

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SLT	COH Senior Leadership Team
Spill	According to O. Reg 675/98 spill (when used with reference to a pollutant), means a discharge (a) into the natural environment, (b) from or out of a structure, vehicle or other container, and (c) that is abnormal in quality or quantity considering all the circumstances of the discharge.
Spills Reporting Line	905-540-5188: A telephone line strictly for reporting spill occurrences and/or to request assistance. An EEO is on-call to assess each incident and respond appropriately. This line is monitored 24 hours a day, 7 days a week and the number is 905-540-5188. Outside business hours a caller must hold the line to speak to a CCC representative.
Spill Response Team (SRT)	Initiated, as needed by the HW Director (or designate), the SRT is a group of COH staff from different sections with a connection to a spill. This group is responsible for directing COH assets and resources to efficiently and effectively bring the specific event to resolution.
Substance	Any solid, liquid or gas, or any combination of any of them.
Third Party	Any person(s), outside of HW.
WD&WWC	Water Distribution and Wastewater Collection Section
WHPA	Wellhead Protection Area. The surface and underground area surrounding a water well or well field that supplies a municipal residential system or other designated system through which contaminants are reasonably likely to move to eventually reach the water well or wells.
WTP	Water Treatment Plant
WUP	Woodward Upgrade Project
WWWPC	Water & Wastewater Planning & Capital Section
WWWSP	Water & Wastewater Systems Planning Section

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WWTP Wastewater Treatment Plant
WWW Water and Wastewater

4 RESPONSIBILITY

4.1 Director of HW or Designate

- Ensure resources are available to deal with spills as required by this procedure.
- Approve purchasing documents, contract documents, and Policy #10 requests related to this procedure.
- Communicate with the MOE at the Director level, other government agencies, other COH departments, media, HW - SMT, SLT, DLT and COH Council as required.
- Provide support with internal and external communication in the case of spills.
- Initiate SRT on an as needed basis and as required by this procedure.
- Delegates the coordination of the assessment, control, containment, and clean-up of spills as required by this procedure.
- Delegates the coordination of the remediation of areas affected by spills as required by this procedure.

4.2 Manager of C&R or Designate

- Coordinate all spill related communication with MOE and other government agencies.
- Communicate with HW - SMT in the case of spills, as required.
- Become a member of SRT as required.
- **Ensure that all HW staff are aware of and are trained to follow this procedure.**

4.3 Directors and Managers, or Designate(s)

- Ensure that spills are reported and dealt with as required by this procedure.
- Communicate with C&R staff and HW - SMT in the case of spills, as required.
- Approve purchasing and contract documents related to this procedure.
- Ensure resources are available to deal with spills as required by this procedure.
- Become a member of SRT as required.

4.4 CCC

- Customer Contact Centre (Corporate), the 24-hour call centre for the City of Hamilton: 905-546-CITY (2489)
- Follow the [Service Level Agreement between the Customer Contact Centre and Hamilton Water](#).

4.5 CHEL Staff

- Coordinate analytical testing services for samples submitted in relation to this procedure.
- Become members of SRT or otherwise support SRT as required.

4.6 CS&CO Staff

- Provide support with internal and external communication in the case of spills.
- Become members of SRT or otherwise support SRT as required.

4.7 EME Staff

- Respond to and initiate the coordination of the assessment, control, containment, and clean-up of spills as required by this procedure.
- Coordinate the cleanup to ensure no further detrimental impact to City sewage works. EME notifies appropriate City section for impacted asset e.g. Roads, for remediation.
- Communicate with the MOE, other government agencies, spill clean-up contractors, and consultant companies as required.
- Communicate with other COH staff and involve them, as appropriate to facilitate this procedure.
- Document actions taken in relation to spills as required.
- Collect samples for analytical testing as required. If a sewage spill or overflow (as required by MOE approvals) from COH infrastructure, collect sample if safe and practical to do so.
- Contact the Source Protection Planning Senior Project Manager as required.
- Provide details for fact sheets and reports as required.
- Investigates source of spill and evaluates enforcement action as required
- Update Service Request and upload pertinent documents as required.
- Become members of SRT or otherwise support SRT as required.
- Contact the section from where the internal spill originated from to inform them of MECP communications

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4.8 Source Protection Planning Senior Project Manager (or designate)

- Confirm impact or potential impact of spills on IPZs or WHPAs.
- Notify the representative Source Protection Authority of the impact of spills on IPZs or WHPAs.
- Provide information on the natural attributes and managed land in IPZs or WHPAs.

4.9 HW Staff Having Control of Spill

- Report all spills to the COH Spill Reporting Line and, if necessary, SAC.
- Take operational measures as required to correct immediate spill factors as directed by each section operational requirements.
- Communicate with other COH staff and involve them as appropriate to facilitate this procedure.
- Document actions taken in relation to spills as required.
- Assist EME to coordinate tasks and contractors as required to control, contain, and clean-up spills that originate from the WD&WWC system or PO facilities.
- Manage all costs associated with spills originating from the WD&WWC system, or PO facilities as required.
- Develop and forward fact sheets and reports as required.
- Upload documents into **designated work order management system** as required.
- Become members of SRT or otherwise support SRT as required.
- If EME is not required to act as support, HW staff shall:
 - Take emergency measures to control impact to people, property, and the environment as contain, and clean-up spills as required by this procedure.
 - Coordinate the assessment, control, containment, and clean-up of spills as required by this procedure.
 - Coordinate the remediation of areas affected by spills as required by this procedure.
 - Communicate with the MOE, other government agencies, spill clean-up contractors, and consultant companies as required

4.10 HW Staff

- Report any identified internal and external spills to the COH Spills Reporting Line and, if necessary, SAC.

5 PROCEDURE

5.1 Communications

5.1.1 Spill Reporting

5.1.2 HW staff, who may witness an internal or external spill regardless of severity (Minor/Moderate/Major) are to immediately report the spill to the COH Spill Reporting Line.

5.1.2.1 The HW staff and/or HW business unit having control of the spilled substance or the HW staff who causes or permits the spill (Moderate/Major Spills), immediately reports the spill to SAC and the COH Spill Reporting Line.

5.1.2.2 Where the responsible party is unclear, or if it is unknown if a spill has been reported, the first HW staff member that becomes aware that a spill has occurred, must report the spill to COH Spill Reporting.

5.1.2.3 According to O. Reg. 675/98 Class II, discharge portable water from man-made reservoirs due to natural causes or potable water released from watermains due to accidental failure are exempted from reporting, but release of super-chlorinated water from watermains due to maintenance, repair and/or testing, is not exempted from reporting.

5.1.2.4 The information reported to the COH Spill Reporting Line and/or SAC may include the following:

- Name and contact information for the reporter and the owner of the spilled material.
- Location of the spill.
- What has been spilled and what caused the spill.
- Approximate volume of spilled substance.
- Where the spilled substance went.
- Time of the spill and its duration.
- Actions taken to control the spill.
- Whether Police, Fire, Harbour Master (Hamilton Port Authority) or other external assistance is required.
- Whether SAC has been notified and if so SAC reference number.

Note: Information reported to SAC will be prompted by the SAC Officer handling the call and the reference # shall be documented. Not all information may be available at the time of report. It is OK to answer "I don't know" to any of the questions above if the information is not available. EME working together with HW business units may identify additional information and will update SAC as required.

5.1.3 Communication with the Media

5.1.3.1 Staff not authorized to communicate with the media will forward any inquires to the Media Contact and/or Director. (refer to the COH Media Relations Policy).

5.1.4 Notification to Leadership Teams

- 5.1.4.1 Details regarding minor spills are communicated to HW SMT by the Manager(s) of any involved HW section(s). HW SMT notify any other Leadership Team(s) as required. For spills that have the potential to impact COH drinking water, Managers of C&R, PO and WD&WWC must be notified immediately.
- 5.1.4.2 Details regarding moderate and major spills are communicated through EME staff to the Manager of C&R, and to the Director of HW as required. The Director of HW notifies any other COH Leadership Teams as required (e.g. HW SMT, SRT, PW-EOC, Corporate EOC).
- HW's Moderate and Major spills may require a written information update to be forwarded through the same channels. MOE may request a formal spill report from COH.

5.1.5 Document Control

- 5.1.5.1 Involved HW sections/units keep track of their own correspondence, reports, and invoices related to a spill.
- 5.1.5.2 EME staff log the spill information and appropriate associated documents into Service Request. Access to this section of the **workorder** database is limited to COH staff who enter or review spill information. The database is located on the COH server.
- 5.1.5.3** Where applicable, written correspondence with the MOE or other government agencies, follow up reports and any other information as directed by the Manager of C&R is uploaded into **designated work order management system**.

5.2 Third Parties Working on HW Projects

- 5.2.1 Third parties working on HW Projects are responsible for following all applicable federal, provincial, and municipal legislation (including spill reporting to COH and SAC)
- 5.2.2 In addition, for third party projects that have the potential for spills to occur, contract documents must require that the HW staff member in charge of the project be immediately notified if a spill occurs.

