Summary of Complaint to Nova Scotia Office of the Ombudsman: Drinking Water Contamination in Harrietsfield, Nova Scotia

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a) Summary of complaint

Nova Scotia Environment (the "Department" or "NSE")) has mismanaged the adverse environmental impacts of the construction and demolition ("C & D") recycling facility at 1275 Old Sambro Road, Harrietsfield Nova Scotia (the "Property") from 2001 through to the present. The Department's actions on this file indicate policies that should be modified because they do not adequately achieve the Department's mandate to deliver effective and efficient regulatory management for the protection of the environment.

My concerns centre around the manner in which the Department's environmental management services are delivered, as well as a lack of accountability and an unfair impact on Harrietsfield community members through no fault of their own. As such, this complaint falls squarely within the mandate of the Office of the Ombudsman.

As outlined in further detail below, the mismanagement of the Property can be seen in five primary, and well documented, failures:

1. the Department approved the disposal of large volumes of waste on the Property after concluding that such disposal was inappropriate;
2. the Department did not adequately follow up on the approved method of disposing waste on the Property once approval was granted;
3. despite having required monitoring of surface water and groundwater due to concerns about contamination, the Department did not analyze or monitor that water quality data over a period of more than six years;
4. the Department has taken no meaningful enforcement action against serious, unapproved, environmentally damaging activities on the Property and has instead contributed to lengthy delays in site improvement; and
5. the Department has failed to communicate with those directly affected by the environmental impacts emanating from the Property.

As Nova Scotia's Ombudsman I request that you examine these failures and make recommendations to the Department, including:

1. That the Department be open and transparent with community members whose properties are subject to the Ministerial Order (described below) with respect to the enforcement of the Order, the Minister's decision with respect to clause 7, and the clean-up of the RDM site.
2. That the Department use available tools in the *Environment Act* to ensure the Property is cleaned up and further contamination of the site prevented.

3. To work with the companies and persons responsible for contamination at the RDM site, as well as other levels of government, to ensure that all homeowners with wells impacted by the site receive access to clean drinking water. This includes wells with health-based impacts as well as aesthetic impacts.
4. To take steps to ensure all requirements of the 2003 Remedial Action Plan (described below) are complied with in regard to the containment cell located on the RDM Property.
5. In order to ensure that communities do not suffer unfairly in the future, that NSE create policies to ensure that (a) where contamination is likely impacting well water steps are taken to address the impacts where they are health-based or aesthetic in nature, and (b) where the Department requires monitoring of groundwater or surface water due to concerns about contamination the Department ensures that the results of that monitoring are reviewed and analyzed to ensure protection of the environment and human health.

b) History of contamination and concerns about groundwater

RDM Recycling Limited ("RDM") began operating a C & D recycling facility on the Property in November of 1997 and applied to the Department for approval to operate a C & D disposal facility on the Property three years later.[1] Although C & D recycling facilities are licenced at the municipal level only, provincial approval is required for disposal facilities. RDM also applied for and was granted a licence from the Halifax Regional Municipality ("HRM") to dispose of C & D waste on the Property in this same time period.

As part of the Department's review of RDM's application, it required monitoring of surface water and groundwater on the Property, and on surrounding properties, beginning in 2001. The results from that testing indicated that substances in the water exceeded the thresholds in the Guidelines for Canadian Drinking Water Quality ("Water Quality Guidelines") and that the disposal facility may pose a risk to some private wells on Old Sambro Road.[2] In particular, concerns were raised about elevated levels of sulphate (commonly associated with disposed gyproc) and boron (commonly associated with flame retardant surfacing on gyproc, textile fiberglass, and other construction products).[3] The Department's hydrogeologist who reviewed the monitoring results recommended that if the application was approved, additional risk control strategies such as liner leak detection, leachate collection, and monitoring should be considered and a detailed groundwater and surface water monitoring plan should be submitted.

Given existing impacts to surface water and groundwater, and related risks posed by RDM's operations on the Property, the Department refused the disposal approval in 2003.[4] In the

[1] See enclosed document #1 – Briefing Note to Minister dated January 20, 2003.
[2] See enclosed document #2 – 25 July 2002 Memo To File re "C&D Disposal Facility Application, RDM Recycling Ltd."
[3] See enclosed document #3 – MGI Limited letter dated August 25, 2003 at pp3-4.
[4] See enclosed document #4 – NSDEL Overview Report "Groundwater and Surface Water Environmental Aspects RDM Recycling Ltd. Construction and Demolition Disposal Facility Application"

intervening years since it applied to the Department, RDM had continued to stockpile C & D waste on the Property – including gyproc and textile carpeting – along with other waste, exposed to the elements. Some waste was disposed of in a settling pond.

