

February 22, 2010 Utilities Report

Reports:

- Sewage/ Lagoon Pumping Report for Environment
- Town of Lumsden Sewage Lagoon – 2009 Monitor Well Sampling Report

Reports in progress:

- Sewer backup on James St.
- 2009 water consumption vs. billing

Work in progress:

- Aerator repair at lagoon
- Water Treatment Plant maint./ pump repairs
- Water Meter installs

Projects for 2010:

- Emergency Pump for the upper distribution system (pump delivery was moved to the first week in march)
- Lift Station Flow meter to be installed late spring
- Lift Station #2 overhaul

Concerns:

- Waterworks System Assessment

Public Works Report

- Repairs to # 20
- Repairs to Structure 1A-3 (see report from Sask. Watershed)
- Snow removal ongoing
- Jeff/ Lance to Public Works Convention Feb. 24-26

Dave Cherney

February 22, 2010

Dennis Perras
Project Officer
Sask Environment
3211 Albert Street
Regina, SK
S4S 5W6

Dear Dennis

Re: Lagoon Pumping

The Town of Lumsden started lagoon discharge pumping on October 13, 2009 and stopped pumping on November 13, 2009. Approximately 50535.1 m³ was discharged and retained on to town owned property.

Enclosed is the sample analysis from locations A&B as stated in section 4.1 in our Permit to Operate Sewage Works.

Enclosed is a copy of Beckie Hydrogeologists 2009 Monitor Well Sampling Report for the Town of Lumsden Sewage Lagoon.

Enclosed is a copy of the Town of Lumsden Yearly Report as per; Section 6.7 of the Town of Lumsden Permit to Operate Sewage Works.

If you require any additional information, please call me at 731-7748.

Sincerely,

David Cherney
Utility Foreman
Town of Lumsden

Environmental Services Analysis Report

Invoice Number: 1014475	Collected: 14-Oct-2009 12:52 PM
Sample Location: Infiltration cell discharge	Received: 14-Oct-2009 1:53 PM
Collected by: Al Yurkoski	Reported: 23-Oct-2009 5:17 PM
Station #: SK05JF0058	Water Source: Wastewater
Permit: 3315	

Submitted By:

LUMSDEN TOWN OF
BOX 160
LUMSDEN, SK
S0G 3C0

Invoice:

LUMSDEN TOWN OF
BOX 160
LUMSDEN, SK
S0G 3C0

Analysis	Result	Unit	Sask Guideline	Test Comment	Fee
Waste Water Panel					210.00
Conductivity	3722	µS/cm			
pH	8.1	pH Units			
Total Alkalinity	570	mg/L CaCO3			
Phenol Alkalinity	0.00	mg/L CaCO3			
Bicarbonate	695	mg/L			
Carbonate	0	mg/L			
Hydroxide	0	mg/L			
Chloride Dissolved	653.4	mg/L			
Fluoride Dissolved	0.17	mg/L			
Nitrate-N Dissolved	1.04	mg/L			
Sulfate Dissolved	476.7	mg/L			
Calcium	158	mg/L			
Magnesium	101	mg/L			
Potassium	32	mg/L			
Sodium	526	mg/L			
Total Hardness (Calculated)	810	mg/L CaCO3			
Total Dissolved Solids	2643	mg/L			
Total Nitrogen	6.9	mg/L			
Total Kjeldahl nitrogen - Calculated	5.9	mg/L			
Phosphorus - Total	3.33	mg/L			
Phosphorus - Ortho	3.33	mg/L			
Dissolved Organic Carbon	16.7	mg/L			
Total suspended solids	8	mg/L			
Total fixed suspended solids	6	mg/L			
Total volatile suspended solids	2	mg/L			
MPN Total Coliform	428	orgs/100 mL			
MPN E Coli	74	orgs/100 mL			
Biochemical Oxygen Demand	3.1	mg/L			

OCT 28 2009

Environmental Services Analysis Report

Invoice Number: 1014476
Sample Location: Primary lagoon overflow
Collected by: Al Yurkoski
Station #: SK05JF0056

