



# CONVEYANCE SERVICES

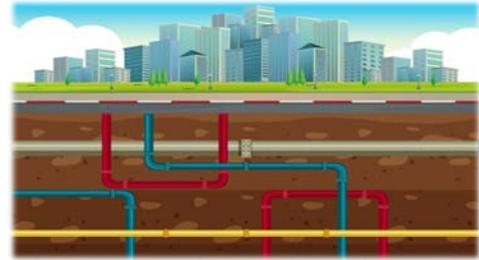
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DISTRIBUTION & COLLECTION



**ONTARIO CLEAN WATER AGENCY**  
**AGENCE ONTARIENNE DES EAUX**

Every asset of water and wastewater is critical in ensuring the safe delivery of drinking water and the environmentally sound conveyance of wastewater. The benefits of maintaining these assets include better customer service delivery, decreased risk to overall public health, and more reliable, sustainable infrastructure – all of which help to strengthen confidence in our water and wastewater systems.



The Ontario Clean Water Agency (OCWA) brings more than 25 years of water and wastewater treatment operations, maintenance, and engineering to our Conveyance Services.

OCWA's Conveyance Services group is fully equipped, comprehensively insured, and staffed with certified operators. With support resources based throughout Ontario and engineers specialized in linear assets, we offer complete services with flexibility to municipalities and industries. OCWA's distribution and collection system services include:

- Hydrant maintenance and repair
- Valve maintenance programs
- Valve and leak repairs
- System flushing and unidirectional flushing
- Swabbing of watermains and wastewater forcemains
- Leak detection (including plastic and large diameter pipe)
- Sampling and testing
- Chamber inspections
- Reservoir inspections
- Commissioning activities
- Watermain servicing
- Traffic control
- Confined space entry/Rescue operations
- Asset inventories
- Disinfection and cleaning of reservoirs

In 2019, OCWA's Conveyance Services group inspected more than 800 transmission chambers, completed inventory activities on 2,000+ assets, and managed a valve-turning program for 2,500 secondary valves. Clients include a wide range of communities from large regional municipalities to smaller rural centres.

OCWA always provides an appropriate number of certified staff for every distribution work site, ensuring that the work is completed within the allocated timeframe. The timing and duration of the work are both critical components to every conveyance job and OCWA performs effectively and efficiently so as to minimize any impact to businesses and residents.

With the continuing increase in demand for conveyance services, OCWA brings new technologies along with best practices to reduce rehabilitation costs and/or to prevent excavation. We service plastic piping and design efficiency programs for flushing. OCWA engineers have expertise in a variety of strategies such as condition assessments and linear asset management plans. Other companies simply do not have OCWA's complete and comprehensive list of professional services in distribution and collection systems.

## HYDRANT SERVICES

OCWA's certified operator/mechanics are skilled across all facets of hydrant work: designing flushing programs, performing annual and semi-annual preventative maintenance activities, and working with all types of maintenance software. OCWA's hydrant services include:

- Winterizing – check, pump, and plug
- Flushing – hydrostatic testing, secondary valve exercising, comprehensive assessment, and digital reporting
- Directional flushing program design and implementation
- Fire flow testing – full reporting and flow graphing
- C Factor testing – determines real flow capabilities and supports watermain rehabilitation
- Conversions, overhauls, and raising/lowering often with no excavation required
- Scheduled and emergency repair – replacement, conversion, overhaul, upgrade, and troubleshooting



## VALVE MAINTENANCE PROGRAMS

Valve maintenance programs are critical to avoiding breaks and maintaining the health of the system. There are benefits to a valve program that cross many sectors of water distribution. Having working valves will benefit customer service, public health, capital works decisions, water quality, water age, and asset management. OCWA's valve maintenance program provides support by not only exercising valves but also by evaluating what the system actually looks like overall. Only then can informed decisions be made.

Typical valves include main line valves, hydrant secondary valves, bypass valves, and drain valves. OCWA's equipment includes intelligent automation to ensure appropriate torque settings for above ground valves. Geographic Information System (GIS) data is collected for each valve and with sub-meter accuracy after post-processing. Typical information reported for each valve includes:

- Date, begin time, and end time
- Location and GPS coordinates
- Valve ID
- Normal position (open or closed)
- Number of turns
- Maximum torque applied (including detailed torque graphs)
- Depth of valve
- Operator comments

Information can be inputted directly in MMS or captured on worksheets.

