

# **Jumbo Glacier Resort Master Plan**

## **Appendix 5-D**

### **Mill Bay Wastewater Treatment Plant Abstract**

## MILL SPRINGS WASTEWATER TREATMENT PLANT, MILL BAY, B.C.

This residential subdivision advanced wastewater treatment plant is to serve initially 60 and ultimately 400 residences and a school. Since the effluent is discharged in the vicinity of an aquifer, **Class A reclaimed water quality effluent** was stipulated: BOD<sub>5</sub>, TSS and Total Nitrogen of less than 10 mg/l, median fecal coliform of less than 2.2/100 ml and average turbidity of 2 NTU.



USBF Bioreactor modules (2) and Process building



Influent pump tank, bioreactors and Process Building



Sand filters and microfilter

The plant consists of manual bar screen, USBF™ clarifiers, microscreen, sand filters and UV disinfection. It includes two bioreactor modules and a provision has been made for future modular expansion.

Average Day Flows:	Phase 1:	80 m <sup>3</sup> /day, 22,000 GPD, 60 residences – Built 1998
	Phase 2:	164 m <sup>3</sup> /day, 44,000 GPD, 120 residences
	Phase 3:	328 m <sup>3</sup> /day, 88,000 GPD, 240 residences
	Phase 4:	491 m <sup>3</sup> /day, 130,000 GPD, 360 residences
	Phase 5:	565 m <sup>3</sup> /day, 150,000 GPD, 415 residences + school

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## MILL SPRINGS WASTEWATER TREATMENT PLANT, MILL BAY, B.C.

Phase 1 of the plant was built in 1998 but due to delay of the residential development it was started up in May 2002. The plant is operated by Ecofluid under contract with owner.

### OPERATING RESULTS

Date	BOD <sub>5</sub> (mg/L)	TSS (mg/L)	Turbidity (NTU)	Nitrite Nitrate (mg/L)	TKN (mg/L)	Fecal Coliform (CFU/100ml)
May 15, 2002	11	11	NA	39.9	3.5	NA
May 30, 2002	<5	6	3.0	25.8	0.2	< 10
July 1, 2002	< 5	< 1	0.4	19.9	0.6	< 10
August 2, 2002	< 5	4	2.9	26.6	0.4	NA
September 3, 2002	< 5	< 1	0.8	23.8	0.4	< 1
October 1, 2002	< 5	1	0.4	21.6	0.4	< 1
October 30, 2002	< 5	< 1	0.8	15.9	0.8	< 1
December 2, 2002	< 5	< 1	C	28.0	0.4	< 1
January 6, 2003	< 5	< 1	C	25.3	0.9	< 1
February 5, 2003	< 5	2	C	7.4	1.5	< 1
March 4, 2003	< 10	2	C	8.5	2.6	< 1
April 2, 2003	< 5	< 1	C	8.0	1.2	< 1
May 5, 2003	< 5	< 1	C	6.2	1.3	< 1
June 2, 2003	< 5	2	C	6.6	5.4	< 1
July 3, 2003	< 5	< 1	C	3.9	1.0	< 1
August 6, 2003	< 5	< 1	C	3.1	2.0	< 1
September 3, 2003	< 5	2	C	4.0	1.5	1
October 8, 2003	< 5	2	C	19.6	0.28	< 1
November 11, 2003	< 5	< 1	C	12.4	0.89	< 1
December 2, 2003	< 5	< 1	C	6.5	0.9	< 1

- NA - Not analyzed
- C - Turbidity is monitored and recorded continuously and it is consistently < 1.5 NTU.

Notes: 1. The start of the process of denitrification was delayed due to unnoticed leak of air into an anoxic compartment.  
 2. Infiltration in October and November 2003 resulted in a dramatic change in temperature and a temporary slowdown of the process of denitrification.

Permit Parameters	
BOD [mg/l]	< 10
TSS [mg/l]	< 10
TN [mg/l]	< 10
Turbidity [NTU] Avg.	2
Fecal Col. [MPN/100 ml]	2.2