



**Ministry of the Environment and Climate Change**

**WW RICHARDS LANDING WPCP  
Inspection Report**

<b>Site Number:</b>	110002871
<b>Inspection Number:</b>	1-G1Z0V
<b>Date of Inspection:</b>	Oct 03, 2017
<b>Inspected By:</b>	Scott Steeves

**OWNER INFORMATION:**

**Company Name:** ST. JOSEPH, TOWNSHIP OF  
**Street Number:** 1254  
**Street Name:** MARGUERITE St  
**City:** RICHARDS LANDING  
**Province:** ON  
**Unit Identifier:**  
**Postal Code:** P0R 1J0

**CONTACT INFORMATION**

**Type:** Owner  
**Phone:** (705) 246-2625  
**Email:** stjoeadmin@bellnet.ca  
**Title:** Clerk-Administrator  
**Name:** Carol Trainor  
**Fax:** (705) 246-3142

**Type:** Operator  
**Phone:** (705) 246-2625  
**Email:** b.elliott.wtp@gmail.com  
**Title:** Superintendent of Water and Sewer Services  
**Name:** Barry Elliott  
**Fax:** (705) 246-2256

**INSPECTION DETAILS:**

**Site Name:** WW RICHARDS LANDING WPCP  
**Site Address:** 1250 MARGUERITE Road RICHARDS LANDING ON P0R 1J0  
**County/District:** ST. JOSEPH  
**MOECC District/Area Office:** Sault Ste. Marie Area Office  
**Health Unit:** ALGOMA HEALTH UNIT  
**Conservation Authority:**  
**MNR Office:**  
**Site Number:** 110002871  
**Inspection Type:** Announced  
**Inspection Number:** 1-G1Z0V  
**Date of Inspection:** Oct 03, 2017  
**Date of Previous Inspection:** May 03, 2012

**COMPONENTS DESCRIPTION**

## 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.**

The Richards Landing Wastewater Treatment Plant is a Class 2 Wastewater Treatment System, located at 1254 Marguerite Street, within the community of Richards Landing in the Township of St. Joseph, within the District of Algoma. The Richards Landing Wastewater Treatment Plant is owned by the Corporation of the Township of St. Joseph. The plant is operated by staff from the Township of St. Joseph with the Overall Responsible Operator being PUC. The Richards Landing Wastewater Treatment Plant is operated in accordance with the terms and conditions of Certificate of Approval (ECA) # 3-0545-93-006, issued August 3, 1993 by the Ministry of the Environment and Climate Change (Ministry).

The Richards Landing Wastewater Treatment Plant serves a population of approximately 500 residents within the community of Richards Landing. The treatment plant consists of: primary clarifiers with flow equalization, phosphorous removal using alum, activated sludge treatment through rotating biological contact units and final clarification. The Richards Landing Wastewater Plant is designed to a rated average flow of 422.5 m<sup>3</sup>/day and a peak flow of 1437.9 m<sup>3</sup>/day and discharges to St. Joseph Channel in Lake Huron.

Prior to the October 3, 2017 wastewater inspection, to which this inspection report pertains, the Ministry last inspected the Richards Landing Wastewater Treatment Plant on May 7, 2012.

The October 3, 2017 wastewater inspection included: a physical inspection of the wastewater treatment equipment and facilities; interview with the Township; and, a review of relevant documents from the period of January 1, 2017 to the date of inspection (herein referred to as the "inspection review period"). An assessment of the Richards Landing Wastewater Treatment Plant's operational performance was also undertaken by the Ministry, based on the information reported by the Township in the 2016 Annual Performance Report submitted to the Ministry.

This October 3, 2017 inspection was focused on the wastewater treatment plant facility, but did not include an assessment of compliance with any Air related approvals that exist for the site. Physical inspections of the outstations, i.e. sewage pumping stations, were also not conducted during this treatment plant inspection.

Township representatives present during the inspection included Barry Elliot, the Operator of the facility.

### Authorizing/Control Documents

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

Certificate of Approval # 3-0545-93-006 issued August 3, 1993, is considered the main approval governing the use and operation of the Richards Landing Wastewater Treatment Plant, and will herein be referred to and referenced as the Environmental Compliance Approval or the ECA for the purposes of this inspection report.

### Capacity Assessment

### Capacity Assessment

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

According to the ECA, the Richards Landing Wastewater Treatment Plant has a rated average flow capacity of 422.5 m<sup>3</sup>/day and a rated peak flow rate of 1537.9 m<sup>3</sup>/day.

Based on the information contained in the 2016 Annual Performance Report, the Richards Landing Wastewater Treatment Facility reportedly treated an average daily flow of 110m<sup>3</sup>/day during the 2016 operating year, representing approximately 26% of the rated capacity. In 2016, the Sundridge Wastewater Treatment facility reported a maximum day Flow of 175m<sup>3</sup>/day on August 10, 2016, equating to 11% of the peak design rated flow.

