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## 2025 ANNUAL SUMMARY

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### RDN French Creek Pollution Control Centre Biosolids Management

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#### **BACKGROUND**

Regional District of Nanaimo (RDN) Class A biosolids from the French Creek Pollution Control Centre (FCPCC) are delivered to the Nanaimo Forest Products Harmac Pacific pulp and paper mill (Harmac) in Nanaimo, BC where they are blended with hog fuel and sand to produce a biosolids growing medium (BGM), a retail-grade product regulated under the BC *Organic Matter Recycling Regulation* (OMRR), or a “biosolids fabricated soil” (BFS) which does not meet BGM criteria. This project has been in operation since 2020. The BGM has been sold to local property developers and the BFS has been used in on-site landfill closure.

SYLVIS provides qualified professional oversight of the project, determines whether batches have met BGM criteria, and certifies batches. All batches of BGM produced until June 2023 met regulatory quality criteria. However, the batch produced from deliveries occurring between July 2023 and September 2024, which was sampled and tested in September 2024, did not meet all BGM criteria and was thus classed as a BFS. This BFS technically remains a Class A biosolids. Harmac opted to use this material in landfill closure and to exclusively produce BFS during 2025.

#### **2025 MANAGEMENT SUMMARY**

In 2025 a total of 4,500 m<sup>3</sup> of BFS were placed on the landfill as a capping layer over 0.39 ha. An additional 4,000 m<sup>3</sup> of BFS were placed within the landfill in order to build up and re-slope a portion of the landfill which was damaged during a fire in 2024. In 2025, as in previous years, a correction factor has been included to align carry-over volume calculations with end-of-year volume observations. Volume changes can result from handling and blending of the feedstocks.

Annual tonnages of biosolids and volumes of soil are summarized in Table 1, Appendix A.

#### **BIOSOLIDS QUALITY SUMMARY**

In 2025, three composite samples were collected by SYLVIS and analyzed for physical parameters, nutrients, and trace elements. In 2025 FCPCC biosolids met the OMRR Class A criteria for trace element concentrations. Eight samples for fecal coliform analysis were collected by SYLVIS in 2025. All eight samples tested at < 8 MPN/g, meaning that FCPCC biosolids continued to meet the OMRR Class A criterion of < 1,000 MPN/g fecal coliforms in 2025.

## APPENDIX A – TABLES

**Table 1:** Management and carry-over summary for fabricated soil made from FCPCC biosolids.

Row #	Material	Category	2020	2021	2022	2023	2024	2025
1	FCPCC Biosolids (wet tonnes)	Carry over from previous year	0	875	1,176	1,508	936	1,772
2		Tonnage delivered to BGM project	1,152	1,299	1,291	1,124	1,074	1,299
3		Tonnage exported from site	277	998	640	605	238	0
4		Tonnage used in landfill cover	0	0	0	648	0	972
5		Volume landfilled	0	0	0	0	0	864
6		Tonnage Correction <sup>a</sup>	0	0	320	443	0	251
7		Carry over to next year (1+2)-(3+4+5+6)	875	1,176	1,508	936	1,772	985
8	BGM/BFS (cubic metres)	Carry over from previous year	0	3,320	4,720	6,260	3,610	7,480
9		Volume mixed	4,720	6,020	5,980	5,200	4,970	7,460
10		Volume exported from site	1,400	4,620	2,960	2,800	1,100	0
11		Volume used in landfill cover	0	0	0	3,000	0	4,500
12		Volume landfilled	0	0	0	0	0	4,000
13		Volume Correction <sup>a</sup>	0	0	1,480	2,050	0	1,440
14		Carry over to next year (8+9)-(10+11+12+13)	3,320	4,720	6,260	3,610	7,480	5,000

a Tonnage/volume correction to match calculated estimates to year-end site observations.

**Table 2:** French Creek Pollution Control Centre biosolids quality summary - 2025.

WWTP	FCPCC	OMRR Class A Biosolids Criteria <sup>a</sup>	Units
# of samples	3		
<b>Available Nutrients</b>			
Ammonia + Ammonium - N (available)	2,923	-	µg/g
Nitrate - N (available)	7	-	µg/g
Phosphorus (total)	16,000	-	µg/g
Potassium (available)	741	-	µg/g
<b>Classification</b>			
Organic Matter	70.8	-	%
Total Nitrogen	4.35	-	%
C:N Ratio	10.6	-	-
<b>OMRR Trace Elements</b>			
Arsenic	2.2	75	µg/g
Cadmium	1.42	20	µg/g
Chromium	23.9	1,060 <sup>b</sup>	µg/g
Cobalt	2.47	150	µg/g
Copper	567	2,200 <sup>b</sup>	µg/g
Lead	14.5	500	µg/g
Mercury	0.822	5	µg/g
Molybdenum	5.6	20	µg/g
Nickel	10.6	180	µg/g
Selenium	4.4	14	µg/g
Zinc	1,148	1,850	µg/g
<b>Physical Properties</b>			
Total Solids	24.4	-	%
Electrical Conductivity (Sat Paste)	6.75	-	dS/m
pH (1:2 Soil:Water)	6.8	-	pH
Foreign Matter	< 0.1	1	%
Foreign Matter (sharps)	< 0.1	0	%
<b>Microbiology</b>			
Fecal coliforms	< 8 <sup>b</sup>	1,000	MPN/g Dry

**Note:** All analyses based on dry weight.

a Class A trace element criteria specified in the August 2017 version of *Trade Memorandum T-4-93, Standards for Metals in Fertilizers and Supplements*, and microbiological criteria specified in Schedule 3 of the *BC Organic Matter Recycling Regulation*.

b Value is the maximum of eight samples collected by SYLVIS throughout 2025.