



Ministry of the Environment and Climate Change

WW EXETER LAGOON

Inspection Report

Site Number:	110000221
Inspection Number:	1-FF70Z
Date of Inspection:	Dec 29, 2017
Inspected By:	Paul Terstege

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OWNER INFORMATION:

Company Name:	SOUTH HURON, MUNICIPALITY OF		
Street Number:	322	Unit Identifier:	
Street Name:	MAIN St S		
City:	EXETER		
Province:	ON	Postal Code:	N0M 1S6

CONTACT INFORMATION

INSPECTION DETAILS:

Site Name:	WW EXETER LAGOON
Site Address:	71042 AIRPORT Line EXETER ON N0M 1S6
County/District:	SOUTH HURON
MOECC District/Area Office:	Sarnia District
Health Unit:	HURON COUNTY HEALTH UNIT
Conservation Authority:	
MNR Office:	
Site Number:	110000221
Inspection Type:	Announced
Inspection Number:	1-FF70Z
Date of Inspection:	Dec 29, 2017
Date of Previous Inspection:	

COMPONENTS DESCRIPTION

Site (Name):	Exeter Wastewater Treatment Facility	
Type:	Lagoon Sewage Treatment System	Sub Type:
Comments:		

The treatment facility serves approximately 5,000 residents in the communities of Exeter, Huron Park, Centralia and Crediton. The facility consists of a 3-cell lagoon equipped with an aeration system, alum feed system (for phosphorus removal) and intermittent sand filters. The facility was designed to have a rated capacity of 2,573,718 m³/year.

Typically, raw sewage is directed to the middle cell (No. 3), which was constructed with a capacity of ~343,500 m³, and was equipped with aeration. The aeration system was rebuilt in 2017/2018, and it is expected to have a lifespan of ~20 years.

Cell No. 1 (which was formed by merging Cell Nos. 1 and 2) was constructed to provide ~313,000 m³ of pre or post treatment storage. Cell No. 4, an "L-shaped" cell was constructed to have a storage volume of ~751,000 m³.

The receiving watercourse is the Ausable River. A maximum volume of 283,200 m³ can be discharged directly from the lagoon during winter months when the river's temperature is less than 5°C. A maximum volume of 2,290,518 m³ can be discharged via the sand filters during the remainder of the year.

A computerized Supervisory, Control and Data Acquisition system records a variety of alarms and measures associated with the treatment facility and the pump stations in the collection system.

Site (Name): William Street Pumping Station**Type:** Other**Sub Type:** Pumping station**Comments:**

The pump station, located at the north end of William Street, was constructed in 1962 and upgraded in 1999. The station, which pumps wastewater collected from approximately two thirds of Exeter, is equipped with three submersible pumps.

Flow through the station has been monitored by a magnetic flow meter as the wastewater discharges into a 350 mm forcemain directed towards the lagoon. Any spills from the station are directed to the nearby Ausable River.

A diesel generator set is available within the station in the event of power disruptions.

Note: During the 2017/2018 inspection, the Municipality advised they have scheduled this pump station to be rebuilt.

Site (Name): Snider Crescent Pumping Station**Type:** Other**Sub Type:** Pumping station**Comments:**

The pump station, located at 31 Snider Crescent, was constructed in 1992. The station, which pumps wastewater collected from approximately one third of Exeter, is equipped with three fixed speed submersible pumps. One pump is rated at 22.3 L/s. The two other pumps, one duty and one standby, are rated at 149.1 L/s.

Flows from this pump station, and the ones in Huron Park and Crediton, are measured by a magnetic flow meter in a chamber at the treatment facility. Flows from the station are directed towards the treatment facility via a 300 mm diameter forcemain. Any spills from the station are directed to the nearby Shapton Drain, which discharges into the Ausable River.

A diesel generator set is available within the control building in the event of power disruptions.

Site (Name): Huron Park Pumping Station**Type:** Other**Sub Type:** Pumping station**Comments:**

The pump station, located at 389 Canada Avenue, was constructed in 1999, and upgraded in 2007. The station, which pumps wastewater collected from the communities of Huron Park and Centralia, is equipped with two submersible pumps (one duty; one standby). Each pump has a variable speed drive, and a rated capacity of 65.45 L/s.

Flows from this and the Crediton Pumping Station are measured by a magnetic flow meter in a chamber at the treatment facility. Flows from the station are directed towards the treatment facility via a 300 mm diameter forcemain. Any emergency overflows/spills from the station are directed to the nearby Wilson Drain, which discharges into the Ausable River.

A diesel generator set is available in the control building in the event of power disruptions.

Site (Name): Crediton Pumping Station**Type:** Other**Sub Type:** Pumping station**Comments:**

The Crediton PS, located at 250 Victoria Street East, was constructed in 2007. The station, which pumps wastewater collected from the community of Crediton, is equipped with two fixed speed submersible pumps. One pump rated at 22.3 L/s. Two pumps, one duty and one standby, are rated at 13.86 L/s.