Flow rates during the inspection review period during 2017 indicate results that are typical of those outlined in the 2016 annual report. The Richards Landing Wastewater Treatment Plant operates well below the design capacity specified within the ECA.

- **The owner of the sewage works had prepared a written statement certified by a Professional Engineer confirming that the proposed works were constructed in accordance with the Environmental Compliance Approval.**

The Richards Landing Wastewater Treatment Plant was initially approved and constructed in the mid-1990s. At the time of the inspection, as-constructed drawings were reviewed which were consistent with the constructed works inspected during the physical site visit.

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

Condition 13 (d) of the ECA, requires the Township to install, maintain, and operate a sufficient number of flow measurement devices, calibrated at regular intervals not exceeding one year to ensure their accuracy to within plus or minus 5% of the full scale reading of the measuring devices, in order to measure: the quantity of sewage being conveyed to and through the sewage treatment plant; and the quantity of untreated sewage being bypassed to the disinfection facility.

To comply with the Effluent flow monitoring conditions, each treatment train of the wastewater treatment plant has been equipped with a V-Notch weir located at the chlorine contact chamber.

The Township ensures the flow measuring devices are calibrated once annually at a minimum. During the inspection, records were provided showing that the flow monitoring equipment was most recently calibrated on February 17, 2017. The calibration records confirm that the flow measuring devices are being calibrated/verified for the entire design range of the flow measuring devices.

### Treatment Processes

- **All monitoring equipment other than flow monitoring devices were installed, calibrated and maintained in accordance with any Environmental Compliance Approval.**

Condition 10 (a) of the ECA requires the Township to exercise due diligence in ensuring that, at all times, the sewage works, and related equipment and appurtenances used to achieve compliance with the terms and conditions of the ECA are properly operated and maintained.

For compliance monitoring purposes associated with Effluent pH and chlorine residual limits, the Township use a portable pH meter. The pH meter is calibrated/verified, in-house on as needed basis, following manufacturer's recommendations.

The automatic time based composite samplers used for Raw Influent and Final Effluent compliance monitoring, are reportedly cleaned between sampling intervals and are maintained on a scheduled frequency.

### Treatment Processes

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

The ECA references the following components of the sewage treatment system:

- Inlet works: A sewage flow splitter box with manually raked bar screen;
- Primary Clarifier (Septic Tank): A two (2) cell reinforced concrete primary clarifier, designed as a septic tank, having a total volume of approximately 540 m<sup>3</sup> which includes approximately six (6) months storage volume for primary and secondary sludge;
- Equalization Tank: A two (2) cell reinforced concrete, aerated equalization tank with approximately 350m<sup>3</sup> total volume; Three (3) submersible sewage pumps each rated at 6.7 L/s at a T.D.H. of 3.3m; Three air blowers (two duty and one standby) each rated at 70.8 L/s (standard conditions);
- Rotating Biological Contactor (RBC): Three (3), 3.6m diameter x 6.1m length, covered 4 stage RBC units with a total media area of approximately 25,980 m<sup>2</sup>;
- Secondary Clarifiers: Three (3) 3.5m x 3.5m x 3.8m high hopper bottom clarifiers with air lift sludge and skimmer pumps;
- Chemical Storage and Feeding Facilities: Four (4) positive displacement metering pumps, one (1) as a standby, each rated at 1.5L/hour of a chemical solution for phosphorus removal: One (1) 18,100L bulk storage for phosphorus removal chemical;
- Effluent Disinfection Facility: One (1) positive displacement metering pump rated at 1.5 L/hour of sodium hypochlorite solution for effluent disinfection; One 25m<sup>3</sup> chlorine contact chamber;
- Outfall sewer
- Control building including a 75kW standby power generator set with a 908 L fuel storage tank.

The physical inspection of the Richards Landing Wastewater Treatment Plant verified that, for the most part, all equipment appeared to have been installed and operating in accordance with the requirements of the ECA.

It was noted that two new submersible sewage pumps had been changed with models with a slightly different capacity. During the inspection it was noted that the Township is in the process of amending their ECA for the installation of a new UV disinfection system to replace the current chlorine effluent disinfection system. It was noted that the changes in the sewage pump capacity will be included in the ECA amendment submission.

- **The sewage works effluent was essentially free of foreign substances on the day of the inspection.**

### Effluent Quality and Quantity

- **The sewage works effluent sample results met the effluent objectives stated in the Environmental Compliance Approval.**

Condition 11 of the ECA, establishes effluent quality objectives that the Township is obligated to use best efforts to meet on an ongoing basis. The objectives are to be used as a mechanism to promote continuous improvement in the operation of the works and to trigger corrective action proactively and voluntarily before environmental impairment occurs.

