Ministry of the Environment, Conservation and Parks

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Ontario

DIRECTOR'S REPORT

Ontario Water Resources Act, R.S.O. 1990, c. O.40, as amended; s.62

To: The Corporation of the City of Temiskaming Shores
Post Office Box No. 2050
Haileybury, ON, P0J 1K0
Attention: Airianna Leveille, Public Works Clerk

Site location:

New Liskeard Lagoons, Bedard Road
City of Temiskaming Shores, District of Timiskaming
P0J 1P0

RE: Requirement to receive Industrial Wastewater from Calamity Creek Culvert Rehabilitation Project in Temiskaming Shores, Ontario

The Calamity Creek Culvert Rehabilitation Project (Project) is a Ministry of Transportation (MTO) project which involves in-water work in Calamity Creek for the purposes of replacing a culvert beneath Highway 11, just north of Toblers Road in the City of Temiskaming Shores (City).

On October 1, 2019, the Ministry of the Environment, Conservation and Parks (MECP) confirmed the registration, in accordance with section 20.21(1)(a) of the *Environmental Protection Act*, for the taking of water for dewatering a construction site, as prescribed in Ontario Regulation 63/16, on the Environmental Activity and Sector Registry of the activity associated with the Project, Registration No. R-009-9110668676 (Registration). This activity was registered by Construction Demathieu & Bard (CDB) as the general contractor for the Project.

In 2019, contaminated groundwater was intercepted during preliminary work on the Project site. Management of this contaminated groundwater was not anticipated and did not fall within the water taking and discharge plan of the Registration. Therefore, in 2019, all site water from the Project, collectively referred to herein as Industrial Wastewater, was collected and hauled off-site to an approved disposal facility.

On September 13, 2019, the MECP was informed by the Project's environmental consultant, Story Environmental Inc. (SEI), about the Industrial Wastewater. On that day and in a follow-up email on October 23, 2019, the MECP communicated the

requirement that “Where the discharge does not meet PWQO [Provincial Water Quality Objectives], the discharge shall be postponed, transported off-site for treatment or treated by an approved (ECA) mobile treatment unit. The alternative would be to submit an application and obtain [an] Environmental Compliance Approval (ECA) for an on-site treatment system to provide treatment of the discharge to meet the [MECP’s] surface water standards.”

Samples collected and analysed in April and May of 2020 by SEI who confirmed that the Industrial Wastewater was not of a quality that could be managed through the discharge plan of the Registration.

On May 14, 2020, SEI submitted a letter to the City regarding “Acceptance of Water from the Calamity Creek Project”. It was indicated in this letter, included as Schedule A of this Report, that “…the water which will be produced by the dewatering activities at the Calamity Creek construction site can be managed within the New Liskeard Sewage Lagoon without any ill effects. However, due to the uncertainty regarding the water quality associated with the ongoing daily dewatering, this water must be treated using an adsorptive media filtration system prior to hauling.”

On May 15, 2020, representatives from MTO, MECP, CDB, SEI and MTO’s contract administrator met to discuss options for the management of the Project’s Industrial Wastewater.

Currently, the Industrial Wastewater is hauled up to 340 km to one of three approved treatment facilities outside of the district in which the Project is located. To reduce hauling distance, emissions, costs and the potential spread of COVID-19, MTO’s preferred option is the hauling of the Industrial Wastewater to the City’s New Liskeard Lagoons sewage treatment system (the Works as defined in ECA No. 9205-ANYPRW).

The MTO believes that everything in their power should be done to minimize the potential spread of COVID-19, while safely continuing essential projects. It is estimated that the Project will be completed by August 31, 2020. The MTO anticipates that approximately 100 truck loads of Industrial Wastewater will require hauling and disposal by the end of August 2020, which is an average of approximately one truck load per day. To continue as is would result in approximately 100 roundtrips, each providing opportunities for three to four drivers to be potentially exposed or potentially to expose others, including restaurant employees, service station attendants, hotel operators, enforcement staff and treatment plant staff as they move in and out of the district.