Flows from this and the Huron Park Pumping Station are measured by a magnetic flow meter in a chamber at the treatment facility. Flows from the station are directed eastward via a 200 mm forcemain which discharges into the 300 mm diameter forcemain leading northward to the treatment facility. Any emergency overflows/spills from the station are directed a storm sewer which discharges into the Ausable River.

A diesel generator set is available in the control building in the event of power disruptions.

Site (Name): South Huron Wastewater Collection System
Type: Sewage Collection System **Sub Type:**

Comments:

The collection system collects wastewater from Exeter, Huron Park, Centralia and Crediton, and conveys it to the treatment facility. It consists of approximately 70 km of sanitary sewers and force mains. The pipes are made of various materials including concrete, asbestos-cement, polyethylene and polyvinylchloride, and range in diameter from 100 to 600 mm.

A collection system for Exeter was commissioned in the early 1960s. Over the years, the collection system was expanded to serve new subdivisions. Further, combined sewers have been gradually separated during the replacement and upgrading of this infrastructure.

Huron Park was formerly a Royal Canadian Air Force Base. The collection system serving the "Huron Park Residential Area" was replaced in 2006, and the collection system on Canada Avenue in the "Huron Park Industrial Area" was replaced in 2010.

The collection system serving Centralia was commissioned in 2008. It is connected by gravity to the collection system in the Huron Park Residential Area. Similarly, the collection system serving Crediton was commissioned in 2008.

Site (Name): Ausable River Monitoring Station
Type: Other **Sub Type:** Other

Comments:

The Ausable Bayfield Conservation Authority maintains and operates a network of water level and climate stations, including the one downstream of the Municipality's lagoons. The Municipality makes use of data collected by the station in order to assess its discharges to the Ausable River.

The station is located alongside a bridge in Bluewater, on Airport Line, approximately 350 m north of Dashwood Road.

Note: Bluewater has indicated it would like initiate major repairs to the bridge in 2018 or 2019. Once this project proceeds, it will be necessary to take the monitoring station out of service until the work can be completed.

INSPECTION SUMMARY:

Introduction

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment and Climate Change (MOECC) legislation as well as evaluating conformance with ministry policies and guidelines during the inspection period.

This wastewater treatment and collection system is subject to the legislative requirements of the Ontario Water Resources Act (OWRA) and the Environmental Protection Act (EPA) and regulations made therein. This inspection has been conducted pursuant to Section 15 of the OWRA and Section 156 of the EPA.

This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

On December 29, 2017, the Officer made an unannounced inspection during which time he checked the security of each pumping station. During the course of his unannounced inspection, the Officer encountered the Water/Wastewater Foreman, and together they attended the lagoons, and a few other locations, and informally discussed the Municipality's water and sewage infrastructure.

The Officer returned on January 9, 2018 to meet with the Environmental Services Director and the Water/Wastewater Foreman to complete his inspection and collect and/or inspect documents related to the operation of the sewage works.

Project management and inclement weather prevented the contractor from rebuilding the aeration system in the fall of 2017. Consequently, the project halted in the winter and ended up resuming later in 2018.

As these delays were anticipated to affect both the Municipality's winter discharge and the start of their warmer weather discharge, the Officer deferred the completing of this inspection until the end of the 2017/2018 year. At the time this report was being finalized, the aeration system had been commissioned and the Municipality was begun transferring from Cell No. 4 to Cell No. 3.

Note: The Officer considered events since the date of the last inspection up until the end of March 2018. Within the review period, the scope and depth of the Officer's review varied based upon subject matter, and upon whether he identified indicators suggesting a need for a more detailed review.

Authorizing/Control Documents

- The owner had a valid Environmental Compliance Approval for the sewage works.

Subsection 53 (1) of the Ontario Water Resources Act (OWRA) requires owners to have valid approvals to operate their sewage works. A map of the treatment works and pumping stations are appended to this report, along with a listing of historical and current Approvals related to each.

The approvals appear valid in that the Municipality did not report the use of any unapproved equipment. The Officer noted minor discrepancies with respect to the sizing the generators at the pump stations. While references to generators could be found in "Sewage Approvals", the Officer could only find one pump station with an "Air Approval" for its standby generator.

Legislative changes made in October 2011 removed the "grandfathering" of equipment and works. Consequently, the continued use of equipment and facilities required either an Environmental Compliance Approval (ECA) or, if

Authorizing/Control Documents

applicable, registration on the Environmental Activity and Sector Registry (EASR).

The EASR allows for the use of a permit-by-rule system for activities with well-known, easily mitigated, and predictable environmental impacts (e.g., standby generators). As such, the Officer suggested the Municipality make use of the Registry versus approvals to address any discrepancies and omissions.

Capacity Assessment

- **The annual average daily flow was not approaching the rated capacity of the sewage works.**

In order to allow lead-time for planning and constructing significant upgrades, the Ministry assesses annual average flows relative to 80% of the rated capacity for the sewage works. Approval 2395-9QDPQW identifies the rated capacity as 2,573,718 m³/year (i.e., 7,051 m³/day) based on the plans and specifications submitted along with the application for this sewage works.