Permit: 3315
 LUMSDEN LAGOON PRIMAR\

Collected: 14-Oct-2009 12:45 PM
Received: 14-Oct-2009 1:53 PM
Reported: 23-Oct-2009 5:18 PM
Water Source: Wastewater

Submitted By:
 LUMSDEN TOWN OF
 BOX 160
 LUMSDEN, SK
 S0G 3C0

Invoice:
 LUMSDEN TOWN OF
 BOX 160
 LUMSDEN, SK
 S0G 3C0

Analysis	Result	Unit	Sask Guideline	Test Comment	Fee
					210.00
Waste Water Panel					
Conductivity	3584	µS/cm			
pH	8.1	pH Units			
Total Alkalinity	623	mg/L CaCO3			
Phenol Alkalinity	0.00	mg/L CaCO3			
Bicarbonate	760	mg/L			
Carbonate	0	mg/L			
Hydroxide	0	mg/L			
Chloride Dissolved	580.6	mg/L			
Fluoride Dissolved	0.21	mg/L			
Nitrate-N Dissolved	<0.04	mg/L			
Sulfate Dissolved	453.3	mg/L			
Calcium	158	mg/L			
Magnesium	95	mg/L			
Potassium	27	mg/L			
Sodium	468	mg/L			
Total Hardness (Calculated)	786	mg/L CaCO3			
Total Dissolved Solids	2542	mg/L			
Total Nitrogen	29.6	mg/L			
Total Kjeldahl nitrogen - Calculated	29.6	mg/L			
Phosphorus - Total	4.42	mg/L			
Phosphorus - Ortho	3.94	mg/L			
Dissolved Organic Carbon	21.7	mg/L			
Total suspended solids	16	mg/L			
Total fixed suspended solids	4	mg/L			
Total volatile suspended solids	12	mg/L			
MPN Total Coliform	259500	orgs/100 mL			
MPN E Coli	139100	orgs/100 mL			
Biochemical Oxygen Demand	14.7	mg/L			

OCT 28 2009

February 22, 2010

Dennis Perras
Project Officer
Sask Environment
3211 Albert Street
Regina, SK
S4S 5W6

**2009
Yearly Report as per; Section 6.7 part A
Town of Lumsden Permit to Operate Sewage Works**

Dear Dennis

The Town of Lumsden did not undertake any major projects in 2009 at its sewage works.

In September 2009 the sludge drying bed, built to facilitate dredging of the primary lagoon cell in 2008 was decommissioned.

The dried sludge was dug out and transported to our land fill to be used as cover material

The SolarBee lagoon mixing machine did not live up to expectations. It will be removed from the lagoon in 2010; the existing aerators will be repaired and put back on line.

Section 6.7 part b

The Town of Lumsden had asked SaskWater in 2008, to come up with a possible solution to address the town's wastewater needs.

SaskWater presented their report to the Town of Lumsden council on May 25, 2009 at 8:30 PM.

Sask Environment was at this presentation, and has a copy of this report.

The Town of Lumsden was also working with 3C Water Systems Ltd. on a sewage treatment plant pilot project. This project was to start in late 2009 but due to funding problems it was not started. The Town of Lumsden has not had any contact with 3C since September 2009, and is not sure if they will be able to forge ahead with their project.

Section 4.8 Monthly volume of wastewater being pumped to the lagoon

**Lift Station Run Times
January 2009-January 2010**

Date	Pump #1 Hours	Pump #2 hours	Total Hours
Jan. 31/09	65.1	73.5	138.6

Feb. 28/09	59.9	67.5	127.4
Mar. 31/09	72.8	82.6	155.4
Apr. 30/09	77.9	89.7	167.6
May 31/09	81.3	82.6	163.9
June 30/09	78	87.4	165.4
July 31/09	71.6	79.4	151
Aug. 31/09	74.2	81.4	155.6
Sept. 30/09	79.3	85.6	164.9
Oct. 31/09	85	93	178
Nov. 30/09	82.5	88.2	170.7
Dec. 31/09	78.6	85.5	164.1

The following data is the result of using Associated Engineering field measurements from the Wastewater Management Strategy Report (May 2007) of a pumping rate of 20 L/sec per lift station pump and a population of 1650 people.