The Department was aware of the unauthorized stockpiling and disposal and did not take any enforcement action. However, it requested and approved a Remedial Action Plan ("RAP") in 2003. The RAP contains an acknowledgment that immediate action was "required to address off-site impacts and implement engineering solutions that will reduce or eliminate re-occurrences of well understood problems associated with leachate generation and movement on and off-site."[5]

The RAP required the construction of a containment cell on the Property for the one time disposal of the stockpiled waste. The letter approving the RAP required "… the liner and capping work must be certified by a geotechnical engineer. This certification shall be submitted within three weeks of the initial remedial project completion."[6] The cell was also supposed to include a leachate collection system and regular monitoring of that system.[7] There is no evidence that such a certification was ever conducted and no evidence that the Department took any steps to enforce that requirement or the requirement with respect to regular monitoring of leachate from the containment cell. The cell is still on the site to this day.

Construction on the containment cell began in October 2003 and the cell was filled and capped in October 2004. I understand it contains approximately 120,000 tonnes of material.

The RAP also required quarterly and annual monitoring of surface water as well as groundwater in a total of 14 private domestic wells, including my own, as well as on-site monitoring wells. Beginning at the end of 2003, this monitoring was conducted and the results provided to homeowners – including myself – whose wells were sampled. The results were sent to us by the company contracted by RDM and provided in a very complex format. To the best of my knowledge, no one from RDM or the Department explained these results to me or to others in my community.

It is unclear whether the monitoring results were also being sent to the Department, but it would be unfair and irresponsible to require monitoring of well water due to health risks if no one was required to actually look at the results of that monitoring, so I assumed that the Department would be taking steps to ensure the monitoring results were appropriately analyzed.

c) Domestic well monitoring results were not analyzed until 2010

[5] See enclosed document #5 – RDM Remedial Plan C&D Debris Disposal Facility, Harrietsfield, Nova Scotia
[6] See enclosed document #6 – NSDEL letter dated November 27, 2003
[7] See enclosed document #5 – RDM Remedial Plan C&D Debris Disposal Facility, Harrietsfield, Nova Scotia

In 2005, 3076525 Nova Scotia Ltd. (the "Company") purchased all of the assets of RDM, with the exception of the Property. This new Company leased the Property from RDM and assumed business under the name "RDM Recycling". In 2009, the Company requested from the Department a reduction in the required frequency of water sampling. By chance, it was around this time that I noticed some fluctuations in the well sampling results being sent to my home. Unable to interpret the results myself, I wrote to the Department to ask for an explanation of what was going on. It was only at this time that the Department reviewed the data from the water samples collected between 2003 and 2009. I found this shocking because I believed that the monitoring results were being analyzed by the Department all this time to make sure my health was being protected.

For over 12 years, I and other residents of Harrietsfield have been voicing concerns to the Department about the Property and risks to groundwater. I organized a meeting in February of 2010 with members of my community and representatives of NSE to discuss elevated parameters in community members' well water.[8] I also wanted the Department to understand how much stress and anxiety was being caused by the "unknowns" of what was taking place at the Property and how to interpret the results of well water monitoring.

We were told by Department staff at this meeting that the file was being reviewed by the Department's hydrogeologist and that if anyone has an exceedance in a health-based parameter of the Water Quality Guidelines we should not drink our well water. Because of our difficulty understanding the sampling results being sent to our homes, as well as difficulty in differentiating between health-based and aesthetic-based parameters, I and others were concerned about how to determine when health parameters were or were not being exceeded in our water.

Once the Department finally reviewed the monitoring results in February of 2010, it concluded in a memorandum by the Regional Hydrogeologist with the Department, that:

> …it appears there is a growing plume of impacted groundwater both on site and leaving the site towards the south. The plume is carrying boron at concentrations which in some wells exceed drinking water health guidelines…
>
> Most significantly, it appears that through complex chemical and possibly microbial changes caused by the plume, uranium is being mobilized into groundwater. The uranium is most likely naturally present in solid form in bedrock, but is being dissolved

[8] See enclosed document #7 – Meeting Minutes Dated February 2, 2010

> due to the changes in groundwater chemistry (e.g. increased alkalinity) caused by the leachate plume from the C & D disposal and handling site…[9]

Uranium is naturally present in high levels in the bedrock in our community as well as several others in Nova Scotia.

The Department concluded that all seven domestic wells located downgradient of the Property were "very likely" or "likely" influenced by a groundwater plume sourced from the site and that three of these wells would require some form of mitigation or management action, as well as continued monitoring due to upward trends in certain parameters of the water which may pose a health risk.[10] Four of the domestic wells required continued monitoring but not immediate management action.