Review of annual average flows versus the rated capacity of the works does not indicate a need for the Municipality to commence considering future capacity upgrades to their treatment works. That said, given the anticipated lifecycle of the current infrastructure, the Municipality's consultant recommended that Council plan a transition to a conventional mechanical treatment facility in the next 15 to 20 years.

Note: In addition to the rated capacity, which is an assessment of flow over the entire year, the Municipality's Approval imposes two flow limits based upon the temperature of the receiving stream. Compliance with these limits is assessed within the Annual Reports. As indicated in the following summary for 2014-2016, it is not uncommon for the Municipality to make maximum use of the cold weather limit.

Year	Stream Temperature > 5°C			Stream Temperature ≤ 5°C			Total for the Entire Year		
	Limit	Actual	Percent	Limit	Actual	Percent	Limit	Actual	Percent
2017	2,290,518	1,217,320	53%	283,200	203,524	72%	2,573,718	1,420,844	55%
2016	2,290,518	953,759	42%	283,200	273,693	97%	2,573,718	1,227,452	48%
2015	2,290,518	810,607	35%	283,200	247,958	88%	2,573,718	1,058,565	41%
2014	2,290,518	1,337,355	58%	283,200	279,639	99%	2,573,718	1,616,994	63%
2013	2,290,518	958,514	42%	283,200	0	0%	2,573,718	958,514	37%
2012	2,290,518	942,419	41%	283,200	278,755	98%	2,573,718	1,221,174	47%

Note: The Municipality does not continuously discharge throughout the year. Periodically it will maximize the cold weather discharge during the beginning of the year (e.g., February). In doing so, the Municipality is able to delay the start of the warm weather discharge until ~April. While the end of the discharge is more variable, usually there is a negligible discharge in the final quarter of the year.

The Municipality advised they do not anticipate a need to revisit the winter discharge limit any time in the near future. Further, as indicated within their Annual Report, they advised that as part of its budget processes, they consider future growth, operational issues, and anticipated upgrades and/or infrastructure replacement. Besides anticipated work at its pump stations, the next capital project at the treatment works is anticipated to be the restoration of the sand filters.

The Municipality is also having its engineer consider the feasibility of an ultraviolet disinfection system to address the microbiological loading during the winter discharge.

- **The owner was in conformance with the designed rated capacity for average daily flow into the sewage works.**

In the absence of significant growth, conformance with the annual limit is not expected to be a concern at any time

Capacity Assessment

in the near future.

- **Flow measuring devices were installed, calibrated and maintained in accordance with the requirements of the Environmental Compliance Approval.**

Aside from the reference to flow metering equipment at the outfall, Approval 2395-9QDPQW does not detail the flow monitoring equipment included within this sewage work. However, Condition 9(7) of Approval 2395-9QDPQW states, "The Owner shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate through the Works..., and record the flowrate at a daily frequency."

Further, Condition 8(2) of Approval 2395-9QDPQW states, "The Owner shall prepare an operations manual...that includes...procedures for the inspection and calibration of monitoring equipment".

The Municipality produced records confirming they had their flow meters for both their water and sewage calibrated in the April 2017.

- **Flow rates were recorded at a frequency prescribed by the Environmental Compliance Approval.**

Condition 9(7) of Approval 2395-9QDPQW states, "The Owner shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate through the Works..., and record the flowrate at a daily frequency." Electronic and printed records were available confirming flow was being measured.

Treatment Processes

- **The owner had ensured that all equipment/components associated with the works was installed in accordance with the Environmental Compliance Approval.**

The Municipality confirmed all of the treatment equipment identified in the Approval(s) and/or in the supporting documents referenced in the Approval(s) was, and remains, installed.

Note: While Condition 7(3) of Approval 2395-9QDPQW includes generic wording stating, "the Owner shall operate and maintain the Works such that the effluent is continuously disinfected", disinfection equipment was not identified amongst the "Proposed Works" or "Previous Works" identified on pages 1 and 2 of the document.

- **The works, related equipment and appurtenances were being operated and maintained to achieve compliance prescribed by the Environmental Compliance Approval.**

With the exception satisfying the E. coli limit during the winter discharge (which is discussed later within the Effluent Quality and Quantity section of this report), the facility appears to be operated and maintained to achieve compliance prescribed by the Environmental Compliance Approval.