5.3 Internal Spills - Summarized in Appendix 1.

- 5.3.1 HW Staff and/or HW business unit having Control of Spill (The spill originates from their assets) take emergency operational measures to stop and/or contain the spilled material. Plant Operations to follow [PW-WW-PO-P-012-000-005](#), WDWWC to follow [PW-WW-DC-WC-P-012-005](#), and/or other applicable Level IV or V procedures.
- 5.3.2 HW Staff and/or HW business unit having Control of Spill report the spill to SAC and

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the COH Spill Reporting Line.

Note: HW Staff Having Control of Spill can contact the COH Spill Reporting Line for advice from EME prior to contacting SAC. However, HW Staff Having Control of Spill are still required to contact SAC to report the spill.

- 5.3.3 If the spilled material affects or has the potential to affect an IPZ or a WHPA the SPM of Source Protection Planning is to be notified by EME staff. **Refer to the [Intake Protection Zones and Well Head Protection Areas Visual Aid PW-WW-V-012-009](#) for additional detail**

Note:

- **Only spills that occur in the area bounded by the Mountain Brow, Nash/Quigley Road, Fruitland Rd., and Lake Ontario have potential to affect the Woodward WTP IPZ.**
 - **Only spills that occur in the area bounded by the Mountain Brow, McNeilly Road, Lake Ontario, and the Hamilton/Grimsby border have the potential to affect the Grimsby IPZ.**
 - **Only spills that occur near the communities of Carlisle, Freelton, Greensville, and Lynden have potential to affect WHPAs.**
- 5.3.1 When EME is contacted to provide support for a spill (via the City of Hamilton Spills Line), EME staff will assume responsibility and provide direction for all ongoing communications with the MOE, other government agencies, spill clean-up contractors, and consultant companies (as appropriate).
- 5.3.2 The HW business unit that was in control of the substance before the spill will document any pertinent facts/data related to the incident that will be used for further reporting concerning their operational system.
- 5.3.3 EME staff will initiate a preliminary investigation of the spill via telephone, or by visiting the site of the spill, following the [EME Spills Response Procedure PW-WW-CR-EM-P-012-SP01-002](#).
- 5.3.4 For spills that have the potential to impact COH drinking water, Managers of C&R, PO and WD&WWC must be notified immediately.
- 5.3.5 EME staff will assist to assess the potential for the spilled material to impact a COH WTP, WWTP, the WD&WWC system, a natural body of water, an IPZ or a WHPA: If necessary EME staff notify PO, WD&WWC and/or CD staff of the spill following [PW-WW-CR-EM-P-012-SP01-002](#)
- 5.3.6 If the spill impacts an IPZ or a WHPA, Source Protection Planning Senior Project Manager staff will take appropriate action. If the spill occurs in an IPZ or a WHPA,

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Source Protection Planning Senior Project Manager must be notified about assessment, control, containment, clean-up of spill and remediation work as required by this procedure. EME staff will provide required updates to SPM Source Protection Planning.

- 5.3.7 EME staff develops and implements a plan to characterize the spilled material and/or impact by collecting samples (if necessary), following [PW-WW-CR-EM-P-012-SP01-002](#).
- 5.3.8 EME staff ensures the clean-up and disposal of the spilled material, and notifies the asset owner of any necessary site remediation, following [PW-WW-CR-EM-P-012-SP01-002](#)

5.4 Internal Spills -Third Party Summarized in Appendix 2.

- 5.4.1 In the event that HW Staff identify that a spill has occurred as a result of a third party working on a HW project, but the person having control of the spilled substance or the person who caused or permits the spill is not on-site/available, HW Staff and/or HW business unit with operating control takes control of the spill (as outlined in Appendix 1). HW Staff to respond by following all steps outlined in this procedure as if it was caused directly by HW operations.
- 5.4.2 Upon receiving notification **related to** a third party working on a HW **project (while present)**, the HW staff member in charge of the project ensures that:
 - The person responsible for the spill has notified SAC, verifying that such notification has in fact been made; and
 - The person responsible for the spill has notified the COH Spills Reporting Line, verifying that such notification has in fact been made; and
 - The person or third party responsible for the spill coordinates the containment and clean-up of the spilled substance(s) and the remediation of affected areas; and where necessary, the HW staff member in charge of the project takes action to prevent, eliminate, and ameliorate any adverse effects and to restore the surrounding area in accordance with COH policies and procedures through a suitable sourced contractor. EME assistance may be requested as required.
 - The third party working on a HW project may be requested to submit a report to meet MOE requirements for spill reporting and/or requirements of the City Sewer Use By-Law.

5.5 External Spills - EME Assistance Required

- 5.5.1 In the event that COH staff report via COH Spills Reporting Line that a spill has occurred as a result of a third party working for the COH (not associated with HW operations), and the call is triaged to EME for incident investigation, EME will ensure

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that:

- Report to SAC as required.
- The person having control of the spilled substance or the person who caused or permits the spill is contacted and made aware of the situation.
- Ensures the person responsible for the spill coordinates the containment and clean-up of the spilled substance(s) and the remediation of affected areas; and where necessary, acts to prevent, eliminate, and ameliorate any adverse effects and to restore the surrounding area in accordance with COH policies and procedures through a suitable sourced contractor.
- Ensures any impacted third parties are notified of spill incident.
- The third party working on a COH project may be requested to submit a report to meet MOE requirements for spill reporting and/or requirements of the City Sewer Use By-Law.
- Enforce the City's Sewer Use Bylaw (as required)
- EME to coordinate immediate clean-up, EME will notify appropriate COH department or HW section responsible for impacted asset for remediation.

5.5.2 If a resident, business, MOE, Conservation Authority or any other third-party report via COH Spills Reporting Line that a spill has occurred and the call is triaged to EME for incident investigation, EME will ensure that:

- Report to SAC as required.
- The person having control of the spilled substance or the person who caused or permits the spill is contacted and made aware of the situation.
- Ensures the person responsible for the spill coordinates the containment and clean-up of the spilled substance(s) and the remediation of affected areas; and where necessary, acts to prevent, eliminate, and ameliorate any adverse effects and to restore the surrounding area in accordance with COH policies and procedures through a suitable sourced contractor.
- The person having control of the spilled substance or the person who caused or permits the spill submit a report to meet requirements of the City Sewer Use By-Law (typically related to IC&I sectors)
- Enforce the City's Sewer Use Bylaw (as required)

5.5.3 When EME are activated by CCC to provide support for a spill, EME staff will assume responsibility for all immediate communications with the MOE, other government agencies, spill clean-up contractors, and consultant companies (as appropriate).

5.5.4 EME staff initiate a preliminary investigation of the spill via telephone, or by visiting the site of the spill, following the **EME Spills Response Procedure PW-WW-CR-EM-P-**

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012-SP01-002.

- 5.5.5 EME staff assess the potential for the spilled material to impact a COH WTP, WWTP, the WD&WWC system, a natural body of water, an IPZ or a WHPA:
- 5.5.6 EME staff develops and implements a plan to characterize the spilled material and/or impact by collecting samples (if necessary), following [PW-WW-CR-EM-P-012-SP01-002](#).
- 5.5.7 EME staff ensures the clean-up and disposal of the spilled material, and notifies the asset owner of any necessary site remediation, following [PW-WW-CR-EM-P-012-SP01-002](#).

5.6 Involvement of the HW Director

- 5.6.1 The HW Director reviews the details of the spill as provided by the C&R Manager and decides whether an SRT needs to be initiated.
- 5.6.2 The HW Director notifies Leadership Teams (as required).
- 5.6.3 If an SRT is initiated, the HW Director delegates the coordination of the containment/clean-up of the spilled material, and/or the remediation of the affected area to the most appropriate HW section manager or business unit lead. The SRT provides support and expertise to the HW Director to facilitate this end.
- 5.6.4 Should an SRT not be initiated, the HW section/unit with control of the spilled material coordinates containment/clean-up of the spilled material, and remediation of affected area(s). EME assistance may be requested as required.

5.7 Cost Recovery

- 5.7.1 Invoices for work related to internal spill are forwarded to HW Staff or HW business unit having control of spill as appropriate. Clean-up is the **immediate** action to stop the spill whether at operational level (closing valves) or preventing the spill from reaching any further (booms and berms) or having EME coordinate vacuum trucks to clean up contaminant.
- 5.7.2 **Invoices for work related to external spill for immediate clean up are covered by EME and a cost recovery package is sent to the appropriate party through Risk Management. Remediation and associated costs are the responsibility of the asset owner and may be recovered through cost recovery with Risk Management.**
- 5.7.3 Remediation is the process of returning the site to its original condition after the immediate spill has been cleaned.

