



May 19, 2020

Via: Email

Mr. Alex Rheault
P.O. Box 24
Minaki, ON P0X 1J0

Dear Mr. Rheault:

**Re: Minaki on the River - Supplemental Report
Application for Leave to Appeal Environmental Compliance Approval
Project No.: 300032750.2019**

R.J. Burnside & Associates Limited (Burnside) is retained by the residents of Minaki and The Minaki Conservancy to provide technical comments related to wastewater servicing of the proposed Minaki on the River (MOTR) development in Minaki, Ontario. Specifically, we have been requested to provide comments in support of submissions to the Ministry of the Environment, Conservation and Parks (MECP).

We have reviewed the May 7, 2020 report prepared by WSP Canada Inc. and wish to provide the following additional clarifications. The WSP report makes reference to our May 10, 2019 letter report, in which we commented that the majority of systems that include RBC technology also include either tertiary filtration, or discharge to subsurface facilities. The WSP report acknowledges the addition of chemical phosphorus removal and UV Disinfection processes to the wastewater treatment process for the MOTR development. We would agree that these additional processes are an improvement over the historical WWTP process, we would point out that our May 2019 report was specifically referring to tertiary filtration (e.g. upflow sand filters or similar), which are a relatively standard piece of equipment for many Ontario WWTPs that discharge to directly to surface waters. It has been our experience that many new, expanded or upgraded WWTPs would include tertiary filtration.

It should also be noted that our May 2019 comments related to subsurface polishing of final effluent through a leaching bed were not intended to imply that a subsurface system would replace a mechanical treatment plant, which appears to be how this information was interpreted by WSP. Our comments related to subsurface disposal were intended to offer an alternative to in-plant equipment for tertiary filtration, as has been used for some other RBC facilities. The point of discharge from the WWTP would need to remain as the point of compliance, regardless of the method of discharge of treated effluent to the environment.

The WSP report also comments that an updated receiver impact assessment is not warranted based on dilution volumes in the river, and that it is up to the discretion of the Director to decide whether or not an impact assessment is required for each specific application. We would agree that it is ultimately up to the Director whether or not to approve the proposal; however, the Ministry has policies in place to bring a level of consistency to how applications are handled

across the province. The WSP report notes that since the amended ECA does not change the nature of the sewage or the treated effluent (including the discharge parameter limits), it does not require any additional studies to amend the 2014 ECA as proposed in 2020. While we would agree with WSP that the 2020 amendment proposal does not include an expansion of an existing approved discharge capacity to the receiver, a significant length of time has passed since the original studies were completed, and the WWTP has not discharged effluent in many years (since the 1990s). A typical impact assessment would make use of available water quality and quantity data as noted in the WSP report to assess the water quantity (typically the 7Q20 low flow) and the background water quality at a location near to the discharge location. Publicly available data may be supplemented with site specific water quality sampling if sufficient information is not available. The purpose of comments made in our May 2019 report (and previous reports) related to the impact assessment studies is to point out that the last time any sort of receiving water impact assessment was completed for this WWTP was 1988, and the premise on which the original approval was granted (i.e. the background water quality at that time) may need to be updated. Given the length of time that had passed, an updated impact assessment would normally be expected.

We trust the foregoing information provides clarification as to the intent of the information contained in our previous report. Should you have any questions, please contact us.

Yours truly,

R.J. Burnside & Associates Limited



Anne Egan, P.Eng.
Manager, Onsite Wastewater
AE:lam

Enclosure(s) Form 5 – Acknowledgement of Experts Duty
Anne Egan, CV

cc: Mr. Mark Engebretson, MCA, (enc.) (Via: Email)
Mr. Rick Handlon, MCA, (enc.) (Via: Email)

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Environment and Land Tribunals Ontario

- Environmental Review Tribunal
 Niagara Escarpment Hearing Office
 Office of Consolidated Hearings

Acknowledgement of Expert's Duty

Case Name
and No.:

Alex Rheault v. Ontario (Environment, Conservation and Parks)
ERT Case No. 20-019

1. My name is Anne Egan (*name*). I live at Halton Hills (*city*)
in the Province (*province/state*) of Ontario (*name of province/state*).
2. I have been engaged by or on behalf of the residents of Minaki and The Minaki Conservancy (*name of party/parties*) to provide evidence in relation to the above-noted proceeding.
3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:
 - (a) to provide opinion evidence that is fair, objective and non-partisan;
 - (b) to provide opinion evidence that is related only to matters that are within my area of expertise;
 - (c) to provide opinion evidence in accordance with the Environmental Review Tribunal's Practice Direction for Technical and Opinion Evidence; and
 - (d) to provide such additional assistance as the tribunal may reasonably require, to determine a matter in issue.
4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