Example:

$$\begin{aligned} \text{January '09 } & 138.6 \text{ hrs} \times 60 \text{ min} \times 60 \text{ sec} \times 20 \text{ L/sec} = 9,979,200 \\ & / 1,650 \text{ people} = 6,048 \text{ L/person/month} \\ & / 31 \text{ days} = 195.1 \text{ LPCD} \\ & \text{Or } 321.9 \text{ m}^3/\text{d Total} \end{aligned}$$

**Lift station run times converted to flow's & Water Treatment Plant Raw Water
Data
January 2009 – January 2010**

Lift	Station Data	Flow	Water Treatment Plant Raw Water Use
Date	LPCD	M/3 D	M/3D
Jan.31/09	195.1	321.9	463.9
Feb. 28/09	198.5	327.5	455.5
Mar. 31/09	218.7	360.9	530.7
Apr. 30/09	243.7	402.2	459.4
May 31/09	230.7	380.7	540.8
June 30/09	240.6	396.9	616.4
July 31/09	212.5	350.7	691.8

Aug. 31/09	219	361.4	754.9
Sept. 30/09	239.9	395.8	770.2
Oct. 31/09	250.6	413.4	501.2
Nov. 30/09	248.3	409.7	490.0
Dec. 31/09	231	381.1	466.8

The Town of Lumsden is always working to optimize our water treatment plant to produce less wastewater. During 2009 we were able to use more water 205286.6 m³ and produce less backwash water 6302 m³ than in 2008 (197890.7 vs. 6983 m³). We were also able to divert 2038 m³ of backwash water to our holding ponds at the water treatment plant. We used this water to irrigate the trees and grass planted around our water treatment plant.

David Cherney
Utility Foreman
Town of Lumsden

Dave Cherney

From: Jeff Carey [carey.J@sasktel.net]
Sent: February 12, 2010 3:13 PM
To: Dave Cherney
Subject: FW: drainage area for 1A-3

From: Akira Watanabe [mailto:Akira.Watanabe@swa.ca]
Sent: February 12, 2010 11:08 AM
To: carey.J@sasktel.net
Cc: Bob Parker
Subject: RE: drainage area for 1A-3

Hello Jeff,

Thank you for your inquiry on this project. In terms of the data requirement, I don't think any additional information will be necessary at this moment.

According to my preliminary cost estimate of this structure replacement project, the total cost ranges from \$100,000.00 up to \$120,000.00 depending on the structural materials. I have looked into several material options for a replacement of the drain pipe and the gatewell, such as Galvanized Corrugated Steel Pipe (the existing structure), Polycoat Corrugated Steel Pipe, High Density Polyethylene pipe, and Concrete Pipe. The total cost is a sum of the structure cost, culvert material cost (culvert and gate) and others (tax, freight, and contingencies). It is our intention to use alternate culvert materials that are more suitable to the existing surrounding environment in order to maximize the structural lifespan when it's replaced. If it is found that the gate is salvageable for re-use, the material cost may be lowered as we will need only a rehabilitation work (sandbrasting and repainting) of the gate and frame instead of buying brand-new set.

As it was indicated previously in our correspondence, this work will be constructed under the 1999 Flood Protection Works Agreement which stipulates under Section 3 that

- c) the Town will be responsible for the cost of the maintenance program for the dykes and drainage systems; and
- f) Sask Water will reimburse the Town 50% of the costs of approved maintenance work on the dykes and drainage systems.

Please refer to the letter dated on November 18, 2009 sent by Robert Parker to Mr. Wayne Zerff regarding to the Authority's financial status.

Please contact me if you have any concerns on this matter.
Thank you for your time,

Sincerely,

Akira Watanabe *M.A.Sc., E.I.T.*
Project Engineer in Training
Project Engineering
Operations Division
Saskatchewan Watershed Authority
111 Fairford St. East
Moose Jaw, SK, S6H 7X9