- **The operator-in-charge had ensured that all equipment used in the processes was monitored, maintained, inspected, tested and evaluated.**
- **The owner/operating authority was able to demonstrate that best efforts were used to achieve the objectives listed in the Environmental Compliance Approval conditions.**

Effluent Quality and Quantity

- **The sewage works effluent limits were prescribed by the Environmental Compliance Approval.**

Per Condition 7 in Approval 2395-9QDPQW, the Ministry has prescribed the effluent Limits for the following parameters:

CBOD, Total Suspended Solids, Total Phosphorus, Total Ammonia Nitrogen,

Effluent Quality and Quantity

Un-ionized Ammonia, Dissolved Oxygen, E. Coli

- **The sewage works effluent sample results demonstrated compliance with BOD5 or CBOD5 limits prescribed by the Environmental Compliance Approval.**
- **The sewage works effluent sample results demonstrated compliance with total suspended solids limits prescribed by the Environmental Compliance Approval.**
- **The sewage works effluent sample results demonstrated compliance with total phosphorous limits prescribed by the Environmental Compliance Approval.**
- **The sewage works effluent sample results demonstrated compliance with total ammonia/total ammonia nitrogen/ionized ammonia limits prescribed by the Environmental Compliance Approval.**
- **The sewage works effluent sample results did not demonstrate compliance with microbiological parameter limits prescribed by the Environmental Compliance Approval.**

The Municipality's approval includes an effluent limit for E. coli of 200 cfu/100mL (calculated a monthly geometric mean). Although the facility lacks any form of disinfection, this absence does not appear to be problematic during the warm weather discharges through the sand filters, i.e., as the filters appear to have some capacity for pathogen reduction.

However, during winter discharges, when effluent discharges directly from the lagoon to the river, the limit cannot be consistently met. E.g., the last three Annual Reports included the following exceedances:

February 2017 (458), March 2016 (300) and February 2015 (686)

In response, the Municipality has commenced plans to rehabilitate the sand filters, which would increase the filtration rate through them. With the increased filtration rate, they anticipate being able to draw down the largest cell completely during the summer discharge period. In doing so, they hope to eliminate the need for winter discharges during the next few years.

The Municipality's next step is the planning, engineering and incorporation of UV disinfection into the treatment process.

- **The sewage works effluent sample results demonstrated compliance with additional limits prescribed by Environmental Compliance Approval.**

The Municipality's approvals also include a minimum effluent limit for dissolved oxygen. With the presence of an aeration system, this has not proven to be problematic. (Due to the contractor's inability to complete the replacement of the aeration system in the fall of 2017, outliers are anticipated within the 2018 Annual Report.)

- **The sewage works effluent sample results did not meet the effluent objectives stated in the Environmental Compliance Approval.**

Aside from the microbiological results which have been addressed already within this report, prior to 2018, the Municipality's facility performs satisfactory, particularly when discharging through their sand filters. Isolated exceptions include a suspended solid average for the month of April 2016 (5.3 versus 5.0 mg/L), and two Total Ammonia Nitrogen averages for the months of April 2016 and April 2013 (2.38 and 2.69 versus 1.0 mg/L).

- **The sewage works effluent was discharged in accordance with Environmental Compliance Approval.**

Note: While the Approval has provisions for both cold and warm weather discharges, the Municipality typically avoids discharging continuous.

Effluent Quality and Quantity

- **The inspector did not collect audit samples during the inspection.**

The Officer did not collect audit samples because the works was not discharging at the time.

Monitoring Requirements

- **The sampling requirements were prescribed by the Environmental Compliance Approval.**

Condition 9(3) of Approval 2395-9QDPQW prescribes mandatory monthly monitoring of the raw sewage and mandatory weekly monitoring for the final effluent (i.e., when discharging). Further, Condition 5(4) prescribes monitoring during ongoing bypass events.

- **All sewage works effluent sampling requirements prescribed by the Environmental Compliance Approval were met.**

- **All sewage works influent (raw sewage) sampling requirements prescribed by the Environmental Compliance Approval were met.**

Separate raw sewage samples are collected from each of the three sewers discharging into the treatment works.

- **All surface water sampling requirements prescribed by the Environmental Compliance Approval were met.**

The Municipality's approvals does not explicitly prescribe a surface water sampling regime; however, as indicated by Certificates of Analysis provided for review, surface water samples upstream and downstream of the discharge are routinely collected and tested for pH and Total Ammonia Nitrogen.

- **The owner had maintained the monitoring records for the period prescribed by the Environmental Compliance Approval.**

- **The owner had maintained the monitoring records since the date of the last inspection.**

- **All exceedances of any prescribed parameters were reported in accordance with the Environmental Compliance Approval.**

Reporting Requirements

- **The reporting requirements were prescribed by an Environmental Compliance Approval.**

The Municipality's approval includes requirements regarding reporting exceedances and bypasses/overflows, and the preparation of annual performance reports.

- **The annual performance reports met the submission and contents requirements of the Environmental Compliance Approval.**

- **The owner/operator maintained a logbook and/or records of all bypasses/overflows which occurred from any portion of the sewage works in accordance with the Environmental Compliance Approval.**

Bypasses and Overflows

- **Bypasses/overflows had occurred at the sewage works during the inspection period.**

Various components within sewage works are commonly designed to allow for the escape of raw or partially treated sewage when overwhelmed by large flows. These measures prevent foreseeable and greater harm by limiting the

Bypasses and Overflows

likelihood sewage backups and damage to critical components of the sewage works. Consequently, features that allow for "overflows" and "bypasses" can be found in sewage collection systems, at pump stations, and at treatment facilities.