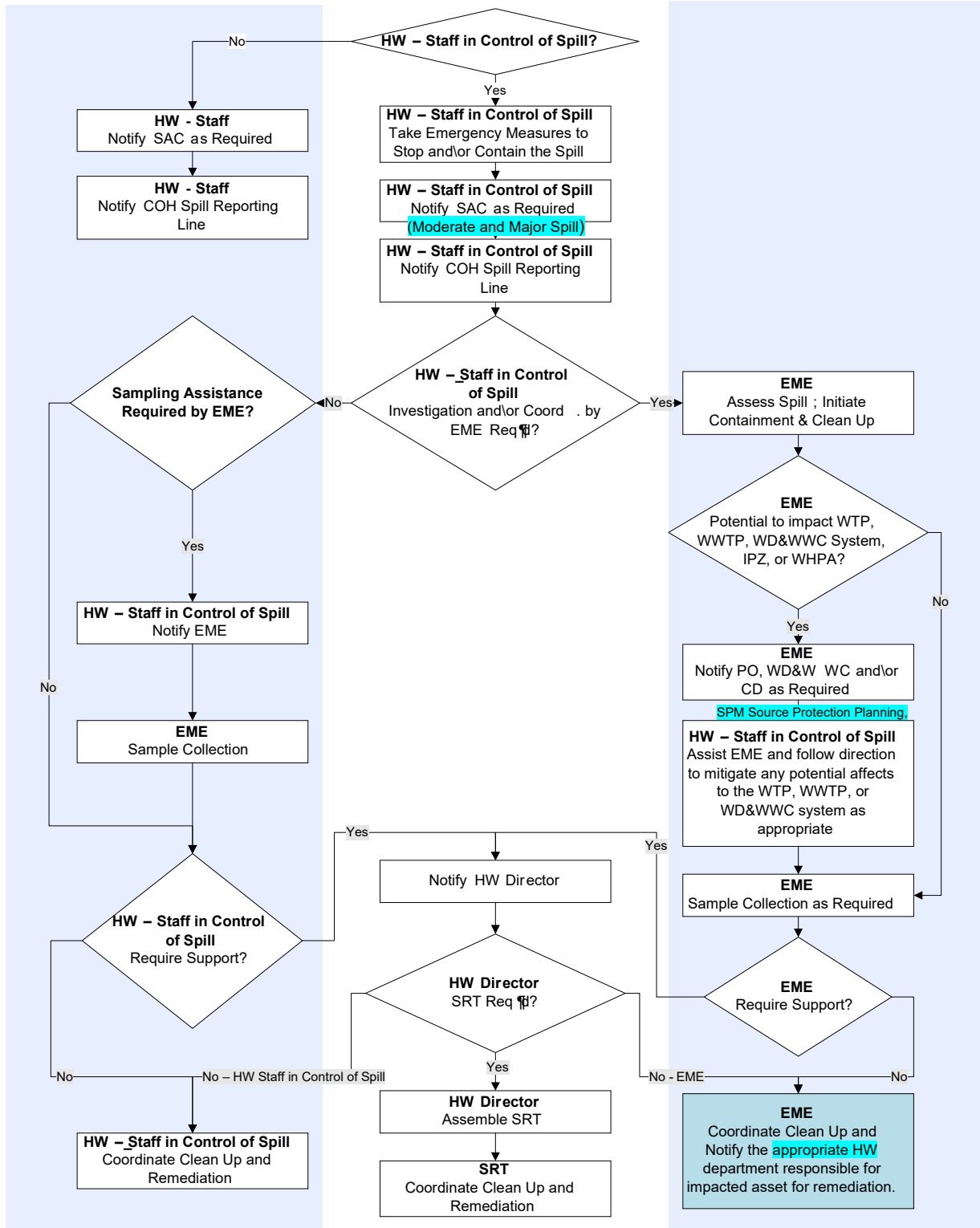
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6 ASSOCIATED DOCUMENTS

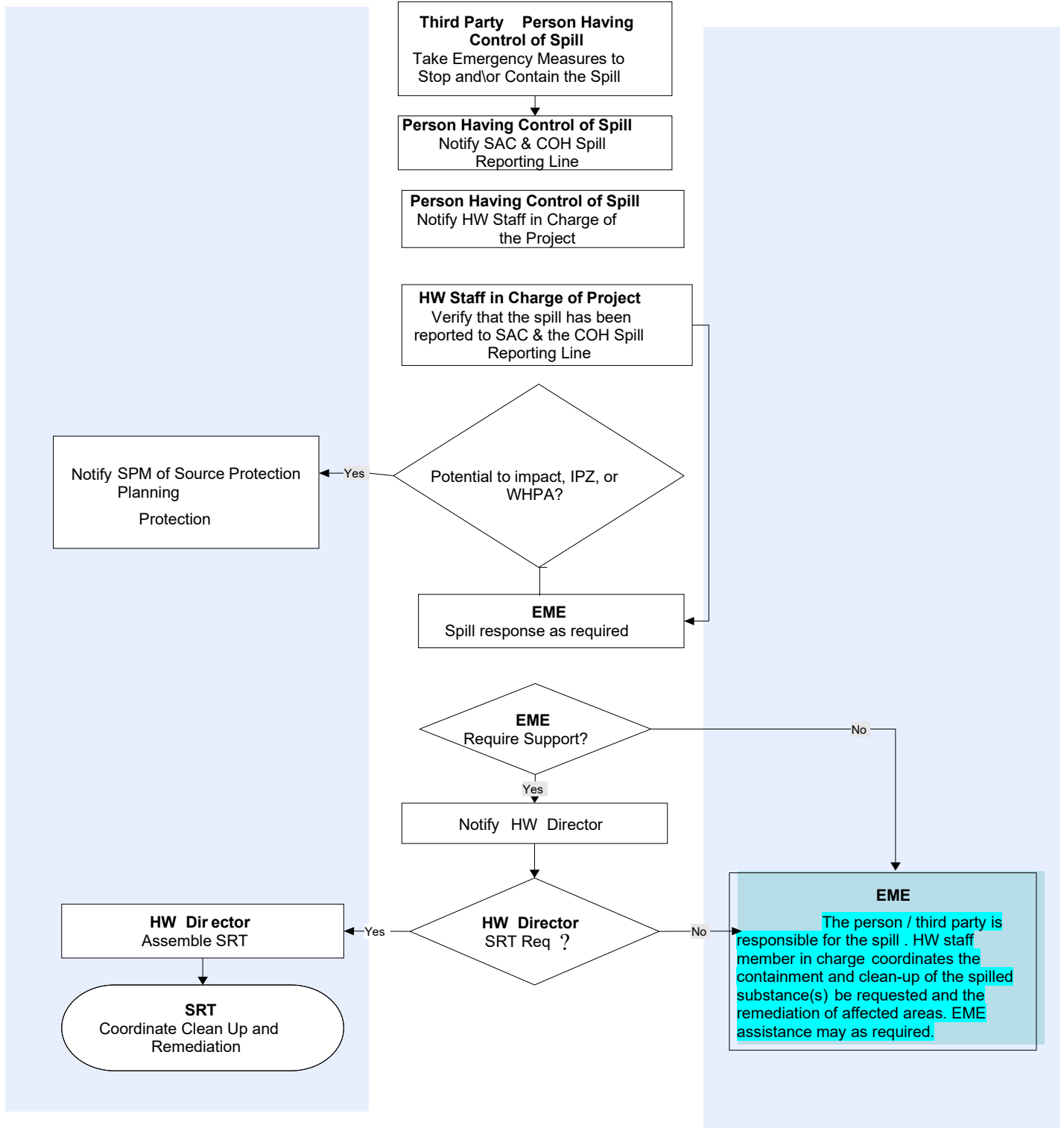
- BCOS Emergency-Sewage Collection System Spills PW-WW-DC-WC-P-012-005
- COH Media Relations Policy
- COH Purchasing Policy By-law 20-205 ,
- EME Spills Response Procedure PW-WW-CR-EM-P-012-SP01-002
- Environmental Protection Act, R.S.O. 1990, c. E. 19
- Halton-Hamilton Source Protection Plan
- Grand River Source Protection Plan
- Niagara Source Protection Plan
- Intake Protection Zones and Well Head Protection Areas Visual Aid PW-WW-V-012-009
- MOE Spills Reporting – A Guide to Reporting Spills and Discharges
- Spills Emergency Procedure – Plant Operations PW-WW-PO-P-012-0000-005
- Chemical Hygiene Plan PW-WW-CR-EL-P-019-065
- SLA between CCC and HW
- Notifications and Response to Reported Algae/Cyanobacteria Events PW-WW-P-008-011
- Sewage Spills Communication Plan PW-WW-P-012-018 (Under development)

BCOS software tracks the revision history of document.

Appendix 1 Internal Spills - Spills Coordination Decision Matrix



Appendix 2 Internal Spills – Third Party Involvement Spills Coordination Decision Matrix



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1 PURPOSE

The purpose of this procedure is to outline the Hamilton Water Division's communication process, related to water, **stormwater** and wastewater programs and processes, with external (i.e. person's from outside of COH) regulatory and other external environmental stakeholders.

2 SCOPE

This procedure applies to the Hamilton Water Division of the City of Hamilton.

