



October 10, 2017

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Ms. Tracey Braun
Director of Environmental Approvals
Manitoba Sustainable Development
160-123 Main Street
Suite 160 VIA Station
Winnipeg, Manitoba
R3C 1A5

via email

M-575.05

Dear Ms. Braun,

RE: RM of Montcalm – St. Jean Baptiste Lagoon – Lagoon Environmental Act Licence No. 3108

Pursuant to Clause 23 of the Environmental Act Licence No. 3108, on behalf of the RM of Montcalm, we are requesting approval to place the St. Jean Baptiste lagoon into operation

Soil Sampling was completed on September 7, 2017. The soil samples obtained were sent to Amec Foster Wheeler, who completed the hydraulic conductivity analysis. The test results are as follows:

Sample Date September 7, 2017 – ST1 – 4.04×10^{-9} cm/s

The test result meets the hydraulic conductivity requirements of the licence of 1×10^{-7} cm/s. A copy of the test result is attached.

Please provide approval for the RM of Montcalm to place the lagoon into operation.

If you have any questions, please contact the undersigned.

Yours truly,

JR Cousin Consultants Ltd.

David Kelly, P.Eng.
Municipal Engineer

enc. Soil Test Results
cc. Bruce Webb, Manitoba Sustainable Development
Jolene Bird, CAO, RM of Montcalm



ASTM D5084 - HYDRAULIC CONDUCTIVITY REPORT



TO: H Baudry Construction
Dennis Baudry
100 St Agathe, MB
R0G 1Y0

PROJECT NO: WX12188
CLIENT: H Baudry Construction (1980) Ltd.
DATE SUBMITTED: 12-Sep-17

PROJECT: Soil Analysis for St. Jean Baptiste Lagoon

TEST HOLE: ST01
SAMPLE NO.: S01
SAMPLE DEPTH: M-575.05

PERMEANT: De-Aired Tap Water
HYDRAULIC GRADIENT: 28.98


CONSTANT HEAD METHOD ($K = cQL/thA$)

	Sample Height, L (cm)	Sample Dia. (cm)	Water Content (%)	Dry Density (kg/m ³)	Degree of Saturation (%)	Cell Pressure (kPa)	Back Pressure (kPa)	Differential Pressure, h (kPa)
Initial	7.28	7.06	26.9%	1558	96.7%	241.4	196.5	20.7
Final	7.27	7.15	30.9%	1488	100.3%			

Date & Time		Time, t (seconds)	Flow (Q)		Temp. Corr, c	Hyd. Cond. Corrected, K (cm/s)
Start	End		Influent (ml)	Effluent (ml)		
9/19/17 8:16 AM	9/20/17 8:10 AM	86040	0.35	0.40	1.238	4.75E-09
9/20/17 8:10 AM	9/21/17 8:05 AM	86100	0.40	0.40	0.980	4.01E-09
9/21/17 8:05 AM	9/22/17 8:12 AM	86820	0.40	0.40	0.980	3.98E-09
9/22/17 8:12 AM	9/25/17 7:55 AM	258180	1.20	1.20	0.980	4.01E-09
9/25/17 7:55 AM	9/26/17 8:17 AM	87720	0.45	0.40	0.980	4.18E-09

**Average Temperature
Corrected Value (cm/s) 4.04E-09**

Amec Foster Wheeler Environment & Infrastructure

Per: 
Brad Wiebe, M.Sc., P.Eng.
Senior Associate Geotechnical Engineer

*Reporting of these results constitutes a testing service only.
Engineering interpretation or evaluation of the test results is provided only on written request.*