A number of events have occurred within the past several years. These events are documented in the Municipality's Annual Reports.

Individual bypass or overflow events are documented in a "Sewage Bypass Reporting Record". These records contain information regarding the start and stop of events, along with information regarding the volume of sewage involved, and notifications made to the Ministry and Health Unit regarding the same. When it has been feasible to collect samples, the reports are accompanied by sample results.

Subsequently, the individual reports are used to complete a "Monthly Bypass Report". These reports document the dates and locations of any events, and the duration and volume associated with the events. The events are classified by type, e.g., primary (no treatment), secondary (partial treatment). A notation is made to indicate whether any disinfectant was used. Efforts are made to identify the reason for the event (e.g., precipitation, snowmelt, equipment failure, power failure, etc.). Lastly, these reports include a listing of results for samples tested for BOD, SS, TP and E. coli.

The monthly reports support planning efforts by management and Council, and serve as the basis the summaries in the Annual Reports.

- **For all bypasses/overflows which occurred from the sewage treatment plant, samples were collected and analyzed in accordance with the Environmental Compliance Approval.**

The available Certificates of Analysis indicated that when feasible to do so, operators are collecting samples for analysis.

- **Notices and written reports of all bypasses/overflows were provided to the Ministry in accordance with the Environmental Compliance Approval.**

- **All required verbal notifications of spills were provided forthwith as per O. Reg. 675/98 section 13.**

Unplanned bypasses that are not authorized by, and conducted in accordance with, an approval are subject to Section 13 of O. Reg. 675/98, which requires the provision of notification by telephoning the Spills Action Centre.

In the strictest sense, the Officer understands the events operators have identified and reported as bypasses are technically spills. Per the Municipality's Approval, the term bypass is defined as an event occurring at their sewage treatment facility. Use of this misnomer is a common practice; one that the Ministry has attempted to address via changes to language used in newer approvals.

Whether untreated sewage discharges into a watercourse near a pump station or a treatment works, the effect on the environment is the same. As such, the label is of significantly less importance than the continuation of the operators' practice of consistently reporting these events to the Ministry and Health Unit.

- **A process was in place for the monitoring and reporting of bypasses and overflows should they occur.**

Operators attempt to determine the volume of any release to the environment. Similarly, where feasible, operators attempt to collect samples to characterize the nature of the release.

Wastewater Collection Systems

- **The plant received sewage from a combined sewer collection system.**

Wastewater Collection Systems

While the treatment works receives both sewage and stormwater, as infrastructure in its collection system is replaced, regard is given to diverting stormwater.

Biosolids Management

- **The facility received sludge or biosolids from another location.**

The Municipality indicated they not normally receive biosolids. This year may prove to be an exception. I.e., given the duration the aeration system was offline, they were considering bringing in a couple of loads to stimulate bioactivity.

- **The owner had a program for the routine removal of sludge from the lagoon system.**

As indicated within their annual performance reports, the Municipality has a program for assessing the sludge volume within the lagoon cells, and for anticipating removal requirements. Currently, they do not anticipate have to conduct any sludge removal until 2022.

The Municipality's consultant has recommended that Council plan a transition to a conventional mechanical treatment facility (in 15-20 years). At that time, the Municipality would have to consider the future of the existing lagoons, and the sludge therein.

Certification and Training

- **The classification certificates of the subsystems were conspicuously displayed at the workplace or at premises from which the subsystem was managed.**
- **Operator licences were displayed in a conspicuous location at the workplace or at the premises from which the subsystem was managed.**

To satisfy Section 13 of O. Reg. 129/04, the Municipality has posted the operators' certificates at their Operations Center.

- **The overall responsible operator had been designated for the wastewater treatment and collection works.**
Subsection 15 (1) of O. Reg. 129/04 requires the appointment of an "overall responsible operator". The Municipality's Water/Wastewater Foreman normally serves as the ORO. He possesses Class II Wastewater Collection and Wastewater Treatment certificates - which are appropriate for this sewage works. Should the Foreman be unavailable, the Municipality may call upon other operators to serve in this capacity. Each possesses the same level of certification as the ORO.
- **An adequately licensed operator was designated to act in place of the overall responsible operator when the overall responsible operator was unable to act.**
- **All operators had the appropriate level of licences for the wastewater treatment and collection works.**
- **Only licenced operators made adjustments to the treatment equipment.**
- **Operators-in-charge were designated for the wastewater treatment plant and all associated collection works.**
- **The operator-in-charge ensured that records were maintained of all adjustments made to the processes within his or her responsibility.**

Logbooks

- **The logs and other record keeping mechanisms complied with the record keeping requirements.**

Besides requiring the provision of logs and/or other record-keeping mechanisms, Section 19 of O. Reg. 129/04 prescribes the following requirements:

- Entries should be made chronologically.
- Entries should only be made by personnel authorized by the owner or operator-in-charge to do so.
- Parties making entries should identify themselves.
- Entries should document,
 - the names of all operators on duty
 - any departures from normal operating procedures
 - any instructions directing operators to depart from normal operating procedures
 - any unusual or abnormal conditions, along with any corresponding conclusions or responses
 - any equipment that ceases to operate or was taken out of service, along with any corresponding response

Due to the volume of documents generated since the last inspection, the Officer did not read every entry. Rather, he scanned documents for evidence of the required elements. The entries he reviewed indicated operators were complying with the applicable requirements.