3 DEFINITIONS

AWQI	Adverse Water Quality Incident. Any situation where the drinking water in the system (treatment/distribution) does not meet the requirements listed in O. Reg. 170 Schedule 16
BCOS	Beyond Compliance Operating System – Environmental, Health and Safety Management System for the Hamilton Water Division. BCOS is an umbrella system to the Environmental Laboratory QMS, DWQMS and WWQMS sub-systems.
BLT	BCOS Lead Team. Includes SMR, Compliance Support Group, staff representatives (QA Supervisors or equivalent) from the Hamilton Water Division.
CD	Capital Delivery Section
CALA	Canadian Association for Laboratory Accreditation – a not-for-profit Canadian laboratory accreditation body. CALA delivers laboratory accreditation in the fields of environmental, food, mineral, petroleum testing, cannabis and sampling . Accreditation is based on site assessments to international standards.
CHEL	City of Hamilton Environmental Laboratory

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CHEL QMS	City of Hamilton Environmental Laboratory (CHEL) Quality Management System (QMS). CHEL is accredited to ISO/IEC 17025 – general requirements for the competence of testing and calibration laboratories for specific tests which are listed in their scope of accreditation. If testing laboratories comply with the requirements of ISO/IEC 17025, they operate a QMS for their testing activities that also meets the principles of ISO 9001.
COH	City of Hamilton
COH Documents	Documents originating from within the City of Hamilton
C&R	Compliance and Regulations Section
CS&CO	Customer Service and Community Outreach Section
Development Engineering Section	The Development Engineering Section of the Planning and Economic Department
DWQMS	Drinking Water Quality Management System
DWWP	Drinking Water Works Permit - Drinking Water System Permit issued by MOE
DWS	Drinking Water System
ER/ERO	Environmental Registry of Ontario
ECA	Environmental Compliance Approval
EME	Environmental Monitoring & Enforcement Unit
EQH&S	Environment, quality, health and safety
ES	The Engineering Services Division of the Public Works Department
External Stakeholders	External stakeholders are not COH employees. They include people and organizations with a vested interest in the activities, products and services provided by the HW Division including customers/public, suppliers, regulatory bodies, industry/local businesses and residential neighbours.
Form 1	Record of Watermain Authorized as a Future Alteration
Form 2	Record of Minor Modification or Replacement to the DWS

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Form 3	Record of Addition, Modification or Replacement of Equipment Discharging a Contaminant of Concern to the Atmosphere
Hamilton Water - HW	The Hamilton Water Division, which is the water, wastewater and stormwater Operating Authority for the City of Hamilton
HW-SMT	The Hamilton Water Senior Management Team includes the Directors & Section Managers of the Hamilton Water Division.
HW-SMT Legal Update	An internal communication document provided to BLT and HW-SMT members. It may contain legislative proposals/updates, new/modified legislation, updates on regulatory approvals/inspections/audits etc.
Internal Stakeholders	HW Division employees and other COH employees
MDWL	Municipal Drinking Water Licence – Drinking Water System Licence issued by MOE
MMAH	Ministry of Municipal Affairs and Housing
MOE	Ontario Ministry of Environment as amended (i.e. Ministry of Environment (MOE), Ministry of Environment and Energy (MOEE), Ministry of Environment and Climate Change (MOECC), Ministry of Environment, Conservation and Parks (MECP))
Non-compliance	Non-fulfillment of a relevant legal requirement of federal or provincial environmental and health and safety laws.
Non-conformance	Non-fulfillment of the requirements of the approved EQH&S Standards, policies and/or procedures for the BCOS System. In the case of vendors of essential supplies and services, non-fulfillment of contract requirements.
OHS	Occupational Health and Safety
Owner (AWQI)	Manager of C&R Section (owner for the purpose of adverse water quality notifications) or Superintendent of CHEL or designate (Owner backup)

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Owner (DWS /WWS)	Every person who is a legal or beneficial owner of the City's DWSs and WWSs. Since the City's DWSs and WWSs are publicly owned and operated, the Mayor and Council of the City of Hamilton have been identified as Owners of the City's DWSs and WWSs.
Owner Representative/Owner Designate	The Supervisor, Lab Services or designate
P&ED	Planning and Economic Development Department
PMATS	Plant Maintenance & Technical Services Section
PO	Plant Operations Section
Project Proponents	Those who propose to make alterations to the COH's water & wastewater systems and who prepare and submit Amendment Applications. Project Proponents may include: staff from the Planning & Economic Development (P&ED) Department and the HW Division. P&ED staff act as Project Proponents on behalf of private developers.
PTTW	Permit to Take Water issued by the MOE
QA	Quality Assurance (staff): Staff who are responsible for maintaining quality within HW's Quality Management Systems. e.g. Sectional Quality Assurance Analyst, Quality Assurance Supervisor etc. Quality Assurance (process): Planned and systematic pattern of actions necessary to ensure that management and technical controls are being followed.
Regulators/Regulatory Bodies	Regulatory bodies which oversee activities, products and services of the HW Division including Ministry of the Environment (MOE), Ministry of Labour (MOL), Public Health Services (PHS) and others
SMR	Systems Management Representative (for the BCOS, DWQMS and WWQMS Systems) - Manager of Compliance and Regulations Section. Equivalent to QMS Representative as described in the DWQMS Standard.
Top Management (DWQMS / WWQMS)	The DWQMS and WWQMS Top Management has been identified as: the General Manager of Public Works and the Director of Hamilton Water Division.
WM	Watershed Management

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WWS	Wastewater System
WWQMS	Wastewater Quality Management System
WWWSP	Water & Wastewater Systems Planning Section

4 RESPONSIBILITY

4.1 Director, Hamilton Water or Designate

- Communicates vital information to Top Management and Owner regarding external environmental regulatory requirements and reports back to staff.
- Communicates with Hamilton Water staff regarding any decisions/feedback related to the DWQMS, WWQMS and BCOS made by the Owner or Top Management in relation to external regulatory and other requirements. Responsible for decisions regarding MOE inspection and/or investigation processes.
- Notifies Council of any Federal and Provincial Orders.
- Responsible for ensuring Federal and Provincial Orders are posted in locations that may be specified in the Order.
- Inform the General Manager of any identified imminent risk to human health or safety in the community and provide details on recommendations from consultant and mitigation plans as available.

4.2 Hamilton Water Directors and Section Managers or Designate

- Ensure that technical information required by regulatory bodies is provided by staff to appropriate internal and external stakeholders in a timely manner.
- Ensure that the SMR is informed of new documentation and developments relating to regulatory communications.
- Communicate information regarding external regulatory activities to supervisors within their respective sections.
- Orders, communications and/or requests for information from regulators shall be copied to the SMR and CSG.
- When advised of any imminent risks to human health or safety in the community by a consultant, ensure that all identified risks are communicated immediately to their direct Supervisor or designate and the Director of their division.
- Directors will inform the General Manager of the Department of the identified imminent risk to human health or safety in the community and provide details on recommendations from consultants and mitigation plans as available.

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4.3 Manager CS&CO

- Oversees community outreach communications and events, educational and promotional materials (i.e. fairs, presentations, brochures, signs, public notices (excluding media releases), program and project marketing, electronic marketing etc.) related to the DWQMS, **WWQMS** and BCOS systems.

4.4 Manager C&R

- Acts as System Management Representative (SMR) for the BCOS, **WWQMS** and DWQMS systems, as described in the Roles, Responsibilities and Authorities Matrix (PW-WW-G-006-001), and as such, ensures that staff, management and members of council are informed of interactions with regulatory bodies, as they relate to this role **in the above systems**.
- **Acts as owner representative of the Operating Authority for COH DWSs and WWSs.**
- Oversees CSG to ensure activities related to inspections, approvals related to alterations to MDWLs, DWWPs, ECAs or Permits to Take Water are undertaken.
- Oversees compliance to EQH&S legal requirements related to Hamilton Water sections.

4.5 Senior Regulatory Coordinator

- Assists the SMR with compliance support and external communications related to the BCOS, **WWQMS** and DWQMS systems.
- Oversees activities of CSG related to external communications with the MOE and other regulatory stakeholders.

4.6 CSG

- Provides the public with access to the DWQMS **and WWQMS** Operational Plan Summary Report and Financial Plan, and updates information as required.
- Coordinates the maintenance of MOUs and associated documents with other municipalities **and hospitals**.
- **Participates in the preparation, submission and distribution of the Annual Drinking Water Report to public and Council as per Preparation of Annual Drinking Water Report to Public and Council PW-WW-P-004-005**
- Coordinates the review of requested documentation for MOE drinking water inspections.
- Uploads records to BCOS as necessary.
- Logs recommendations and non-compliances in the Audits & Inspection application of the BCOS database.

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- Enters, assigns, and maintains legal tasks for regulatory reports in the BCOS database.

4.7 CHEL

- Provide data to assist CSCO with compilation of O. Reg. 170/03 Section 11 Annual Drinking Water Quality Reports and the Schedule 22 Annual Summary Report
- Distribute O. Reg. 170/03 Section 11 Annual Drinking Water Quality Report for the Woodward DWS and the Schedule 22 Annual Summary Report to Halton Region and Haldimand County.

4.8 CS&CO

- Participates in the preparation, submission and distribution of the Annual Drinking Water Report to public and Council as per Preparation of Annual Drinking Water Report to Public and Council PW-WW-P-004-005
- Makes available to the public the Operational Plan Summary Reports (PW-WW-R-001-002 and PW-WW-R-001-003), the Financial Plan, the DWQMS and WWQMS Policy (PW-WW-R-002-002 and PW-WW-R-002-003).

