

Town of Fort Smith Water Licence (MV2011L3-0001)

Meeting of Interested Parties: Outstanding Submissions and Operations

Summary Meeting Notes – Tuesday, July 19, 2016 at 10:30 am

These meeting notes attempt to capture the main discussion points and any decisions or actions that were identified during the meeting. Ideas expressed by participants are paraphrased and summarized; they are not reproduced here verbatim. The Water Licence Submission Status and Operational Issues tables have been revised based on discussions at this meeting, and are included at the end of these meeting notes.

Attendees:

Patrick Simon – Hamlet of Fort Resolution
Carol Collins – Deninu K'ue First Nation
Ronald Beaulieu – Fort Resolution Metis Council
Wendy Bidwell – Environment and Natural Resources (ENR), GNWT
Gavin Olvera – Municipal and Community Affairs (MACA), GNWT
Keith Morrison – Town of Fort Smith
Mahabub Zaman – Town of Fort Smith
Trevor Evans – Fort Smith Metis Nation
Troy Ellsworth – ENR, South Slave
Melissa Pinto – Environment and Climate Change Canada (by phone)
Nathen Richea – ENR, Water Resources (by phone)
Bill Pain – ENR, Water Resources (by phone)
Miki Ehrlich – MVLWB
Rebecca Chouinard – MVLWB
Heather Scott – MVLWB (by phone)
Erica Janes - MVLWB

Overview of Water Licence

Board staff gave a [presentation](#) that covered the role of Boards, Water Licence benefits and processes, and specifics on the [Town's current Water Licence](#), which was renewed in 2011 for 15 years. At the time of the renewal, the Board's consultants looked at water quality and flow data from the Slave River, and determined that the existing effluent quality criteria (EQC) in the Licence were sufficient to protect water quality in the Slave River. Based on some further information requirements with respect to ammonia concentrations in the sewage effluent, the water licence required two submissions from the Town (an Ammonia Discussion Paper and a Sewage Treatment Improvement Plan). These plans were submitted and approved by the Board in 2015.

Status of Submissions required by Water Licence

Board staff reviewed the July 14th 2016 [Water Licence Submission Status Table](#) (revised version included below). The Town has made significant progress with outstanding items received since the table was created, including:

- Annual Reports from 2013, 2014 and 2015 (submitted July 16th, 2016)
- CBOD-BOD Trend Analysis of sewage effluent (submitted July 18th, 2016), and
- Sewage Lagoon Operations and Maintenance Plan (submitted July 15th, 2016).

These submissions have been posted on the [Town's public registry page](#), and will go out for review. Board staff will update the Board on the Annual Reports, and the CBOD-BOD Trend Analysis and Sewage Lagoon O&M Plan will be taken to the Board for approval.

General Discussion

The Fort Resolution delegation raised concerns with the Town's sewage discharge into the Slave River, the safety of their drinking water, recent changes in the River and Delta ecosystem and wildlife, and their feeling that they were not consulted on the Town's Water Licence.

Board staff explained the rationale behind the EQCs in the Water Licence and the value of ongoing monitoring, as well as how the Board's [Engagement and Consultation Policy](#) and [Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits](#) are used toward the shared goal of making sure water is clean. Board staff acknowledged the desire to have more of a presence in Fort Resolution, and the need to continue exploring better ways to engage people, together.

There was general agreement on the value of this kind of focused, face-to-face meeting, and that meetings should continue to happen to help foster effective, efficient partnerships with municipalities.

To meet Water Licence requirements, the Town must hire consultants for their expertise and understanding of best practices, which can be challenging financially, logistically, and in terms of Town staff being able to understand and implement plans developed. Effective strategies for meeting requirements include:

- Review comments from Board staff on Water Licence requirements
- Templates from Board
- Organize meetings with Town, consultants and Board staff to ensure clarity: effective communication and working as a team

Board staff pointed out that MACA does have technical staff that could assist communities in working with consultants, but their capacity to do so is unknown.

Water Quality Monitoring in Region

ENR staff provided information on regional water quality monitoring, which takes place through:

1. [Slave River and Delta Partnership](#)