- **Logs and other record keeping mechanisms were available for at least two (2) years.**

Subsection 19 (6) of O. Reg. 129/04 requires the retention of logs and other record-keeping mechanisms for at least two years. The Municipality has addressed record retention within a bylaw that requires documents to be retained for more than 2 years.

Operations Manuals

- **The operations and maintenance manuals met the requirements of the Environmental Compliance Approval.**

- **Operators and maintenance personnel had ready access to operations and maintenance manuals.**

In addition to making a copy of their "Wastewater Collection and Treatment Operations and Maintenance Manual" available for review, the Municipality produced a listing indicating that in addition to management personnel, several copies had been distributed amongst their operators.

- **The operations and maintenance manuals contained up-to-date plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**

Contingency/Emergency Planning

- **For Lagoon Systems, the owner is conforming with the freeboard and berm conditions in the MOE Design Guidelines for Sewage Works.**

While capacity was becoming a concern prior to the commissioning of the new aeration system, it appeared the Municipality has been able to maintain adequate freeboard.

- **Spill containment was provided for the process chemicals and/or standby power generator fuel.**
- **The owner had provided security measures for the facility.**

The Ministry recommends owners adopt measures to secure their infrastructure (e.g., their sewage pumping

Contingency/Emergency Planning

stations and treatment works) from intruders. Available security measures include No Trespassing signs, locked entrances, locked hatches, weekly inspections, and gates and perimeter fencing (i.e., at the lagoon property)

The Municipality noted their pumping stations are not fenced due to their belief/experience that fences tend to promote curiosity and a challenge to be overcome. The Municipality did not report any events or concerns that would suggest a need for additional security measures.

Other Inspection Findings

- **The following issues were also noted during the inspection:**

The "Summary of Best Practices Issues and Recommendations" section at the end of this report includes recommendations related to concerns outside the scope of the specific questions raised during the inspection.

Environmental Activity and Sector Registry (EASR) - Standby Generators

As indicated during the inspection, it is recommended that the Municipality consider registering any of its generators for which it did not receive an "Air Approval" which reflects equipment in use at the various facilities.

NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

1. **The sewage works effluent sample results did not demonstrate compliance with microbiological parameter limits prescribed by the Environmental Compliance Approval.**

Action(s) Required:

We would ask that the Municipality continue with their plans to rehabilitate their sand filters. The operational changes stemming from this activity will likely enable the Municipality to avoid any concerns with microbiological limits in the short-term.

SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

1. **The sewage works effluent sample results did not meet the effluent objectives stated in the Environmental Compliance Approval.**

Recommendation:

With the exception of the microbiological results (which is addressed elsewhere), given the limited and isolated nature of the sample results in excess of the effluent objectives, no action is being requested at this time.

2. **The following issues were also noted during the inspection:**

Recommendation:

Environmental Activity and Sector Registry (EASR) - Standby Generators

As indicated during the inspection, it is recommended that the Municipality consider registering any of its generators for which it did not receive an "Air Approval" which reflects equipment in use at the various facilities.

SIGNATURES

Inspected By:
Paul Tersteegen

Signature: (Provincial Officer)