4.9 WWWSP

- Completes and submits regulatory reports (e.g. as per ECA conditions) and assigned legal tasks within the BCOS database.

4.10 EME

- Prepares and makes available to the public and other stakeholders (e.g. contractors, industry, regulatory agencies) information related to spills, environmental enforcement and pollution prevention.
- Completes and submits regulatory reports as per the legal tasks within the BCOS database.

4.11 CD

- Prepares and makes available to others (e.g. special interest groups, regulatory bodies) information related to Hamilton Water large capital projects.
- Applications and amendments to regulatory bodies will be managed by the respective project manager.

4.12 PO

- Coordinates on-site MOE inspections.
- Working in coordination with CSG, to amend any license or ECA/CofA changes requested or required.

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- Completes and submits regulatory reports as per the legal tasks within the BCOS database.

4.13 PMATS

- Applications and amendments to regulatory bodies will be managed by the respective project manager.
- Completes and submits regulatory reports as per the legal tasks within the BCOS database.

4.14 WD&WWC

- Coordinates on-site MOE inspections.
- Applications and amendments to regulatory bodies will be managed by the respective project proponent e.g. project manager.
- Prepares and makes available to others (e.g. special interest groups, regulatory bodies) information related to stormwater management as required or as requested.

4.15 WM

- Prepares and makes available to others (e.g. special interest groups, regulatory bodies) information related to Hamilton Water environmental assessments.
- Prepares and makes available to others (e.g. special interest groups, regulatory bodies) information related to Hamilton Water source water protection.

4.16 All Staff

- Communications and/or requests for information from regulators shall be copied to the SMR and CSG.
- When advised of any imminent risks to human health or safety in the community by a consultant, ensure that all identified risks are communicated immediately to their direct Supervisor or designate.
- Responsible to follow this procedure and submit change requests as required.

5 PROCEDURE

5.1 Public

- 5.1.1 CSG makes the DWQMS Operational Plan Summary Report Binders available to the public at select COH locations, as indicated in the Document Control Application of the BCOS Database. The DWQMS Operational Plan Summary Report is also available on the COH website.



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- 5.1.2 The Communications section of the City Manager's Office (via webrequest@hamilton.ca) posts (electronically) annual Water Quality Reports pursuant to Section 11 of O. Reg. 170/03 on the City of Hamilton Website.
- 5.1.3 The SMR or Director of Hamilton Water or designate informs CS&CO – O&E of Regulatory Orders. Upon notification, CS&CO – O&E posts the Orders on the City Website. CS&CO – O&E notifies Members of Council of the new orders posted to the City's website via email at the time of posting. Upon closure, the SMR informs CS&CO – O&E to update the status of the posting on the City Website.
- 5.1.4 CS&CO – O&E prepares letters, newspaper notifications, flyers etc. for public/community events and displays as relevant.
- 5.1.5 Information about responding to customer complaints is provided in the following Level V procedures: DWQMS – Scheduler/Dispatcher – Water Quality (PW-WW-CS-CS-P-011-003) and BCOS + DWQMS Water Quality Complaints (PW-WW-DC-WD-P-024-004).
- 5.1.6 Information on general communication with the public is provided in the following Level IV procedure: CS&CO Internal and External Communication (PW-WW-CS-P-008-003).
- 5.1.7 Information on all HW related correspondence with the public (except for Public Service Notices managed by Public Health Services, and Media Advisories / Media Releases / Social Media Releases are managed by the Communications Officer) can be found in Process for Issuing External Communications with the Public PW-WW-P-008-010.
- 5.1.8 Information related to spills, environmental enforcement and pollution prevention is prepared by EME and made available to the public and other stakeholders (e.g. contractors, industry, and regulatory agencies) as required.
- 5.1.9 Information related to stormwater management is prepared by WD&WWC and is made available to others (e.g. special interest groups, regulatory bodies) as required or as requested.
- 5.1.10 Information related to Hamilton Water environmental assessments is prepared by WWWSP and is made available to others (e.g. special interest groups, regulatory bodies, and Council) as required.
- 5.1.11 Information related to Hamilton Water source water protection is prepared by WM and is made available to others (e.g. special interest groups, regulatory bodies and Council) as required.
- 5.1.12 Information related to Hamilton Water large capital projects is prepared by CD and is made available to others (e.g. special interest groups, regulatory bodies) as required.



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5.2 Suppliers

5.2.1 Communication with essential suppliers is carried out according to the Essential Supplies and Services Procedure (PW-WW-P-035-001).

5.3 Other Municipalities

5.3.1 Memorandums of Understanding and Agreements are in place with the Town of Grimsby, the Region of Halton and Haldimand County. These MOUs are in place to facilitate emergency communication in the event of a water quality incident in one municipality that could affect water quality in the neighbouring municipality.

5.3.2 Contact lists for MOUs are created as separate documents. Contact information is reviewed and updated annually. The communication procedures are reviewed and updated every two years. The MOU is updated as necessary, both may be updated more frequently, as required.

5.3.3 Section 11 Annual Water Quality Report for the Woodward DWSs and the Schedule 22 Summary Report are sent to Halton Region and Haldimand County as required by O. Reg. 170/03 as per Preparation of Annual Drinking Water Report to Public and Council PW-WW-P-004-005.

5.4 MOE Inspections

5.4.1 The MOE notifies Hamilton Water staff of upcoming inspections (announced and unannounced). Staff from PO and WD&WWC coordinate any associated on-site inspections.

5.4.2 CSG coordinates the review of requested documentation including the facilitation of associated meetings, as required. CSG distributes the list of required documentation to Sectional Managers, BLT, and relevant staff. Each affected Section Manager or designated staff provides CSG with the required documentation within the required time frame. The Section Manager or designate undertakes a quality assurance review of the information to be submitted to the MOE.

5.4.3 CSG compiles all information received and follows up with the respective sections if additional information is requested/required. CSG reviews the information for submission to ensure documentation requested by the MOE has been provided.

5.4.4 CSG sends completed information packages to the MOE and maintains a duplicate copy. Select files are stored electronically in the BCOS Database. The location of hard copies is tracked with a record profile in the Environmental Records application of the BCOS Database.



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5.5 MOE Inspection Reports

- 5.5.1 MOE draft Inspection Reports are forwarded to HW-SMT and BLT for review. CSG consolidates comments on the draft report and submits them to the MOE, copying applicable staff.
- 5.5.2 The MOE Final Inspection Report is uploaded to the BCOS database and distributed to HW-SMT and BLT. Recommendations and Non-compliances are logged through the Audits & Inspection application of the BCOS database in accordance with Non-conformance, Corrective & Preventive Action Process, PW-WW-P-015-002. They are assigned to applicable staff in consultation with their Section Managers and/or sectional QA staff.
- 5.5.3 Formal communications regarding inspection reports are uploaded into BCOS.

5.6 Regulatory Orders

- 5.6.1 Upon receipt of a Regulatory Order, the SMR immediately notifies the Director of Hamilton Water and other applicable Directors. The Director of Hamilton Water notifies the General Manager of Public Works.
- 5.6.2 The SMR, Director of Hamilton Water, and Senior Regulatory Coordinator will seek advice from the Legal Services Division, as required.
- 5.6.3 The Senior Regulatory Coordinator or designate facilitates the collection of data in response to the Order in a Solicitor Client Privileged folder on the Network drive.
- 5.6.4 Responses to the Order are reviewed by the Legal Services Division prior to submission to regulator.
- 5.6.5 The SMR may review and update the status of orders (including closure) as needed.

5.7 MOE Drinking Water and Wastewater System Approvals

- 5.7.1 Communications between the COH and the MOE regarding DWS approvals are described in DWQMS Approvals Process for Alterations of Drinking Water Systems (PW-WW-P-004-001).
- 5.7.2 MDWLs are renewed every five years. CSG coordinates the licence renewal process with the MOE in consultation with the SMR and relevant HW-SMT managers.
- 5.7.3 Communications between the COH and the MOE regarding wastewater system approvals are described in BCOS Alterations to Wastewater Systems (PW-WW-P-004-006 – under development).



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5.7.4 CSG uploads amended documents and distributes the document to HW-SMT, BLT and any other relevant staff.

5.8 MOE Permits to Take Water

5.8.1 Communications between the COH and the MOE regarding Permit to Take Water applications are described in DWQMS Approvals Process for Alterations of Drinking Water Systems (PW-WW-P-004-001).

5.8.2 New PTTW applications are prepared by relevant Hamilton Water Division sections. The completed application packages are submitted to the SMR for verification and signature as the DWS Owner Representative.

5.8.3 PTTW renewal applications must be submitted 90 days prior to the expiration date of the existing permit. CSG assigns a task in the BCOS Database to notify relevant staff in advance of the submission dates.