In particular, there were elevated concentrations of boron and sulphate in all wells for which data were reviewed, as well as high levels of uranium and cadmium in many wells. There was "a clear correspondence between upward trends in boron and/or sulphate and the metals uranium and cadmium".[11] I was shocked to learn that uranium and cadmium concentrations had regularly exceeded the Water Quality Guidelines in some of my neighbours' wells.

In May of 2010, an environmental health consultant contacted by the Department told the Department that there were "clear" exceedances of the Water Quality Guidelines in some domestic wells and that there were serious risks to residents' health, such that a number of owners of impacted wells should find alternate sources of water.[12]

Even though the Department's own testing revealed serious threats to the health of some Harrietsfield residents, it was not until July 15, 2010 that they sent us letters and met with us to explain their findings. Many residents were told by the Department at this time to use alternative sources of water for drinking, cooking, or brushing teeth. This was frightening to hear because many people had been drinking their well water for years not knowing it could be putting their health at risk.

The letter I received in July 2010 indicated that my well was likely impacted by contamination from the RDM site due to an increase in alkalinity, as well as an increase in alkalinity, pH, and boron in the closest upgradient monitoring well, since monitoring started. I wish I had been told of this likely impact sooner. Many of my neighbours were informed of even more serious

[9] See enclosed document #8 – NSE Memorandum dated February 5, 2010
[10] See enclosed document #9 – NSE Letters dated June 24, 2010
[11] See enclosed document #10 – RDM Recycling Limited, Harrietsfield, Halifax Regional Municipality – Update dated January 27, 2010
[12] See enclosed document #11 – Email dated May 28, 2010, Subject: "2003-2009 Monitoring Results"

impacts, including my neighbours Melissa King and Jonathan Andrews ("Melissa and Jonathan") at 1300 Old Sambro Road.[13]

No alternative sources of water have been provided by NSE, the Halifax Regional Municipality "HRM", or RDM to date. I understand based on speaking with my neighbours that none of the eight homes downgradient of the Property has been provided with a water treatment system by RDM.

Most Harrietsfield residents are of modest financial means and so we cannot afford to buy water. Instead, I have made arrangements with a nearby United Church that allows us to fill up jugs of water to use in our homes. I cannot begin to explain the hardship that this has placed on me and my fellow community members. For instance, my neighbours Melissa and Jonathan at 1300 Old Sambro Road were unable to bathe their infant son in their own home and so they travelled with his bathtub in the trunk of their car and bathed him while at the homes of family. They have since abandoned their home and they have explained to me that the water contamination is what led them to take that action.

d) The November 2010 Ministerial Order

The Department denied the Company's request to reduce monitoring frequency. After some discussions with the Company, the Minister of Environment issued a Ministerial Order on November 5, 2010 pursuant to section 125 of the *Environment Act* ("the Act") requiring monitoring and remediation of the contamination on the Property and neighbouring sites by five parties who were present and past owners and operators of the site.[14] The Company appealed the Ministerial Order in December 2010 pursuant to section 138 of the Act.

The appeal was held in abeyance while NSE sought to work with the Company on a settlement. This took over three years and nothing was done during this time to address our water quality problems or even to inform us about what was going on. Residents received virtually no communication from the Department or the Company during this time and were not aware that the Order had been appealed until owners of properties named on the Order received a letter from the Department of Justice on September 11, 2013. Because the Order directly affected our interests and our health, Melissa, Jonathan, and I intervened in this appeal to argue that the Order should be upheld.

It also does not appear that the Department was enforcing the terms of the Order during the time between its issuance and the hearing of the appeal. It is clear based on the court record as well as materials we have received through Freedom of Information requests that clause 7 of the Order –

[13] See enclosed documents #12 – Letters from NSE to Harrietsfield residents dated July 15, 2010
[14] See enclosed document #13 – November 5, 2010 Ministerial Order

which deals with the containment cell on the site – has not been complied with by any of the parties named on the Order. The situation is less clear with respect to the other terms of the Order.

The Company's appeal of the Order was largely denied by Justice Arnold on May 6, 2015 in *3076525 Nova Scotia Ltd. v. Nova Scotia (Environment)*, 2015 NSSC 137 . The Court sent clause 7 – the one dealing with the containment cell discussed above – back to the Minister for reconsideration but upheld the remainder of the Order. Clause 7 was sent back because the court found that Department staff did not adequately inform the Minister of the containment cell that had been approved on the Property. There is no reason for this oversight and it has resulted in years of delay in the remediation of the environmental damage on the Property and surrounding area.

e) Attempts to Contact the Department about the Order

It does not appear that the Minister and the Department have enforced the Order and to date, though it is over five years old. They have not made any determinations on the section of the Order remitted to the Minister. Furthermore, the Department has failed to provide local residents with any information on the status of the Order or plans to address the contamination.