- Ongoing since 2013
 - Partnership between ENR and University of Saskatchewan to support community-based aquatic monitoring, including science and traditional knowledge
 - [Assessment reports](#) were finalized this past April and sent out to partner organizations
 - Contact: nwtwaterstrategy@gov.nt.ca or 867-920-6339
2. Transboundary monitoring
- Started as early as 1982 to assess upstream impacts from hydroelectric and oilsands development, as well as climate change
 - Sampling done at Fort Smith 3-4 times per year for water and sediment quality
 - A [Slave River Report](#) was published in 1998, as well as a [State of the Aquatic Ecosystem Report](#) in 2003 and a [Mackenzie River Basin Board Issues Report](#) in 2012
3. [Community-based Monitoring](#)
- ENR works with local organizations to design and conduct ongoing community-based water monitoring
 - Starting in 2012, 3 stations are monitored 5 times per year for water quality (downstream of Rapids of the Drowned, at Big Eddy near Fort Resolution, and near the Fort Resolution water intake on Great Slave Lake)
 - As of yet, no health or ecosystem concerns have been identified as a result of community-based monitoring, but data continues to be collected
 - Results are shared in real time on the [Mackenzie DataStream](#)
 - Contact: nwtwaterstrategy@gov.nt.ca

Additional monitoring on Slave River:

- The Town is now doing daily sediment sampling at break-up in cooperation with ENR;
- SNP station 547-6 under the Water Licence will monitor the sewage lagoon outflow mixing in the Slave River and provide additional baseline data;
- [MACA drinking water quality database](#) shows sampling required by Health and Social Services (note that local community/Hamlet offices may have more up-to-date data), and
- Sampling is required under [Fort Resolution's Water Licence](#), results of which will be posted on the public registry (Annual Reports and Inspection Reports).

It was noted that many parties and organizations are involved with water monitoring; a summary table with links and contacts for this information would be a helpful communication tool.

Additional information about drinking water can be found at:

- www.nwt drinkingwater.ca
- www.maca.gov.nt.ca/home/for-residents/land-water-waste/drinking-water
- Canadian Drinking Water Guidelines: www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/guide/index-eng.php

The Inspector with ENR commented that in the past 3 years, sampling at SNP station 567-2 (site of compliance to monitor final effluent quality before discharge into the River) has not shown an

exceedance of the EQCs in the Water Licence. Sampling results are available on the [public registry](#), appended to Inspection Reports.

Outstanding Operational Issues

The ENR Inspector ran through the [Outstanding Operational Water Licence Issues table](#) (revised version below). She commented that she's glad to see the Town taking many steps recently to address issues included in the Table.

Discussion items:

- Sewage: Annual Reports recently submitted should quantify the amount of sewage discharge.
- Sludge: following desludging, sludge can be placed in the unlined bermed area near the lagoons. Any liquid is pumped back into the lagoon, but there would be some infiltration. Remaining solids can be left to cure and used as fertilizer.
- Low-level radiation area: exists because of waste from barge portages when uranium shipped from Great Bear Lake to the south. Environment Canada monitors this area annually. Presentation to Council by Canadian Nuclear Laboratories tonight to see if Town will accept additional waste.
- Hydrocarbon-contaminated soil: if the Town chooses to accept, will need to register with ENR and apply for a Water Licence amendment.
- Licence term: was discussed extensively during renewal process. Intention is for adaptive management to be built into the term of Licence so that amendments and modifications can be made as needed, and there are mechanisms built into the process for concerns to be raised and dealt with.

Update on Town Operations

The Town's SAO used the two Tables to review Town operations, and explained the Town's perspective on sequencing various Plans and Reports and costs of adhering to many aspects of the Water Licence. He pointed out that the more detailed the requirement from the Board, the easier it is for him to get Council's support for meeting Water Licence requirements.

The following were points of discussion:

- Lagoon:
 - currently meeting effluent requirements (meeting National standard); have had one exceedance in 3 years.
 - have added SNP station 567-6 to verify mixing of effluent in Slave River; the Town plans to take samples during open water season only due to safety concerns (this will require an amendment to the SNP).
- Sewage treatment technology:
 - Mechanical processing is prohibitively expensive (Fort Simpson is the only NWT community with this technology).

- Lots of research shows that lagoons are effective if operated properly, and are easier to operate than a plant.
- GNWT is looking at performance standards for wastewater treatment in northern environments, which will help the Town direct its operations.
- Groundwater Monitoring:
 - Reporting stopped according to Water Licence, until new Plan is developed
 - The Town plans to start groundwater monitoring once the Groundwater Monitoring and Management Plan is approved
- Solid Waste Facilities Operations and Maintenance Plan:
 - The Town plans to delay completing this Plan until the ICRP is approved and new aspects of facility are designed, so that it can capture these pieces (cap existing cell, expand, add boreholes, implement household waste recycling program).
 - Board staff would like to see this O&M Plan submitted sooner and revised as necessary, so that the Board and Inspector understand how the landfill is currently being operated.
 - Municipal Landfill Guidelines for the NWT are currently under development.
- Desludging:
 - A contractor has been booked to do this work this summer, including removing accumulated vegetation from perimeter of lagoons.
 - The Town plans to desludge based on sludge measurements (described in [Sewage Lagoon O&M Plan](#), now on Registry)
- Landfill stockpiles:
 - Many of the items on the list are currently being planned/budgeted for, but because of the cost of long haul distances, stockpiles often need to be large before it's economical to ship out
 - Town is working with ENR to clarify E-waste disposal requirements
 - Town is working to decide whether and how to deal with receiving hazardous and hydrocarbon contaminated waste (will be part of ICRP approval and cell design process, or be removed and cleaned up)