In contrast, allowing for the hauling of the Industrial Wastewater locally reduces the number of drivers to one and the hauling distance to approximately 5 km. The drivers would be limited to the Project’s local area, thus minimizing the possible spread and introduction of the virus from outside the community.

On May 27, 2020, the City requested that the MECP allow the acceptance of the Project’s Industrial Wastewater into the Works via the Gray Road Lift Station, which is defined in ECA No. 5490-A3NJRQ.

On May 28, 2020, the City sent information to the MECP outlining its proposal to accept Industrial Wastewater originating at the Project site. The City's proposal assumes a maximum of 28,000 litres of Industrial Wastewater being received per day, seven days per week, for the remainder of the Project. The proposal is based on directing the Industrial Wastewater to the Gray Road Lift Station, which is part of the Works as described in the City's ECA No. 9205-ANYPRW, at a maximum rate of one 28,000 litre truck load per hour.

It is anticipated that the current need for Industrial Wastewater hauling will depend on weather, site conditions and the progress of the Project, and may last until September 30, 2020. A maximum of approximately 3,000,000 litres of Industrial Wastewater may require hauling and disposal in the Works in 2020.

This Report is being issued to provide an alternative to long-distance hauling of Industrial Wastewater from the Project to reduce:

a. The potential spread of COVID-19;
b. The environmental impact of hauling; and
c. The cost to the Crown.

For those reasons, it is my opinion that it is necessary in the public interest for the City to accept at their New Liskeard Lagoons, Industrial Wastewater from the Project site. Therefore, pursuant to my authority under section 62 of the *Ontario Water Resources Act*, I hereby direct the City to accept the Industrial Wastewater originating at the Project site into the Gray Road Lift Station owned by the City until September 30, 2020, subject to the conditions that follow:

1. Except as otherwise provided by these conditions, the City shall operate and maintain the Works and the Gray Road Lift Station approved under ECA No. 9205-ANYPRW and ECA No. 5490-A3NJRQ, respectively, per the conditions of these ECAs.

2. Upon receipt of the first load of Industrial Wastewater into the Gray Road Pumping Station, the City shall notify the Director in writing. When the City becomes aware that there is no longer a need to receive Industrial Wastewater from the Project site, the City shall notify the Director in writing.

3. Industrial Wastewater shall only be directed to the Gray Road Lift Station unless otherwise authorized by the Director. No Industrial Wastewater from the Project site shall be directed or redirected to the Works unless it is done in accordance with:

    - Schedule E – Limited Operational Flexibility of ECA No. 9205-ANYPRW;
    - Authorization granted by an amendment to ECA No. 9205-ANYPRW;
    - Other Ministry approval, or;
    - This or any other Director's Report.

4. The City shall notify the Director immediately should it become aware of the necessity for Industrial Wastewater to be received by the City beyond September 30, 2020.

5. Pursuant to Condition 11 below, the City shall only accept Industrial Wastewater that has been partially treated as provided in the May 14, 2020 letter included as Schedule A of this Report.

6. The City shall record the number of loads of Industrial Wastewater and the volume of each load received by the City for the duration of the time the Industrial Wastewater is delivered and as applicable until the Industrial Wastewater is no longer being received.

7. In addition to the requirements under ECA No. 9205-ANYPRW, for the duration of the time the Industrial Wastewater from the Project site is directed to the Works plus the annual average retention time for the Works, the City shall monitor the effluent, as described under ECA No. 9205-ANYPRW, on a weekly basis for the following lists of parameters:

    (a) Polycyclic aromatic hydrocarbons, alkylated polycyclic aromatic hydrocarbons, benzene, toluene, ethylbenzene, xylenes, phenols, cresols and xylenols; and
    (b) Iron, copper, chromium and arsenic.

8. No additional effluent limits are imposed on the final effluent monitoring program required under ECA No. 9205-ANYPRW. The laboratory detection limits for analyses for the purposes of this Report shall be below the Provincial Water Quality Objectives (PWQOs) and Interim PWQOs for each parameter listed in Condition 7(a) above. Sampling and analysis results shall be reported to the Director and maintained as outlined in Conditions 12 and 13 below.