5.8.4 New Permits to Take Water are uploaded and distributed by CSG to HWSMT, BLT, and other relevant staff.

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5.9 Communication with MOE

5.9.1 The table below identifies SMR notification requirements for communication with MECP:

Description	Type of Communication	Originated From	One Window to/from SMR?	SMR Cc'd	Who Sends to MOE	Who uploads to BCOS?
Licence/DWWP	Renewal Application, and Amendment	CSG, CD	Y	N/A	CSG	CSG
Form 1	Owner Verification	P&ED, ES	N/A	N	N/A	WWWSP
Form 2 & 3	Owner Verification	CD, PO, PMATS	Y	Y	N/A	CSG
PTTW - Woodward	Renewal Application	PO	Y	Y	PO	CSG
PTTW - Wells	Renewal Application	WM	Y	Y	WM	CSG
ECA	New Application	CD, WUP	Y	Y	CSG, WUP	CSG
ECA	Amendment	CD, WUP	Y	Y	CSG, WUP	CSG
Comments on PTTW Application which may affect source water of Hamilton DWS	Correspondence	WM	N/A	Y	N/A	

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Description	Type of Communication	Originated From	One Window to/from SMR?	SMR Cc'd	Who Sends to MOE	Who uploads to BCOS?
MECP DWS Inspections	Data submission	CSG	N/A	N	CSG	CSG
MECP DWS Inspections	Draft/Final Report	CSG	N/A	Y	CSG	CSG
Lab Technical Updates/Direction	Email/Bulletin	CHEL	N/A	N	CHEL	CHEL
Lab Licencing/Licence Amendments	Email	CHEL	N/A	N (FYI email after approval)	CHEL	CHEL
Spill Reporting	Phone Call	EME	N/A	N	EME - EEO	N/A
Spill Incident Detail Request(s)	Phone Call / Email Communication from MECP	EME	N/A	Y	CSG	
Community Lead Owners Spreadsheet to MECP	Email	EME	N/A	Y	EME -PM-RM	EME

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Description	Type of Communication	Originated From	One Window to/from SMR?	SMR Cc'd	Who Sends to MOE	Who uploads to BCOS?
Corrosion Control Annual Report - Evaluating effectiveness of corrosion control measures	Email	EME - PMRM with support from C&R	N/A	N/A	(SMR)	CSG
DW sampling / CCP information Request(s)	Phone Call / Email Communication from MECP or CSG	EME	N/A	Y	CSG	CSG
AWQI Reporting	Phone call	CHEL	N/A	Notified verbally/text	CHEL	CHEL
Bypass reporting (New)	Email	Process Supervisor Public Health Inspector	N/A	Y	Process Supervisor	CSG
Annual HW/MECP Meeting	Meeting Minutes	CSG	N/A	Y	CSG	CSG

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5.10 Regulatory Reports

5.10.1 Regulatory reports are completed and submitted as per the legal tasks within the BCOS database.

5.11 Legislative Proposals and Consultations

5.11.1 CSG reviews legislative postings that relate to water and wastewater programs and processes and notify relevant HW-SMT managers and staff of postings. CSG or other staff, if appropriate, coordinate comments in consultation with relevant HW-SMT managers and provide responses, as required. Formal communications regarding legislative postings and responses are uploaded into BCOS.

5.12 Adverse Water Quality Incidents in Drinking Water Systems

5.12.1 The Adverse Water Quality Incidents (AWQIs) and Corrective Actions procedure (PW-WW-P-015-001) documents the communication requirements relating to an adverse water quality event. Relevant records are uploaded in the BCOS Database.

5.13 Hospitals

5.13.1 The SMR ensures that Hamilton Health Sciences Corporation (HHSC) and St. Joseph's Healthcare Hamilton (SJHH) is notified of circumstances listed in the Hamilton Health Sciences Corporation, St. Joseph's Healthcare Hamilton and Public Works Memorandum of Understanding including events relating to the potential or actual water reduction or complete loss of water to any of the HHSC (General, Juravinski, McMaster, St Peter's) or SJHH (Charlton, King, West 5th, West End Clinic/Urgent Care Centre) sites.

5.14 Ministry of Municipal Affairs and Housing (MMAH)

5.14.1 The SMR ensures that the MMAH is provided a copy of the Council-endorsed Financial Plan as per deadlines specified in [O. Reg. 453/07 s.2](#).

5.14.2 [CS&CO – O&E](#) facilitates access to the Financial Plan through the COH website, and places notices in newspapers. The Financial Plan is also available for viewing on the DWQMS website. [Hamilton Water Storefront](#) provides free copies to the public upon request.

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5.15 Ministry of Labour

5.15.1 The COH Health, Safety and Wellness group has established corporate and Public Works OHS procedures including those related to critical accident reporting (Critical Injury Investigation and Reporting Procedure - COH-RQ-WI-024).

5.15.2 The MOL may visit the workplace, conduct onsite inspections, and/or issue an Order/Requirement/Notice. If this occurs, staff shall follow the corporate Safety Guideline Ministry of Labour Workplace Visits and Powers of Inspectors COH-RQ-GD-030.

5.15.3 Upon receipt of a MOL Order, the respective director and manager immediately notifies the Hamilton Water Leadership Team who notifies the Director of Hamilton Water as per Sec 5.6.

5.15.4 The respective manager performs a root cause analysis and ensures corrective and preventative actions are completed to ensure timely closure of the Order.

5.15.5 CS&CO – O&E notifies Members of Council of the new orders posted to the City's website via email at the time of posting as per Sec 5.1.3.

5.16 Accreditation/Licencing Bodies

5.16.1 CHEL coordinates all communications to/from CALA as pertains to the lab accreditation.

5.16.2 CHEL coordinates all communications to/from the MOE as pertains to the lab licencing.

5.16.3 The SMR or delegate coordinates communication with the DWQMS Accreditation Body.

5.16.4 CSG initiates contact with the DWQMS Accreditation Body in advance of third-party audits and ensures that all required documentation is provided. The SMR, together with other members of HW-SMT, initiates appeals as warranted by audit results.

5.17 Project Applications

5.17.1 Applications and amendments to regulatory bodies will be managed by the respective project manager.

5.17.2 Project managers will notify developers of requirements of the MDWL and DWWP as required.

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5.18 Distribution of Federal and Provincial Orders

5.18.1 Upon receipt of a Federal or Provincial Order, the respective director and manager immediately notifies the Hamilton Water Leadership Team who notifies the Director of Hamilton Water as per Sec 5.6.

5.18.2 Staff shall follow Procedure for Distribution of Federal and Provincial Orders (CM20001) (City Wide) when any federal and/or provincial ministry or provincial officer orders are received by management/staff, the actual orders or copies of the orders are to be immediately forwarded to City Council and such orders or copies of orders are to be displayed in a prominent place on the City web site and at the site of the incident as per Sec 5.1.3.

5.19 Sharing of Consultant Reports with Identified Imminent Risks to Human Health or Safety

5.19.1 Staff shall follow Procedure for Sharing of Consultant Reports with Identified Imminent Risks to Human Health or Safety (HUR20002) (City Wide), where City staff receive a report from a consultant that identifies an imminent danger to human health or safety, the City Manager will ensure that information is promptly and appropriately shared with Council.

5.20 Spill Notification Stakeholders

5.20.1 If a sewage spill is deemed to originate from Hamilton Water infrastructure, the communication protocol *Sewage Spills Communication Plan, PW-WW-P-012-018* will be followed. Actions taken and stakeholders notified will be based on the magnitude of the spill. Examples of stakeholders are Public Health, residents, Public Works General Manager, Senior Leadership/Council, the media, Hamilton Harbour Remedial Action Plan Partners, Indigenous Nations and conservation organizations. Examples of notifications are emails, resident notifications, webpage updates, media releases, press conferences, social media updates and COH E-newsletter updates. Types of communication and stakeholders to be notified are delineated in the "Procedure PW-WW-P-012-018 Sewage Spills Communication Plan" and are based on the spill scenario.