Next Steps

- Town SAO will fill out Submission Status and Outstanding Operational Issues tables with proposed new dates and rationale; to be submitted to Board and Inspector mid-next week
- Board staff will then send new dates out for review and bring to the Board for approval
- Town SAO will submit a request to the Board to change SNP station 567-6 to open-water sampling only. This will also require review and approval (though no Water Licence amendment)
- Town SAO will submit rationale and dates for completing the Annual Groundwater Monitoring and Protection Program reporting
- ENR staff will confirm whether bird and frog species, as well as shorebird food sources, are being monitored through CBM

MV2011L3-0001 - Town of Fort Smith Type A Water Licence

Table 1: Status of Submissions Required

Blue text denotes updates since July 16, 2016

Licence Condition	Report Title / Action Required	Submission Due Date	Date Submitted	Status
B.1 Schedule 1-1	Annual Report	March 31 each year	2011: February 23, 2012 2012: April 2, 2013 2013 (extended to April 30, 2014): July 16, 2016 2014: July 16, 2016 2015: July 16, 2016	Complete
D.3	Study comparing results of CBOD and BOD analysis of sewage effluent	March 1, 2015	July 18, 2016	To be posted for review September 2016
D.12 Schedule 2-2	Annual Groundwater Monitoring and Protection Program Report	May 1 each year	2013: 2014: 2015:	Outstanding pending Board approval of Groundwater Monitoring and Protection Plan
I.2 Schedule 4-2	Operation and Maintenance Plan for Solid Waste Disposal Facilities	April 30, 2012		Outstanding: anticipated end of September 2016
I.1 Schedule 4-1	Operation and Maintenance Plan for Sewage Disposal Facilities	April 30, 2012 (extended to September 30, 2016)	July 15, 2016	To be posted for review September 2016

Table 2: Status of Submissions Received

Blue text denotes updates since July 16, 2016

Licence Condition	Report Title / Action Required	Submission Due Date	Date Submitted	Status
D.8 Schedule 2-1	Groundwater Monitoring and Protection Program	June 30, 2012	May 5, 2016	In preparation for being presented to MVLWB in September 2016
D.13 Schedule 2-3	Discussion Paper for improvement of sewage treatment (ammonia)	November 1, 2012	November 17, 2014	Approved by Board July 16, 2015
D.14	Sewage Treatment Improvement Plan	November 1, 2014 (extended to March 30, 2015)	September 4, 2015	Approved by Board November 19, 2015
F.1	Spill Contingency Plan	December 30, 2011	December 20, 2012 Revised Plan November 17, 2014	Approved by Board April 23, 2015
G.1 Schedule 3-1	Interim Closure and Reclamation Plan for the Solid Waste Disposal Facilities	June 30, 2013	April 22, 2016	In preparation for being presented to MVLWB in September 2016

MV2011L3-0001 – Town of Fort Smith – Outstanding Operational Water Licence Issues.

The following items have been identified as non-compliant in previous inspection reports. ENR-South Slave Region expects all the items listed in the table below to be addressed before freeze-up 2016. Please indicate proposed dates for completion/implementation of the above for our consideration.

Blue text denotes the Town’s responses following the July 19, 2016 meeting of parties.

Facility	Action Required	Proposed date of completion	Comments (include any milestones towards completion, details on frequency for ongoing tasks, and any factors that may affect the timeline)
Sewage Lagoon	1. Remove accumulated vegetation/bio-matter from inside and around cell perimeter berms. Clear vegetation along and around discharge pipe and support structures.	By freeze-up 2016	Lagoon Cells 1 and 2 have had vegetation removed. Secondary cell to be completed by freeze-up.
	2. Post sign at SNP sampling station 567-6 (To monitor receiving environment of Sewage Disposal Facilities).	By freeze-up 2016	Will be posted by freeze-up.
	3. Sample 567-6 on monthly basis in 2016 open water season.	Started & ongoing	Monthly monitoring has commenced. Town to submit an SNP revision request for 567-6 to be sampled during open water only.
	4. Measure sludge depth and report findings to an Inspector.	Unknown	Sewage lagoon Cells 1 & 2 have been desludged. The contractor who performed desludging advises the secondary cell does not require desludging at this time. The Town will measure sludge depth in the secondary cell once appropriate procedures for this work have been established, PPE and equipment purchased, and safe work training completed. These procedures are contained in the Sewage Lagoon Operation and Maintenance Plan which is currently before the Board for review. The Town cannot guarantee that this work will be complete by freeze-up 2016.
	5. Desludge sewage lagoon cells.	Cells 1 & 2 completed	Please see response to Item #4 above regarding Sewage Lagoon desludging.