9. The parameters listed in Condition 7 above shall be incorporated into the effluent monitoring program required under ECA 9205-ANYPRW for a minimum of one weekly monitoring event immediately prior to introduction of the Industrial Wastewater from the Project site; weekly monitoring events for the duration of Industrial Wastewater acceptance plus the annual average retention time for the Works; and for a minimum of one weekly monitoring event thereafter.

10. The Industrial Wastewater being hauled to the Gray Road Pumping Station from the Project site shall be sampled and analysed for all parameters listed in Condition 7 above on a weekly basis, with results reported to the Director and maintained as outlined in Conditions 12 and 13 below.

11. During the sampling prescribed in Condition 10 above, should concentrations of any of those parameters listed in Condition 7(a) above be observed to be greater than those listed in Table 1 of the City's By-Law No. 2012-032 (Sewer Use By-Law), included as Schedule B of this Report, or PQWO's where a by-law concentration is not available, the City shall cease accepting the Industrial

Wastewater into the Gray Road Lift Station. Written approval from the Director would be required prior to reintroduction of the Industrial Wastewater to the Gray Road Lift Station.

12. The City shall prepare and submit a monthly report to the Director summarizing the information recorded in conditions 6, 7, 8, 9 and 10 above. The first report is due three days following the last day of the calendar month in which Industrial Wastewater from the Project site is accepted and will continue to be submitted until all results required under Condition 9 and Condition 10 above have been provided to the Director in a monthly report.

13. The City shall retain for a minimum of three years from the date of their creation all records related to or resulting from the above conditions as well as any records submitted to the City by MTO or their representatives.

If you have any questions, please contact Simon Haslam, District Engineer, Ministry of the Environment, Conservation and Parks (MECP) – Drinking Water and Environmental Compliance Division (DWECD), Timmins District, at 807-708-3404.

REQUEST FOR HEARING

You may require a hearing before the Environmental Review Tribunal (Tribunal), if, within fifteen (15) calendar days from the deemed date of service of this Report, you serve written notice of your appeal on the Tribunal and the Director. Your notice must state:

(a) the portion(s) of the Report in respect of which the hearing is required; and
(b) the grounds on which you intend to rely at the hearing.

Except with leave of the Tribunal, you are not entitled to appeal a portion of the Report or to rely on a ground that is not stated in the notice requiring the hearing. Unless stayed by the Tribunal, the Director's Report remains in effect from the date of service until as specified in the Report.

Written notice requiring a hearing can be served upon:

The Secretary Environmental Review Tribunal 655 Bay Street, 15th Floor Toronto ON M5G 1E5 Fax: (416) 326-5370 Email: ERTTribunalsecretary@ontario.ca	and	The Director Ontario Water Resources Act, s.61 and 62 Ministry of the Environment, Conservation and Parks 5520 Highway 101 E South Porcupine, ON, P0N 1H0 Fax: (705) 235-1520 Email: carroll.leith@ontario.ca

Further information on the Tribunal and requirements for an appeal can be obtained directly from the Tribunal by:

Tel: (416) 212-6349 or 1(866) 448-2248
TTY 1-800-855-1155 via Bell Relay
Fax: (416) 326-5370 or 1(844) 213-3474
http://elto.gov.on.ca/contact/environmental-review-tribunal/

FOR YOUR INFORMATION

The following is for your information:

Service of the documentation referred to above can be made personally, by mail, by fax, by commercial courier or by email in accordance with the OWRA and O. Reg 226/07, Service of Documents regulation made under the OWRA. Further information can be obtained from e- Laws at https://www.ontario.ca/laws. Please note that choosing service by mail does not extend any of the above-mentioned timelines.

Unless stayed, this Report is effective from the date of service. Non-compliance with the requirements of this Report constitutes an offence.

The requirements of this Report are minimum requirements only and do not relieve you from complying with the following:

(a) any applicable federal legislation,
(b) any applicable provincial legislation or requirements that are not addressed in this Report, and
(c) any applicable municipal law.

The requirements of this Report are severable. If any requirement of this Report or the application of any requirement to any circumstances is held invalid, the application of such requirement to other circumstances and the remainder of the Report are not affected.