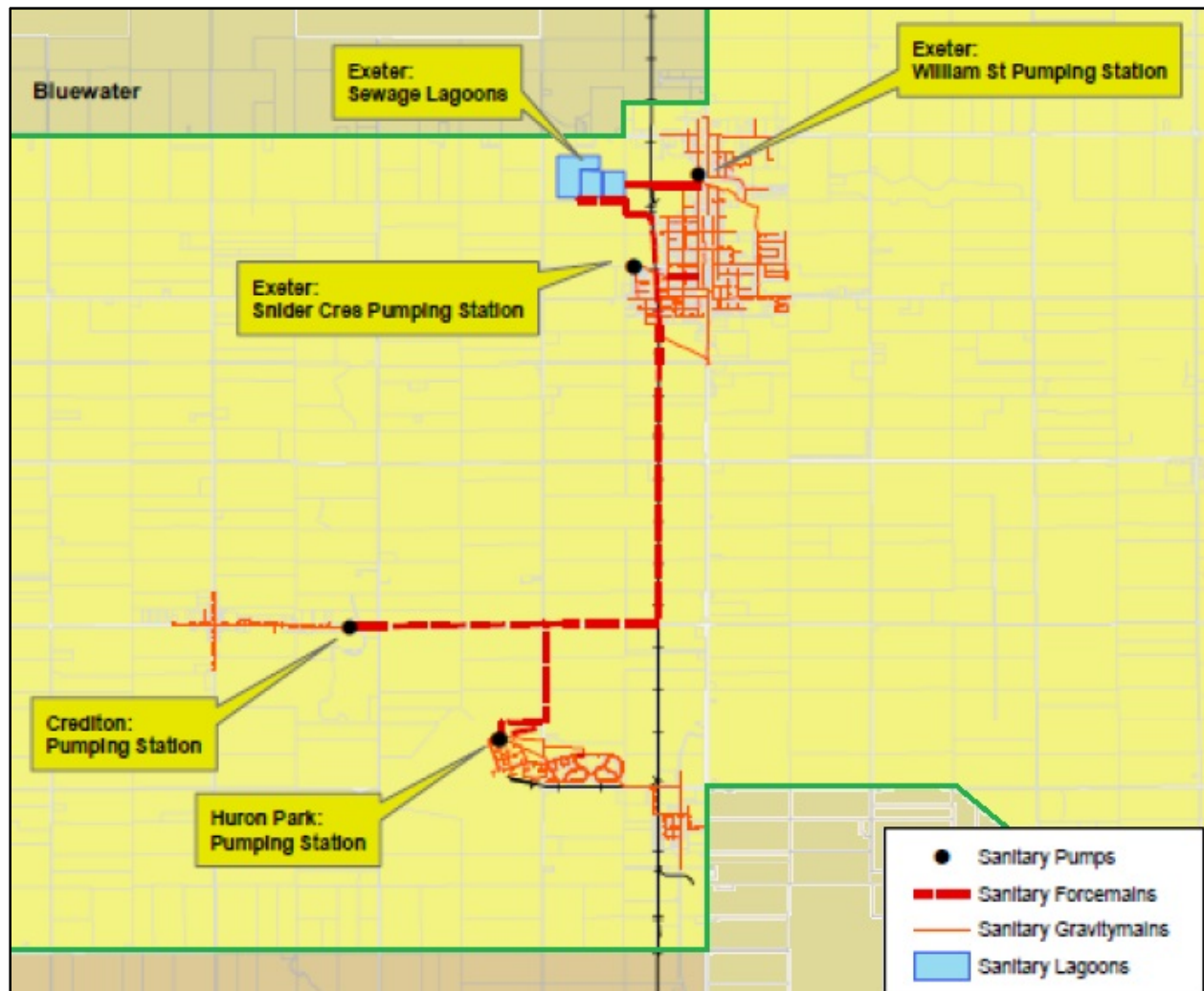
Reviewed & Approved By:
Marc Bechard

Signature: (Supervisor)

Review & Approval Date:

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.

Appendix 1 - Maps of the Lagoon, Pumping Stations and Surrounding Area





Left: Ausable River Hydrometric Monitoring Station (02FF009)

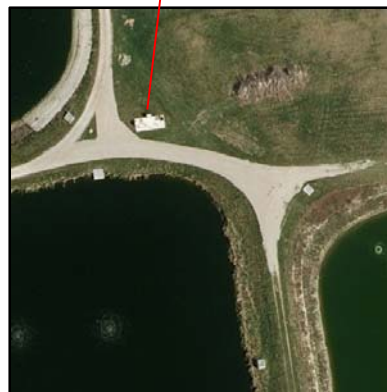
Right: William St, Snider Cres, Crediton and Huron Park Pumping Stations

Below: Exeter and the surrounding communities



In the early 1960s, a two-cell lagoon was built to serve Exeter. It has undergone expansion and changes. Cells 3 and 4 were constructed to the west of the existing lagoon. In 1999, the Ministry approved the current configuration.

Cell Nos. 1 and 2 were combined and deepened for to become the new Cell No. 1; Cell No.4 was deepened and expanded into its current L-shape, and four sand filters were constructed in the northeast corner of the property.



Appendix 2 - Approvals Related to the Lagoon, Pumping Stations and Collection System