Landfill	6. Clean up windblown debris on and around the electric bear fence, fix fence and hole located near SNP 567-4 station location and make fence operational at optimum voltage. Inform the Inspector when this is completed.	By freeze-up 2016	Maintenance work on the Landfill electric fence is underway and will be complete by freeze-up 2016.
	7. Compact and cover domestic and construction waste more frequently to reduce windblown debris and wildlife scavenging.	To be determined	Current Landfill Operations and Maintenance procedures only require compaction and cover twice per year. The Town is amenable to increasing the frequency of this work, but suggests that this dialog occur during review of the ICRP and subsequent Landfill expansion design and Landfill Operations and Maintenance Plan development. Note that additional cover would require additional cover material so should be considered as part of the design of the expanded Landfill. Further, compaction and cover during summer months is difficult given the lack of availability of local contactors (bulldozers tend to travel out of town for fire season); additional compaction and cover would most likely require that the Town purchase equipment, construct a facility to store this equipment, and hire/train additional personnel.
	8. Plan and budget for removal/proper disposal of stockpiled metal, white appliances, derelict vehicles and tire waste. Hazardous substances in appliance and vehicle waste to be decommissioned prior to final disposal/recycling.	To be determined	The Town has been stockpiling metals, whites, and vehicles, in order to ensure economy of scale during removal of said items. All items are typically removed to waste metal receivers located in Southern Canada. As a result, the transport of these heavy and bulky goods is a considerable expense. Further, the value of these metals varies dramatically with commodity prices. Cost-effective removal only occurs when there is a significant stockpile of material and commodity prices are high. The Town is currently working to have these items removed, but cannot guarantee that this work will be complete by freeze-up 2016.
	9. Place accumulated electronic waste on pallets and arrange for removal/proper disposal.	By freeze-up 2016	This work is underway and will be complete by freeze-up 2016 provided a receiver of the remaining e-waste can be identified; remaining e-waste items are damaged (i.e., fire, broken glass) and the GNWT has refused to receive them, yet the Town is hesitant to landfill these items.

	10. Ship out stockpiled hazardous waste temporarily stored in the lined Contaminated Soil Facility area.	By freeze-up 2016	Work is underway to hire a carrier to transport current hazardous waste stored at the Landfill to an offsite receiver. The Town intends to have this work complete by freeze-up 2016.
	11. Clean up and properly dispose of hydrocarbon stained soil around stored hazardous waste in the lined Contaminated Soil Facility area.	Summer 2017	Remediation of the lined contaminated soils area, or fencing of this area to discourage wildlife, will occur during construction of the expanded Landfill, scheduled for Summer 2017.
	12. Determine whether Town wants to be a Receiver of hydrocarbon contaminated soil, and if so register the lined Contaminated Soil Facility area with ENR.	Winter 2016/17	The Town will determine if it wants to become a hazardous waste receiver during the design of the expanded Landfill, scheduled for Winter 2016/17.
	13. Create secure fenced/gated area to store household and other hazardous waste to avoid spills and wildlife scavenging.	Summer 2017	Please see response to Items #11 and #12 above regarding hazardous waste storage.
	14. Use mounding method to cover and compact domestic and construction waste at Landfill. Construction waste should not be pushed over embankment towards the river valley.	Implemented	The Town has been mounding waste at the Landfill since Spring 2016.
	15. Sample Ground Water Monitoring Wells at the Landfill. Annual Groundwater Monitoring and Protection Program Plan and Program reports due in 2012 and monthly respectively are overdue. Wells have not been sampled since 2011.	In progress	As per Surveillance Network Program Section A, SNP 567-5 (groundwater monitoring wells) is inactive. In addition, a September 29, 2011, decision by the Mackenzie Valley Land and Water Board (Board) states that" ... the SNP requirements for the groundwater monitoring at the Solid Waste Disposal Facility have been removed and SNP station 567- 5 made inactive. Groundwater monitoring requirements will now be detailed in the Groundwater Monitoring and Protection Plan as required under Part D, Item 8.'1 The Groundwater Monitoring and Protection Plan referenced in this decision is currently before the Board for review.
	16. Results of SNP Sampling for all stations from 2013-present. Tabularized results should be included in Annual reports.	Completed	Outstanding Annual Reports are currently before the Board for review.