On May 22, 2015 Melissa and I wrote to the Minister of Environment seeking a meeting to discuss his plans for enforcement of the Order. In a media interview on June 19, 2015 the Minister stated that "… no interim measures need to be taken to ensure residents have access to safe drinking water because their tap water is safe." I was confused and frustrated by this, and did not understand the basis for the Minister's statement. I would hope that if the Department has evidence that our water is now safe and the plume from the site is no longer impacting it they would share that information with community members rather than making broad and dismissive statements in the media.

By way of letter dated June 26, the Minister agreed to meet and also directed his staff to meet with any community member seeking information on their well water quality. I attended a meeting with staff on August 4, 2015. A NSE hydrogeologist provided a detailed overview of the monitoring results for my well and I appreciated her analysis. Still, I left the meeting with many unanswered questions about the enforcement of the Order and when the contamination at the site will be addressed. I sent emails to the Minister's office on August 13 and 25, 2015 seeking the promised meeting with the Minister but received no response.

On October 1, 2015 Melissa and I sent a letter to the Minister again asking to meet as promised but I have not received a response to that letter. A lawyer from East Coast Environmental Law who has been helping us for a number of years made requests with the Department's solicitor

with a view to reviewing the elements of the Order to determine compliance and a date for the Minister's decision on clause 7. This meeting took place on December 3, 2015 but the Department's solicitor was unable to provide any clarity on compliance or the status of the Minister's review of clause 7.

The lawyer from East Coast Environmental Law that has been helping us sent an email to the Deputy Minister of Environment on February 1, 2015 requesting a meeting with her and the Minister. Having not received a response she followed up on February 9, 2015 to repeat the request.

It has been eight months since Justice Arnold rendered his decision and we still have no information from NSE about compliance with the Order and when the Minister will be making a decision about clause 7 and the containment cell. This despite the undisputed impact that contamination from the site has had and continues to have on our well water and nearby surface water.

I have made many attempts to raise this issue with the HRM given that it was the municipality that licenced this facility over the course of its operation. The municipality has made it clear that it does not consider itself responsible for this matter because it is an issue of provincial jurisdiction, and that it does not intend to extend municipal drinking water to us because of the costs involved.

d) The Present Situation in Harrietsfield

Because of the Company's non-compliance with the Ministerial Order, HRM declined to renew its licence to operate its C & D recycling facility in January of 2013. There have not been any active operations at the site since that time but I understand from materials obtained by Freedom of Information requests that the Company may be considering plans to resume operations on the site in the future.[15]

These Freedom of Information materials demonstrate that NSE experts' current position is that there are clear impacts on the water on the site and downgradient from the site including in particular changes to groundwater chemistry that are resulting in increased release of uranium into the groundwater.[16] They are also aware of upward trends in boron which is above Water Quality Guidelines for some on-site wells, though not yet in exceedance of these Guidelines in domestic wells. That boron levels in domestic wells have not "yet" exceeded the Guidelines is of little reassurance to me.

[15] See enclosed document #14 – NSE Note-to-File dated July 28, 2015.
[16] See enclosed document #15 – Email dated June 3, 2015, Subject: Re: Harrietsfield

There are a number of documented instances of Water Quality Guideline exceedances for substances whose limits are based on aesthetic considerations – that is, they can adversely impact taste, smell, and colour. The Order only requires mitigation where health-based standards are violated. This means that although NSE believes that a given well has "likely" or "very likely" been impacted by contamination from the RDM site, those named on the Order are not required to take action if the impact is only with respect to odour, colour, or taste of the water. This is an unfair burden to place on me and other residents. We are of very limited financial means and cannot afford costly treatment systems. We should not be forced to endure foul tasting water or to continually replace fixtures and appliances in our homes because of contamination outside of our control.[17]

Some homes in our community do have treatment systems and many residents have spent thousands of dollars on them. Nonetheless, I understand that there have been occasions on which treated water has nonetheless exceeded Water Quality Guidelines for health standards. As mentioned above, based on discussions with my neighbours, I understand that none of the eight homes downgradient of the Property have been provided with a treatment system by RDM. Two of these homes have no water treatment systems at all.

A number of community members in Harrietsfield received letters in July 2015 indicating that uranium, arsenic, and/or lead in their wells exceeded the Drinking Water Quality Guidelines and that this was "very likely" associated with materials from the RDM Property.[18] They were told again that they should ensure their water is treated or use an alternate source of water. As noted above, it was in this very same month that the Minister stated on television that drinking water in Harrietsfield is "safe." The uncertainty caused by these competing messages also places an unfair burden of stress on me and others in my community. We do not know what is going on or who to believe.

…

[17] See enclosed document #16 – Photographs of fixtures in my home and my neighbour's home adversely impacted by my well water.
[18] See enclosed document #17 – NSE letters to Harrietsfield residents dated July 9, 2015