6 ASSOCIATED DOCUMENTS

Adverse Water Quality Incidents (AWQIs) and Corrective Actions, PW-WW-P-015-001

Control of Documents, PW-WW-P-010-001

Control of Records, PW-WW-P-016-001

Internal Communications, PW-WW-P-008-001

Roles and Responsibilities, PW-WW-P-006-001

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BCOS Principles, PW-WW-R-002-001

Legal and Other Requirements, PW-WW-P-004-004

DWQMS Approvals Process for Alterations of Drinking Water Systems, PW-WW-P-004-001

DWQMS Operational Plan Summary Report PW-WW-R-001-002

DWQMS – Scheduler/Dispatcher – Water Quality PW-WW-CS-CS-P-011-003

BCOS + DWQMS Water Quality Complaints PW-WW-DC-WD-P-024-004

Essential Suppliers and Services, PW-WW-P-035-001

DWQMS Management Review, PW-WW-P-018-001

DWQMS Operational Plan Manual - CSG PW-WW-M-001-001

DWQMS Operational Plan Summary Report Binders PW-WW-M-001-002, 003

DWQMS Policy, PW-WW-R-002-002

Memorandum of Understanding Between City of Hamilton Water and Wastewater Division and Town of Grimsby Public Works Staff

DWQMS Operational Communication Between City of Hamilton & Town of Grimsby-Water Supply or Water Quality Incident, PW-WW-P-008-005

Extended Contact List - DWQMS Operational Communication Between City of Hamilton and Town of Grimsby - Water Supply or Water Quality Incident, PW-WW-L-008-001

Agreement-2012 March 9-Communication Protocol between the City of Hamilton & the Region of Halton (Signed Copy)

Contact List: Operational Communication Between Hamilton & Halton - Emergency Situations, PW-WW-L-008-002

Operational Communication Between Hamilton & Halton - Emergency Situations, PW-WW-P-008-004

Memorandum of Understanding Between City of Hamilton ESI Division and the Corporation of Haldimand County Environmental Services

DWQMS Operational Communication Between City of Hamilton & Haldimand County – Water Supply or Water Quality Incident, PW-WW-P-008-008

Extended Contact List - DWQMS Operational Communication Between City of Hamilton & Haldimand County – Water Supply or Quality Incident, PW-WW-L-008-003

Memorandum of Understanding Between Public Health Services and Public Works, Hamilton Water Division

BCOS Alterations to Wastewater Systems (PW-WW-P-004-006 - under development)

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Non-conformance, Corrective & Preventive Action Process PW-WW-P-015-002

Critical Injury Investigation and Reporting Procedure COH-RQ-WI-024

Safety Guideline Ministry of Labour Workplace Visits and Powers of Inspectors COH-RQ-GD-030

Roles, Responsibilities and Authorities Matrix PW-WW-G-006-001

Procedure for Distribution of Federal and Provincial Orders (CM20001) (City Wide)

Sharing of Consultant Reports with Identified Imminent Risks to Human Health or Safety (HUR20002) (City Wide)

Regulatory Lead Sampling Program PW-WW-P-013-009

CS&CO Internal and External Communication PW-WW-CS-P-008-003

SLA between CCC and HW

Process for Issuing External Communications with the Public PW-WW-P-008-010

Sharing of Consultant Reports PW-P-008-001

Preparation of Annual Drinking Water Report to Public and Council PW-WW-P-004-005

Communications & Strategic Initiatives Intake Form

Distribution of Federal and Provincial Orders PW-P-008-002 (in development)

Sewage Spills Communication Plan, PW-WW-P-012-018 (pending release)

BCOS software tracks the revision history of document.

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1 PURPOSE

Outline the roles and responsibilities of HW staff with regards to external communications, specifically public notices, direct mail, advertisements, brochures, policies and reports to residents or ICI customers.

2 SCOPE

This procedure refers to all HW related correspondence with the public **except for** Public Service Notices which are managed by Public Health Services. In addition, Media Advisories and Media Releases are managed by the Communications Officer.

3 DEFINITIONS

BCOS	Beyond Compliance Operating System – Environmental, Health and Safety Management System for the Hamilton Water Division. BCOS is an umbrella system to the Environmental Laboratory QMS, the DWQMS, and the WWQMS sub-systems.
BCOS Database	Electronic management system software provided by Intelx. Scope of software is EQH&S and meets the requirements of the BCOS standards.
CHEL	City of Hamilton, Environmental Lab
CS&CO	Customer Service and Community Outreach Section
DWQMS	Drinking Water Quality Management System
Hamilton Water (HW)	The Hamilton Water Division, which is the water, wastewater, and stormwater Operating Authority for the City of Hamilton.
ICI	Industrial, Commercial, and/or Institutional
IPS	Infor Public Sector (Formerly HANSEN). Departmental and cross-sectional modular software system, offering a variety of packages designed to handle different aspects of municipal operations such as infrastructure assets inventory, work management, stock inventory systems, service applications and call centers, licensing and enforcement.
O&E	Outreach & Education group within CS&CO

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PIC	Public Information Centre
PO	Plant Operations Section
PM	Project Manager
QA	Quality Assurance (staff): Staff who are responsible for maintaining quality within HW’s Quality Management Systems. e.g. Sectional Quality Assurance Analyst, Quality Assurance Supervisor etc.
Sectional Workspaces	Websites for individual Hamilton Water sections, providing links to key documents, records and other websites
SPM	Senior Project Manager
SME	Subject Matter Expert
SMR	Systems Management Representative (for the BCOS, DWQMS, and WWQMS Systems) - Manager of Compliance and Regulations Section. Equivalent to QMS Representative as described in the DWQMS Standard.
WD&WWC	Water Distribution and Wastewater Collection Section
WDO	Water Distribution Operators
WWQMS	Wastewater Quality Management System

4 RESPONSIBILITY

4.1 HW **Directors** and Sectional Managers

- Ensure that all staff follow this procedure
- Review and/or approve communications as required

4.2 **Manager, Compliance & Regulations**

- **One window to inform the MOE of any sensitive communications to the media or to Council.**

4.3 **SPM and PM, Outreach & Education (O&E)**

- Work with HW staff to ensure that there is consistency in the message and

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appearance (e.g., spelling, grammar and easy to understand language).

4.4 Quality Assurance Staff or designate

- Upload the required materials into the BCOS database and upload to the Sectional Workspaces as required

4.5 HW Staff

- Follow this procedure

5 PROCEDURE

5.1 Methods of External Communication

Table 5-1 lists examples of the types of communication that may be sent externally to the public. The list is not exclusive and is meant to serve as a guide to HW staff involved in distributing external communications. It also includes a summary of the review, approval, distribution and record keeping requirement for the various types of communication sent to the public. In the context of this table, recordkeeping refers to uploading into the BCOS database.

Address and/or location specific customer communications (i.e., letters) are uploaded to BCOS database by the CS&CO QA for O&E.

Advertisements are not upload as a record in BCOS currently. PM, O&E maintains a tracking sheet that consists of what ads run, where and the cost.

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Table 5-1: Methods of External Communications

Communication	Author	Reviewer	Approver	Public Distribution	BCOS Record Keeping
Adverse Water Quality Incidents (AWQI's) Documents (e.g., Boil Water Advisories)	PO and/or WD&WWC SME, in collaboration with PHS	Relevant Section's Quality Supervisor or equivalent and SMR	Director, HW or Director Water & Wastewater Operations	WD&WWC – WDO's	CSG or Applicable QA
Customer / Address Specific Regulatory Letter Templates	Applicable Section	SME and SMR	Manager of Applicable Section	CS&CO	Applicable QA or Designate (template only)
Advertisements: Newspaper or Magazine (e.g., Release of the Financial Plan, Annual DW Report , Hydrant Maintenance Program)	SME with help from O&E – CS&CO	Author, SME and O&E	Manager of Applicable Section	O&E	CHEL (Annual DW Report only)
PIC Notice	Applicable Section PM or designate	SPM or Equivalent	Section Manager	Applicable Section or O&E	Applicable Section QA, PM or Designate
Marketing Materials	SME, O&E	SME	Manager of Applicable Section	Applicable Section or O&E	Applicable QA or designate

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Communication	Author	Reviewer	Approver	Public Distribution	BCOS Record Keeping
CS&CO Letters & Templates (e.g., Meter Operation Letter Templates)	SME	Applicable Supervisor, Superintendent or SPM	Applicable Supervisor, Superintendent or SPM	Relevant Staff	CS&CO QA or Designate (Template only)
Other HW Section Letters (except CS&CO) (e.g., Construction Notices, Corrosion Control Plan)	SME	Section Manager or Senior Project Manager	Director, HW or Director of Water & Wastewater Operations or Director Water & Wastewater Planning & Capital	Hand delivered – Relevant Section Mail Out –O&E	Applicable Sections QA or designate.
Web Page Content	SME and/or O&E	SME	Relevant Section Manager	O&E, in conjunction with the Web Team	N/A
Website (i.e., DWQMS and WWQMS Policies, Water Quality Report)	SME	SME	Relevant Section Manager and SMR as applicable	O&E, in conjunction with the Web Team	Applicable QA or designate



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Communication	Author	Reviewer	Approver	Public Distribution	BCOS Record Keeping
Notification of Sewage Spill from HW Infrastructure. Depending on the spill scenario this may include emails, resident notifications, webpage updates, media releases, press conferences, social media updates and COH E-newsletter updates. See Sewage Spills Communication Plan PW-WW-P-012-018.	SME	SME	Director, HW or Director of Water & Wastewater Operations or Director Watershed Management	Applicable Section or O&E	Applicable Sections QA or designate.

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5.2 Ensuring Consistency of Messaging and Tone and relevance to audience

5.2.1 Consider the following when communicating with the public:

- Are materials widely distributed?
- Is the purpose related to public education or promotional materials?
- Does the communication require consistency of messaging?
- Does it need to be displayed on the website?
- Corporate branding ([Visual Identity and Branding Guideline – At a Glance](#))

5.2.2 For the communication process for the management of marketing materials see Management of Marketing Material PW-WW-P-010-002

5.2.3 For responding to media inquiries, please refer to Communications Policy – Media Relations

5.3 Utilization of Social Media

5.3.1 Hamilton Water may use social media to relay messages to the public, where scope, messaging, and content are decided by Managers, Directors, or applicable staff in Hamilton Water. Message content should be reviewed and issued by the Communications Officer.