The procedures and other information provided above are intended as a guide. The legislation and/or regulations should be consulted for additional details and accurate reference.

Issued at **Timmins**, Ontario this 7th day of August 2020

Carroll Leith
Director, Ontario Water Resources Act s. 62
District Manager, Timmins District
Drinking Water and Environmental Compliance Division
Ministry of the Environment, Conservation and Parks

cc: Christopher W. Oslund, City Manager, City of Timiskaming Shores
Douglas Walsh, Director of Public Works, City of Temiskaming Shores
Steve Burnett, Technical and Environmental Compliance Coordinator, City of Temiskaming Shores
Erin Spires, Water Inspector, MECP – DWECD, Timmins District, North Bay Area Office
Simon Haslam, District Engineer, MECP – DWECD, Timmins District
Lauri St-Jacques, Senior Environmental Officer, MECP – DWECD, North Bay Area

Schedule A: May 14, 2020 Engineer's Letter to the City

14 May 2020

Mr. Steve Burnett
Technical and Environmental Compliance Coordinator
City of Temiskaming Shores
PO Box 2050, 325 Farr Drive
Haileybury, ON, P0J 1K0

sent via email 14 May 2020

Dear Mr. Burnett,

Re: Acceptance of Water from the Calamity Creek Project

Story Environmental Inc. ("SEI") has been retained by Construction Demathieu & Bard ("CDB') Inc. to confirm that there will be no ill effect to the New Liskeard Sewage Lagoon treatment system should the construction dewatering water from the Calamity Creek Culvert Upgrade Construction Project be hauled to the City of Temiskaming Shores' New Liskeard Sewage Lagoon. Phase 1 of this project took place in 2019 and Phase 2 is scheduled to commence in May 2020. There are two stages of dewatering required for the Phase 2 construction:

1) the initial dewatering of the water which has collected over the 2019/2020 winter/spring in the construction infrastructure, and

2) the ongoing daily dewatering of the water which will collect within their construction infrastructure during the 2020 construction season.

As indicated above, Phase 1 of this construction project was completed in 2019 and involved the installation of two large culverts under Highway 11 adjacent to Calamity Creek. During this first phase of construction, debris was encountered during boring which was contaminated with semi-volatile organics such as: cresols, naphthalenes, anthracenes, perylene, fluoranthenes, biphenyl, phthalates, chrysene, fluorene, and pentachlorophenol. As a result of the drilling activities these contaminants were transferred to the soil and water which resulted from the drilling activities. The contaminated soil and water were rigorously analysed by CDB and all of the materials were appropriately managed through off-site disposal at facilities which were licensed to accept water and soil containing elevated concentrations of these semi-volatile organics. The concentrations of these contaminants in the water ranged from fractions of parts per billion ("ppb") to one parameter (bis(2-ethylhexyl)phthalate) having a concentration approaching 1000 ppb in one water sample. These higher concentrations were only encountered when the boring activities came into direct contact with the contaminated debris. Generally, the concentrations, with the exception of the bis(2-ethylhexyl)phthalate, were less than 1 ppb. The bis(2-ethylhexyl)phthalate was generally in the 10's of ppb.

The results of the rigorous water sampling conducted in 2019 are attached. In this table the water is compared to Provincial Water Quality Objectives ("PWQOs") as well as the City of Temiskaming Shores Sewer Use By-Law concentrations.

The drilling and the installation of the culverts under Highway 11 was complete in 2019. In 2020, Phase 2 of this project is scheduled to be completed and these culverts will be extended to connect with Calamity Creek. This work will again involve excavating but it is anticipated that the 2020 excavation work will not encounter this same contaminated debris. However, in anticipation of residual contamination and the possibility of encountering this material again, CDB is determining the best method of managing any contaminated water or soil which could be encountered and have asked SEI to investigate the possibility of trucking the construction dewatering water to the City of Temiskaming Shores New Liskeard Sewage Lagoon.

Currently, CDB has estimated that there is approximately 2 400 cubic metres of water, groundwater and meteoric water, within the existing shafts, at the construction site. This water will have to be removed from the infrastructure and managed prior to commencement of construction activities for this year. Once the shafts are dewatered, CDB have estimated, based on 2019 operating experience, that there will be roughly 22 cubic metres of water which will require ongoing management on a daily basis (i.e., 15 litres per minute or 4 US gallons per minute).