### WATERMAIN CLEANING / SWABBING

Swabbing is a healthy practice to clean all types of watermain, preventing tuberculation in metallic lines and reducing the amount of sediment accumulated in all lines. It is also used after emergency situations when contamination is suspected, and can be required to commission new watermains. Sewer force mains can also be swabbed to improve pump performance. OCWA's Conveyance Services group performs swabbing for most pipe types and sizes.



### CHAMBER INSPECTIONS

Inspections for transmission/distribution mains typically include:

- Air relief chamber
- Access chamber
- Drain chamber
- Meter chamber

Each chamber is dewatered and inspected thoroughly to ensure overall integrity of appurtenances. Photo documentation is provided with each report and serves as a visual indication of chamber location and the overall condition. Typical inspections include the exterior, interior, and water system components and appurtenances. Additional services include:

- Air release valve testing, repairs, and replacements
- Main line and bypass valve exercising and verification
- Chamber structural assessment and cleaning
- Asset data collection for appurtenances and GIS data collection

### COLLECTION SYSTEM INSPECTIONS

With a Sewer Line Rapid Assessment Tool (SL RAT), OCWA can quickly and effectively survey segments of the collection system for blockages.

A key advantage of the SL RAT is that it can rapidly determine if flushing is required prior to the mobilization of flushing equipment. The data collected helps to prioritize and plan an overall collection system flushing program. OCWA uses a variety of innovative tools including zoom cameras and flow monitoring equipment to optimize collection system performance and can add further value through the development of flushing and wet well management programs.

## DETAILED ASSET INVENTORIES

Along with a basic inspection, a detailed asset inventory can be completed. Data gathering is typically accomplished by a combination of onsite inspection and desktop reviews. The level of detail gathered is customized and includes:

- Asset or system component name
- Description, identification, and location in system
- Size, model, type, and serial number
- Manufacturer's name and location
- Supplier with address, phone number, email address, and contact person
- Installation date and installer
- Important asset specifications: capacity, size, rating, and electrical/mechanical data
- Spare parts
- Preventative maintenance procedures and maintenance schedules specific to assets identified
- Ability to mark GPS co-ordinates with sub meter accuracy, which allows for engineering support for linear infrastructure and the integration of asset management information and risk assessment into GIS.



The remaining useful life of each asset can be assessed and estimated by the inspection crew. A comprehensive condition assessment can be undertaken by OCWA's Engineering Services, who also develop risk management criteria for linear assets.

## OTHER SERVICES

- Acoustic leak detection, listening surveys and computer-based leak pinpointing with LeakFinderST (advanced leak noise correlators)
- Smoke testing to determine sources of inflow & infiltration with an isolation approach for best results
- OCWA's engineers can prioritize the cost-effective maintenance and rehabilitation of pipeline assets

## COMMISSIONING

More and more, municipalities and companies are demanding that the inspection and commissioning of water mains be completed by professionals independent of the builder/installer. OCWA's operations and distribution experience has proved essential to projects involving new water mains, water towers, wet wells, and other storage facilities.

- Commissioning can include pressure testing, swabbing, flushing, inspection and disinfection, sampling and reservoir cleaning. OCWA's Engineering Services are also available for commissioning activities and inspections.

## CONFINED SPACE / RESCUE OPERATIONS

Crews are fully trained in confined space entry and rescue operations. OCWA's inspection group completes thousands of confined space entries every year. Each entry requires regulatory paperwork to be completed, including hazard assessments, permits and site-specific documentation.

OCWA crews are also fully equipped and specifically trained to provide entry-based rescue operations. Typical equipment found at each site includes: fall arrest systems, ventilation equipment, SCBA, skeds (immobilizers), first aid supplies, ropes, etc. All staff are Level A First Aid and CPR-certified. OCWA can also create rescue plans for confined space entry conditions specific to any distribution and collection operation.

## TRAFFIC CONTROL

Whether completing chamber inspections, hydrant/valve maintenance, or watermain swabbing activities, OCWA's Conveyance Services group completes the majority of traffic control in house. All staff are trained annually for traffic control and crews are fully equipped to provide traffic control on most roads and for most situations.

A site-specific or activity-specific written plan is developed to temporarily divert traffic in a controlled manner and create a safe work zone. OCWA works closely with all stakeholders to ensure proper permits are in place at all times for the work being carried out. Once the project is complete, traffic plans are provided to the client.



**For more than 25 years, municipalities, First Nations communities, institutions and businesses across the province have chosen the Ontario Clean Water Agency (OCWA) as their trusted provider of safe, reliable and cost-effective water and wastewater services.**

**Today, we operate over 900 water and wastewater facilities – more than any other operator in Canada.**

### GET IN TOUCH

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