6 ASSOCIATED DOCUMENTS

- [Control of Records - PW-WW-P-016-001](#)
- [BCOS - Creating Mailing Lists - PW-WW-CS-P-011-006](#)
- [BCOS + DWQMS Hamilton Water Emergency Response Plan PW-WW-P-012-001](#)
- [Memorandum of Understanding Between Public Health Services and Hamilton Water – PW-WW-R-012-009](#)
- [Management of Marketing Material - PW-WW-P-010-002](#)
- [Visual Identity and Branding Guideline – At a Glance](#)
- [Communications Policy – Media Relations](#)
- [Preparation of Annual Drinking Water Report to Public and Council PW-WW-P-004-005](#)
- [Sewage Spills Communication Plan PW-WW-P-012-018 \(Under development\)](#)
- [External Regulatory and Other Communications Procedure # PW-WW-P-008-002](#)

BCOS software tracks the revision history of document.

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1 PURPOSE

To identify required communications when staff discover Hamilton Water sewer infrastructure discharging to the natural environment during dry weather.

2 SCOPE

The procedure is to assist staff in keeping Council, Senior Leadership, the community, media, and other stakeholders informed in an open, transparent and consistent manner. It applies to any staff in the Hamilton Water Division who discover a sewage spill from City infrastructure that can potentially impact the natural environment that occurs during dry weather. This procedure does not apply to overflows due to wet weather or at critical regulators.

3 DEFINITIONS

COH Spills Reporting Line	905-540-5188: A telephone line strictly for reporting spill occurrences and/or to request assistance. An Environmental Enforcement Officer is on-call to assess each incident and respond appropriately. This line is monitored 24 hours a day, 7 days a week and the number is 905-540-5188. Outside business hours a caller must hold the line to speak to a Customer Contact Centre representative.
Hamilton Water (HW)	Hamilton Water Division, which is the water, wastewater, and stormwater Operating Authority for the City of Hamilton.
MOE	Ontario Ministry of Environment as amended (i.e. Ministry of Environment (MOE), Ministry of Environment and Energy (MOEE), Ministry of Environment and Climate Change (MOECC), Ministry of Environment, Conservation and Parks (MECP)
SAC	MOE, Spills Action Center (1-800-268-6060)
Spill	When used with reference to a pollutant, means a discharge: (a) into the natural environment, (b) from or out of a structure, vehicle or other container, and (c) that is abnormal in quality or quantity in light of all the circumstances of the discharge.

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4 RESPONSIBILITY

4.1 Director Hamilton Water or Delegate

- Ensure Senior Leadership Team and Council is notified via email for all the Scenario B & Scenario C spills.
- Respond to the questions from press and attend all the press conferences in response to the Scenario C spills.

4.2 Director Water and Wastewater Operations or Delegate

- Ensure Public Health Services is notified via email in response to all the spills
- Ensure that impacted residents, HSR, Emergency Services and Ward Councillor of the area are notified of any traffic impacts.
- Ensure all the available information is posted to City’s website for public awareness and is updated in a timely manner as new information in response to the spill is discovered
- Ensure all the required communications in response to Scenario B & C spills are happening from Communications Officer to the local media
- In the event of scenario C, ensure Director, Watershed Management (or designate) is notified of the details of the spill to communicate to external stakeholders.

4.3 Director Watershed Management or Delegate

- Ensure all the related external stakeholders are notified in response to Scenario C spills as identified in section 5.1.2 of this procedure.

4.4 Communications Officer

- Ensure all the spills are noted in the City of Hamilton e-newsletter for public awareness.
- Ensure all the Scenario B and C spills are posted on City of Hamilton’s social media Refer to figure 5.1: Response Scenario to identify different spill scenarios

4.5 Manager of Compliance and Regulations

- One window for notifications and follow-up communications to the MOE Local District Office.

4.6 All Staff

- Report spills and investigate spills

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5 PROCEDURE

5.1 Communication Process

5.1.1 If a potential sewage spill from Hamilton Water infrastructure is identified, staff will notify the MOE of the potential spill through the SAC and the COH Spills Reporting Line as per the [Spills Response Notification, Coordination and Corrective Actions, PW-WW-P-012-003](#). Staff will then investigate the situation further to confirm if there is a spill occurring from Hamilton Water infrastructure or from a private cross-connection.

- If a spill is confirmed, staff will follow up with the SAC with the appropriate information.
- If the investigation determines that there is a private sewer lateral cross-connection, staff will follow the processes that have been created under the sewer lateral cross-connection program.

Note: If the investigation confirms a sewage spill originating from Hamilton Water infrastructure, the communication protocol will be based on the relative magnitude of the spill and its corresponding response scenario as indicated below.

5.1.2 Figure 1 outlines 3 different scenarios that trigger a specific response protocol. The response scenario will be based on the highest factor in Figure 1. For example, a cross-connection within Hamilton Water Infrastructure involving 5 houses with an estimated spill volume of 150 million litres would trigger Response Scenario B in Figure 2; or, if there were a cross-connection with 15 houses and an estimated spill volume of 50 million litres, this would also trigger Response Scenario B in Figure 2. **Also, a spill with environmental impact, e.g. fish kill, impact to or loss of fish and wildlife habitat, will escalate the spill to a higher scenario.**

Figure 1: Response Scenario

Scenario Matrix	Scenario A	Scenario B	Scenario C
# of Properties Connected	Up to 10 properties	11-49 properties	50 + properties
Estimated Volume of Spill	Up to 100 million litres	101 million litres to 500 million	Over 500 million litres

5.1.3 These numbers are based on past events and responses. As new scenarios arise, the criteria need to be evaluated and confirmed and inform council as required.

5.1.4 Figure 2 outlines the various communication channels that would be used in each scenario. The requirements below are meant to be minimum levels of communication. It is recognized that each situation may have unique factors that may require increased levels of communication.

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Figure 2: Communication Channels and Person Responsible for each Scenario

Communication Channel	Response Scenario A	Response Scenario B	Response Scenario C	Person Responsible or Delegate
Public Health Services Notification via E-Mail	x	x	x	Director of Operations
Resident Notification - Immediately Impacted Residents and Ward Councillor - if traffic or service disruption occurs	x	x	x	Director of Operations
Post on City Website (dedicated webpage)	x	x	x	Director of Operations
Notify Senior Leadership Team (SLT)/Council via E-Mail		x	x	Director Hamilton Water
Media Note (e-mail from Comms to local media)		x	x	Director of Operations
Media Release		x	x	Communications Officer
Press Conference			x	Director Hamilton Water
City of Hamilton Social Media		x	x	Communications Officer
City of Hamilton E- Newsletter (for subscribers)	x	x	x	Communications Officer
Notify External Stakeholders (see section 5.15 for list)			x	Director Watershed Management
Notification to the Local District Office of the MOE, prior to any public notifications by Hamilton Water (e.g., media, posting on City Website, etc.). Also responsible for follow-up communications (i.e., following the initial reporting to SAC as per 5.1.1)	x	x	x	Manager of Compliance & Regulations

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5.1.5 The following additional stakeholders will be directly notified in Response to Scenario C in Figure 2:

External Stakeholders

- Hamilton Harbour Remedial Action Plan partners
- Haudenosaunee Confederacy Chiefs Council
- Huron-Wendat Nation
- Mississauga’s of the Credit First Nation
- Six Nations of the Grand River
- Joint Stewardship Board in the event of a discharge to Red Hill Creek
- The following Agencies in the event of a discharge to lands or waters under their jurisdiction:
 - Hamilton-Oshawa Port Authority
 - Royal Botanical Gardens
 - Hamilton Conservation Authority
 - Halton Regional Conservation Authority
 - Niagara Regional Conservation Authority
- Local Industry or impacted landowners in the area of outfalls to the environment

5.1.6 Email communications will use the email template included in Appendix 1.

5.2 Sewage Spills Webpage

5.2.1 Information about sewage spills originating from Hamilton Water infrastructure is recorded and available as public information through a web-based mapping system. This webpage provides background information on Hamilton Water’s sewer inspection programs, includes a registry of all sewage spills originating from Hamilton Water infrastructure and shows the location of each spill on an interactive map. List below outlines the information that is included in the registry:

- Date of Discovery
- Location
- Asset ID in WIMS
- Background/Cause
- Corrective Actions
- Date Remediation Complete
- Estimated Spill Volume
- Estimated Duration of Spill
- Cost of Repair

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6 ASSOCIATED DOCUMENTS

- [Spills Response Notification, Coordination and Corrective Actions, PW-WW-P-012-003](#)

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7 APPENDIX 1 – EMAIL NOTIFICATION TEMPLATE

Subject: Sewage Spill Notification

Note: The intent is to create a standard Outlook template, which is under development.

Sewage Spill Notification	
Spill Discovery Location	
Spill Discovery Date	
Spill Discovery Method	
Background / Cause	
Corrective Action	
Remediation Completed	
Estimated Volume	
Estimated Duration	
Cost of Repair - Excluding staff time	

Insert Signature