

Nutrient Reduction Strategy Monitoring Plan

GPS coordinates			Sampling Date	Year 1					
				Discharge event 1			Discharge event 2		
northing	easting	Site Description	Site ID #	YYYY-MM-DD	YYYY-MM-DD	YYYY-MM-DD	YYYY-MM-DD	YYYY-MM-DD	YYYY-MM-DD
		Secondary Cell Discharge (end of pipe)	1	start TP values (mg/L)	middle TP values (mg/L)	end TP values (mg/L)	start TP values (mg/L)	middle TP values (mg/L)	end TP values (mg/L)
		Mid-way point of the drainage ditch	2						
		End of discharge route (before the effluent enters the Whitemouth River)	3						
Discharge flow rate (litres per sec)									
Discharge start date				YYYY-MM-DD			YYYY-MM-DD		
Discharge end date				YYYY-MM-DD			YYYY-MM-DD		
Total Length of Discharge Period (wks)									
Total Volume of effluent Discharged (L)									
Precipitation Events									
Vegetation Harvesting date (if applicable)									
Nutrient Reduction Strategy Operational Comments									



July 24, 2015

Project No: 121-23047-00

CWS File No: 3087.10

Ms. Tracey Braun, M.Sc.

Director, Environmental Approvals

MANITOBA CONSERVATION AND WATER STEWARDSHIP

160-123 Main Street

Winnipeg, MB R3C 1A5

Dear Ms. Braun:

**RE: WHITESHELL COLONY LAGOON
PHOSPHORUS SAMPLING AND MONITORING PLAN**

Environment Act Licence (EAL) No. 1377 R dated June 5, 2015 governs the upcoming construction (discharge pipe installation) and operation of the Whiteshell Colony lagoon. Clause 42 of this Licence requires the submission of a sampling and monitoring plan within 60 days of the Licence date.

We propose a lagoon phosphorus sampling and monitoring program which will be performed twice yearly for an initial three year period in the spring and the fall of each year to coincide with anticipated discharge regimes. In order to conduct the sampling and monitoring, discharges during the duration of the program will be trickle discharged to surface water (i.e. to the Whitemouth River).

Sampling for an additional two years will be recommended if the previous three years of results consistently exceed 1 mg/L *total phosphorus*, extending monitoring to a five year program. Such that samples are consistently below 1 mg/L, continuation of the monitoring program will be evaluated following the initial three year period.

The monitoring program will be reassessed following each year of operation in consultation with Manitoba Conservation and Water Stewardship and Whiteshell Colony for potential modifications and variations. These yearly amendments can include, but are not limited to:

- termination of the sampling and monitoring program,

- varying the flow rate during discharge,
- delaying discharge into the summer months,
- adjusting sampling locations, quantity and frequency, and
- harvesting/planting vegetation in the discharge route.

At each discharge campaign, grab samples will be taken and analyzed for *total phosphorus* at the commencement, approximately half way and at the end of the discharge. It is proposed that a grab sample be taken at each of the following three locations (the attached drawing illustrates these locations):

1. Secondary cell discharge (end-of-pipe).
2. Mid-way point of the discharge route.
3. End of discharge route (just before the effluent enters the Whitemouth River).

Three years of monitoring will potentially generate a sample set of 54 records (three time frames of three locations, twice per year for three years). The attached tabulation clearly identifies the sampling regime.

We trust the above program is satisfactory and look forward to any questions you may have, otherwise, we await your approval.

Kind regards,

WSP Canada Inc.



Jason Bunn, P.Eng.
Environmental Engineer

enclosures

cc: Mr. Walter Gross – Whiteshell Colony
Ms. Jennifer Winsor – Manitoba Conservation and Water Stewardship



WHITEMOUTH RIVER

LOCATION 3

LOCATION 2

LOCATION 1

LAGOON



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TITLE:

SAMPLING AND
MONITORING PLAN

SCALE:

NTS

DATE:

2015/06/26

PROJECT NO:

121-23047-00

REVISION:

0

DRAWING NO:

SMP1