According to the Environmental Compliance Approval for the New Liskeard Sewage Lagoon ("ECA"), this sewage treatment facility contains: four aerated lagoons, with a total volume of approximately 150 000 cubic metres, and two polishing lagoons, with a total volume of approximately 135 000 cubic metres. The rated capacity of the sewage treatment facility is 5 500 cubic metres per day. However, the New Liskeard Sewage Lagoon is only licensed to receive sewage. Permission to manage this water within the New Liskeard Sewage Lagoon will have to be obtained from the Ministry of Environment, Conservation, and Parks. These negotiations are ongoing and are not the responsibility of SEI.

Initial Dewatering Activities

It is proposed that the water which is currently contained within the shafts, 2 400 cubic metres, would be managed at a rate of approximately 500 cubic metres per day for a period of five days. However, the historic May sewage flows to the New Liskeard Sewage Lagoon still have to be reviewed. If it is determined that this rate of hauling is too high, the rate of hauling will be adjusted to ensure there is no negative impact on the performance of the New Liskeard Sewage Lagoon.

To determine whether the quality of this water is suitable to haul to the New Liskeard Sewage Lagoon it was sampled and analysed in April 2020. The results of these analyses are also attached to this letter. These results indicate that the water contained within the shafts in April can be hauled to the New Liskeard Sewage Lagoon. Only one semi-volatile parameter, pentachlorophenol, was detected in this water. All other semi-volatiles were non-detect. Some metal concentrations were above the respective PWQO but they were all below the City of Temiskaming Shores Sewer Use By-Law. Therefore, the water currently contained within the shafts, 2 400 cubic metres, as a result groundwater infiltration and meteoric water, can be safely managed within the New Liskeard Sewage Lagoon.

Ongoing Daily Dewatering Activities

However, the bigger question is how do they manage the water which accumulates in the construction infrastructure moving forward. To arrive at a decision regarding how to manage this water and whether it can be safely managed within the New Liskeard Sewage Lagoon with no ill effect, SEI:

- spoke to CDB and determined that the areas where they will be excavating in 2020 will likely not contain the same contaminated debris;
- compared the volume which will require management on a daily basis, estimated to be 22 cubic metres, to the volume in the first aerated lagoon, Cell D1 = 48 580 cubic metres, at the New Liskeard Sewage Lagoon and determined that the daily volume would represent less than 0.05% of this volume; and
- finally, compared the volume which will require management on a daily basis to the rated capacity of this sewage lagoon system, 5 500 cubic metres per day, and determined that the daily volume would represent less than 0.4% of the daily rated capacity.

Therefore, from a volumetric perspective, the New Liskeard Sewage Lagoon will be able to safely manage the volume of water requiring management on a daily basis.

However, from a chemistry perspective, there is uncertainty. Although, CDB doesn't anticipate encountering this same contaminated debris this year, the groundwater which leaches into the shafts once they are dewatered could contain these semi-volatile organic contaminants. Although, the groundwater in close proximity to the east shaft was sampled and analysed in April 2020 and did not contain any detectable concentrations of these semi-volatile organics, there is still uncertainty. Therefore, to ensure the protection of the New Liskeard Sewage Lagoon through the 2020 construction season, SEI would propose the installation of an adsorptive media filtration system to treat the water prior to hauling he water to the New Liskeard Sewage Lagoon.

This adsorptive media filtration system will consist of 45 gallon drums of a combination of activated carbon, charcoal, and/or activated clay material installed in parallel or in series or both as necessary to ensure that the semi-volatile organic concentrations within the water are reduced prior to hauling to the New Liskeard Sewage Lagoon. SEI will provide worst case water chemistry to several treatment system suppliers. These suppliers will be asked to recommend the necessary adsorptive filter media, the configuration of the treatment system, and the media replacement frequency. The adsorptive filter media will be replaced at the frequency recommended by the supplier. One supplier of these types of adsorptive media filtration systems, ERE Inc, has provided some performance data for this type of treatment system and adsorptive filtration media which they would recommend for this application. This data is attached. This data clearly indicates that the proposed adsorptive filtration media, UltraSorber™ and activated clay, will effectively treat the semi-volatile organics which have been encountered at this site. An image of a typical adsorptive media filtration system is provided below in Figure 1.