Sewage Approvals – for Treatment, Pumping Equipment, and Sewers				
Approval	Issued	Previous Approval	Status ¹	Project Name
2395-9QDPQW	25-Nov-14	6088-9FEREP	Approved	<ul style="list-style-type: none"> – replacement of two blowers at the Lagoon – approval of “limited operational flexibility criteria” authorizing some future modifications to the sewage works
6088-9FEREP	5-Mar-14	3-0387-81-826	Revoked	<ul style="list-style-type: none"> – replacement of two blowers at the Lagoon
8205-6ZPNJV	3-Apr-07	--	Approved	<ul style="list-style-type: none"> – construction of the Crediton PS <ul style="list-style-type: none"> – one duty and one standby submersible pump, each rated at 13.86 L/s – an ultrasonic level control system and a back-up float switch – MCC panels, and electrical, instrumentation control and alarm systems – continuous monitoring via a SCADA system – emergency overflow within manhole (MH 136) discharging to a storm sewer and ultimately to the Ausable River – a 60 kW standby diesel generator set and fuel tank
8341-6XYM88	2-Feb-07	1333-4GSKA3	Approved	<ul style="list-style-type: none"> – upgrades to the Huron Park PS <ul style="list-style-type: none"> – two pumps, an ultrasonic level control system, back-up float switches, connections to an alarm/SCADA system – a 300 mm diameter emergency overflow pipe with a flowmeter – a valve chamber connected to a 300 mm diameter forcemain – a control building housing a standby diesel generator and fuel tank, control panels, and alarm system
1333-4GSKA3	23-Feb-00	3-0522-99-006	Revoked	<ul style="list-style-type: none"> – construction of the Huron Park PS – construction of a diesel generator building – construction of a forcemain
3-0522-99-006	9-Nov-99	--	Revoked	<ul style="list-style-type: none"> – construction of the Huron Park PS – construction of a diesel generator building – construction of a forcemain
3-0387-81-826	14-Apr-99	3-0387-81-826	Revoked	<ul style="list-style-type: none"> – expansion and modifications to the existing sewage Lagoon <ul style="list-style-type: none"> – combining and deepening of existing sewage lagoon Cells 1 and 2 to become the new Cell 1 – construction of a new inlet structure to Cells 3 and 4, and a new interconnecting structure between them; – construction of a new outlet structure from existing sewage lagoon Cells No. 1 and, and modifications to the interconnecting structure between Cells 1 and 3, and modifications to the existing discharge flow control structure; – expansion and deepening Cell 4 (the "L" shaped cell)

Sewage Approvals – for Treatment, Pumping Equipment, and Sewers				
Approval	Issued	Previous Approval	Status ¹	Project Name
				<ul style="list-style-type: none"> – expansion of the aeration system in Cell 3 – replacement of existing blowers with three larger blowers – construction of a pumping station to pump from Cell 4 to Cell 1, or to pump effluent to the intermittent sand filtration system – construction of an intermittent slow sand filter system – enclosure of existing alum storage tank and modifications to the existing alum feed system – upgrades to the William Street PS <ul style="list-style-type: none"> – alterations to two pumps, and replacement of a third – installation of new pump controls – installation of a flowmeter on the discharge forcemain – installation of a 175 kW diesel generator set – decommissioning of the alum addition
3-0818-91-007	19-Sep-91	3-0818-91-006	Approved	<ul style="list-style-type: none"> – construction of a phosphorus removal facility at the Lagoon <ul style="list-style-type: none"> – a 27m3 alum storage tank, two chemical making pumps, and a heat traced chemical feed line discharging into the lagoon inlet chamber, and all associated valves, fittings, electrical, control systems – construction of the Snider Crescent PS, forcemains, sanitary sewers, and appurtenances – 3 pumps – a building housing a 100 kW diesel generator and a 900 L fuel tank
3-0387-81-826	16-Apr-82	?	Revoked	<ul style="list-style-type: none"> – an expansion of the Lagoon consisting of deepening Cell 3 and raising the berms around Cell 4; installation of diffused air facilities for aeration of Cells 3 and 4 consisting of a building housing air blowers and piping; constructing an effluent discharge control structure complete with sluice gates and a weir – modifications to the Williams Street Pumping Station consisting of the installation of a standby diesel generator; additional pumping capacity; phosphorus removal and control equipment complete with two chemical metering pumps and a chemical storage tank; and appurtenances

Air Approvals – for Generator				
Approval	Issued	Ref. Num.	Status ¹	Project Name
7581-77WLXQ	16-Oct-07	6128-6UVTP4	Approved	150kw standby diesel generator set for the Huron Park PS * On October 5, 2007, the consultant advised, "There was not a previous CofA for this site." As such, Approval 4340-4RKRH3 was never formally revoked and replaced by Approval 7581-77WLXQ.
4340-4RKRH3	7-Dec-00	1238-4PLGPJ	Approved*	150kw standby diesel generator set for the Huron Park PS

Sewage Approvals – for Sewers (only)				
Approval	Issued	Ref. Num.	Status ¹	Project Name
9287-867M9T	8-Jun-10	5032-854KEB	Approved	Storm Sewers – Exeter
8602-84NHHW	4-May-10	2482-83DMET	Approved	Storm and Sanitary Sewers – Huron Park
2164-7ZGQ4N	18-Jan-10	1993-7YXRFW	Approved	Storm and Sanitary Sewers – Exeter
3305-7E6QGH	29-Apr-08	9546-7CQKBA	Approved	Storm and Sanitary Sewers – Exeter
1974-6YDLRK	22-Feb-07	5193-6TYPND	Approved	Sanitary Sewers – Crediton & Centralia
9811-6DSSRW	12-Jul-05	1944-6CWKD9	Approved	Storm and Sanitary Sewers – Huron Park
5535-5SCPXD	21-Oct-03	4234-5QVQEA	Approved	Sanitary Sewers – Huron Park

¹Status as indicated on November 23, 2017 by the Ministry's *Integrated Divisional System*, which houses various Ministry approvals.