The ECA establishes the following effluent objectives:

- BOD<sub>5</sub>: Monthly Average Concentration < 15 mg/L; Monthly Loading Objective: 6.3 kg/day;
- TSS: Monthly Average Concentration < 15 mg/L; Monthly Loading Objective: 6.3 kg/day;
- Total Phosphorus as P: Monthly Average Concentration < 1 mg/L; Monthly Loading Objective: 0.4 kg/day;

Based on the information contained in the 2016 Annual Performance Report, the Richards Landing Wastewater Treatment Facility reportedly generally met the effluent limits and objectives set out in the ECA, during the 2016 operating year. Based on the records provided, the Richards Landing Wastewater Treatment Facility also appears to have met both the effluent limits and objectives set out in the ECA.

### Effluent Quality and Quantity

Records provided for this inspection also confirm that the Richards Landing Wastewater Treatment Facility met the effluent limits and objectives set out in the ECA for the inspection review period.

### Monitoring Requirements

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

Condition 15 (b) of the ECA, requires the raw sewage influent sampling and monitoring be completed as follows:

- BOD5: Monthly composite;
- Suspended Solids: Monthly composite;
- Total Kjeldahl Nitrogen: Monthly composite;
- Total Phosphorus: Monthly composite;
- Alkalinity: Monthly composite;

Sampling records reviewed during the inspection indicate that the Township has ensured that the effluent monitoring was being conducted on a monthly basis, at a minimum, and had those samples analyzed externally by a licenced laboratory.

Results of all testing is tabulated on spreadsheets forming part of the record keeping mechanisms.

A refrigerated composite sampler is used to collect the 24 hour time composite effluent samples.

### Biosolids Management

- **The facility has a program in place to manage biosolids.**

All sludge produced at the Richards Landing Wastewater Treatment Plant sludge is removed by Edwin Karhi – Septic Hauler (ECA# A920242). Sludge is disposed of at a drying bed adjacent at the municipal landfill site (ECA# A561701).

- **The records confirm that biosolids were transferred to a Ministry approved facility by Ministry approved haulers.**

All sludge produced at the Richards Landing Wastewater Treatment Plant sludge is removed by Edwin Karhi – Septic Hauler (ECA# A920242). Sludge is disposed of at a drying bed adjacent at the municipal landfill site (ECA# A561701).

### Certification and Training

- **Only operators with the appropriate level of licence made adjustments to the wastewater treatment and collection system equipment.**

The Richards Landing Wastewater Treatment Plant is a Class 2 Wastewater treatment facility, (Certificate # 2366), that was issued March 21, 1995.

The Township has ensured that all operators making adjustments to the process equipment possess the appropriate level of wastewater treatment certification. The Township has ensured that every operator employed in the facility holds a license applicable to wastewater treatment, in accordance with the requirements of section 4(1) of Ontario Regulation 129/04.

- **The overall responsible operator had been designated for the wastewater treatment and collection works.**

During the inspection it was observed that the Township has ensured that operators possessing Class 2 Wastewater Certification are available to serve as the overall responsible operator for the Richards Landing Class 2

### Certification and Training

Wastewater Treatment Plant. The Township has contracted PUC Services to serve as the Overall Responsible Operator for the Richards Landing Wastewater Treatment Plant. Between township Staff and staff with PUC Services, there are a number of Class 2 operators on staff. Other individuals possessing Class 1 Wastewater Certification are also available in the event the Class 2 operators are unable to act

Records identifying the name of the individual serving in the capacity of ORO, are documented within facility logbooks on a daily basis. The Township has designated the operators who possess the appropriate level of certification to act as Operator-in-Charge (OIC) as required.

### Logbooks

- **The logs and record keeping mechanisms for the sewage works complied with the record keeping requirements.**

A review of the Facility Logbook confirmed that entries were made, by the operator-in-charge, of all adjustments made to the treatment processes.

### Operations Manuals

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

Condition 10 (d) of the ECA requires that the Township prepare an operations and maintenance manual prior to the commencement of regular operation of the sewage works. The operations and maintenance conditions specified in the ECA are in order to ensure that at all times the facility can achieve continuous compliance with the effluent criteria set forth in the ECA.

A review of the operations manual was reviewed during the inspection. The operations manual for the facility complied with the requirements specified in the facility's ECA.

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

Section 20 of Ontario Regulation 129/04 requires that the Township ensures that up to date operations and maintenance manuals, including plans, drawings and process descriptions, be available to operators and maintenance personnel in the facility to ensure the safe and efficient operation of the works.

Up to date operations and maintenance manuals were observed to be on site at the time of the inspection.

### Contingency/Emergency Planning

- **Spill containment was provided for the process chemicals and/or standby power generator fuel.**

Adequate spill containment was observed on site. The alum tank was observed to be located in a portion of the facility that had secondary containment. The facility had a spill kit on site.

- **The owner had provided security measures for the facility.**

The Richards Landing Wastewater Treatment Plant is fully enclosed by a chain link fence.

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**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.

**Not Applicable**



## **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.

**Not Applicable**

**SIGNATURES**

Inspected By:

Scott Steeves



Signature: (Provincial Officer)



Reviewed &amp; Approved By:

Jatinbhai Patel

Signature: (Supervisor)

Review &amp; Approval Date: 23/11/2017

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.