Figure 1 Typical Adsorptive Media Filtration System (source: ERE Inc.)

The water being hauled to the New Liskeard Sewage Lagoon will also be tested on a weekly basis to ensure that the concentrations of semi-volatile organics are low (i.e., below 5 ppb or non-detectable concentrations). If they are ever not within this range, an analysis will be conducted based on the toxicity of the parameter/s to determine whether there is any risk to the New Liskeard Sewage Lagoon. If there is a potential risk, an additional stage of adsorptive media filtration will be added or the water will be hauled to an off-site disposal facility licensed to handle this type of waste water.

The City of Temiskaming Shores will receive frequent updates regarding the chemistry of the water being hauled to the New Liskeard Sewage Lagoon. The weekly analyses, after review by SEI and CDB, will be forwarded to the city so that they are continually apprised of the quality of water being sent to the New Liskeard Sewage Lagoon.

Recommendations

On the bases presented in this letter, the water which will be produced by the dewatering activities at the Calamity Creek construction site can be managed within the New Liskeard Sewage Lagoon without any ill effects. However, due to the uncertainty regarding the water quality associated with the ongoing daily dewatering, this water must be treated using an adsorptive media filtration system prior to hauling.

Yours truly,

Maria Story, P.Eng.
President

Copy To: Marlen Dinovitzer - CDB Senior Project Manager
Anthony deOliveira - CDB Assistant Project Manager
Lauri St. Jacques - Ministry of Environment, Climate Change, and Parks, Provincial Officer

Att: Table of 2019 Water Analyses
Table of 202 Water Analyses
Performance Data from ERE

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Schedule B: Table 1 of City of Temiskaming Shores' By-Law No. 2012-032 (Sewer Use By-Law)

TABLE 1: Limits for Sanitary Sewer Discharges

Parameter	Limit (mg/L)	Parameter	Limit (mg/L)
Biochemical Oxygen Demand	300	Benzene	0.01
Cyanide (Total)	2.0	Chloroform	0.04
Fluoride	10.0	1,2-Diclorobenzene	0.05
Nitrogen (Total Kjeldahl)	100	1,4-Diclorobenzene	0.08
Oil & Grease – Animal & Vegetable	150	Cis-1,2-Dichloroethylene	4.0
Oil & Grease – Mineral & Synthetic	50	Trans-1,3-Dichloropropylene	0.14
Phenolics (4AAP)	1.0	Ethyl benzene	0.16
Phosphorous (Total)	10	Methylene chloride	2.0
Suspended Solids (Total)	350	1,1,2,2-Tetrachloroethane	1.4
Aluminum (Total)	50	Tetrachloroethylene	1.0
Antimony (Total)	5.0	Toluene	0.016
Arsenic (Total)	1.0	Trichloroethylene	0.4
Cadmium (Total)	0.7	Xylenes (Total)	0.2
Chromium (Hexavalent)	2.0	Di-n-butyl phthalate	0.08
Chromium (Total)	2.0	Bis (2-ethylhexyl) phthalate	0.012
Cobalt (Total)	5.0	Nonylphenol	0.001
Copper (Total)	2.0	Nonylphenolethoxylates	0.01
Lead (Total)	1.0	Aldrin / dieldrin	0.0002
Manganese (Total)	5.0	Chlordane	0.1
Mercury (Total)	0.05	DDT	0.0001
Molybdenum (Total)	5.0	Hexachlorobenzene	0.0001
Nickel (Total)	2.0	Mirex	0.1
Selenium (Total)	1.0	PCB's	0.001
Silver (Total)	5.0	3,3-Bichlorodenzidine	0.002
Tin (Total)	5.0	Hexachlorocyclohexane	0.1
Titanium (Total)	5.0	Pentachlorophenol	0.005
Zinc (Total)	2.0	Total PAHs	0.005