Date: May 19, 2020

Anne Egan
Signature

Profession

Civil Engineer

Education

M.Sc. (Eng.), Civil Engineering, Queen's University, 2001

B.Sc.E., Civil Engineering,
Environmental Option, Queen's University, 1999

Professional Societies

Professional Engineers Ontario

Ontario Onsite Wastewater Association
(Board of Directors)

Water Environment Association of Ontario

Employment Record

Project Engineer, R.J. Burnside & Associates Limited (2005-Present)

Engineering Intern, R.J. Burnside & Associates Limited (2002-2005)

Engineering Intern, Winter Environmental Consulting Ltd. (2001-2002)

Engineering Intern, The Greer Galloway Group Inc. (May-August 2000)

Course Coordinator, Teaching Assistant and Laboratory Demonstrator, Department of Civil Engineering, Queen's University, Kingston, Ontario (1999-2001)

Citizenship

Canadian

Languages

English

Anne Egan, M.Sc. (Eng.), P.Eng.

As an Onsite Wastewater Specialist and Team Leader, Anne Egan is involved only in projects related to onsite and decentralized wastewater servicing, including small to medium scale private onsite wastewater treatment facilities, as well as small communal and municipal systems. She has been involved in all project phases, from planning level studies to conceptual design, detail design, procurement of approvals, and construction, for projects ranging from single family residential septic systems to commercial, institutional, communal and small municipal wastewater treatment facilities. Onsite wastewater experience includes conventional septic systems, proprietary aerobic systems, biofilters, and wetlands, and design of disposal systems for subsurface and surface discharge of treated effluent for residential, institutional, commercial and recreational land uses. Ms. Egan has a thorough understanding of current Provincial regulations and guidelines applicable to onsite wastewater systems, is a recognized industry expert and the Past President of the Ontario Onsite Wastewater Association.

Onsite Wastewater Experience

Onsite Sewage System Design for Ontario Building Code Systems (with design flows < 10,000 L/day)

Engineer of record responsible for the design of several hundred residential, institutional and commercial onsite sewage systems regulated under Part 8 of the OBC. Responsibilities include wastewater characterization (quantity and quality); detailed system design, including treatment and leaching bed sizing, layout, grading, and specification of system equipment and components; prepare and submit permit documentation; tendering and construction supervision. Experience includes Class 4 systems (in-ground and raised leaching beds, conventional absorption trench systems, filter beds, several different treatment units with Shallow Buried Trenches, Type A Dispersal Beds and Area Beds), Class 5 Holding Tanks, Class 2 Greywater Systems. Specific projects are highlighted below.

Sewage System Design for Ministry of the Environment, Conservation and Parks Systems (with design flows > 10,000 L/day)

Engineer of record responsible for the design of numerous large subsurface disposal systems under the jurisdiction of the Ministry of the Environment, Conservation and Parks. Responsibilities include wastewater characterization (quantity and quality); detailed system design, including collection system, treatment and leaching bed (or surface discharge) sizing, layout, grading, and specification of system equipment and components; prepare and submit permit documentation; cost analysis, tendering and construction supervision. Example projects include campgrounds, golf courses, schools, summer camps, restaurants, fairgrounds; specific projects are highlighted below.

Municipal Review of Onsite/ Communal Wastewater Treatment and Disposal Facilities, Various Municipalities, Ontario

Participate in engineering reviews on behalf of municipal clients, to review developments involving onsite and communal sewage system work by other consultants. Clients include: Town of Mono, Township of Tiny, Township of Guelph/Eramosa, Township of King, Township of Perth South, Township of Clearview, Town of Whitchurch-Stouffville, Region of Durham.

Onsite & Communal Wastewater Projects

New Onsite Sewage Treatment System, Park Avenue Public School, York Region District School Board, Holland Landing (2019)

Design, procurement of approvals, tendering and construction oversight for a new onsite sewage treatment system to service an existing school, including a Waterloo Biofilter treatment system with nitrification and denitrification, and a new leaching bed.

Sewage System Upgrades, Falls Reserve Conservation Area, Maitland Valley Conservation Authority (2019 - present)

Design (in progress) of a new centralized onsite sewage system for Falls Reserve Conservation Area, consisting of flow balancing and a conventional sewage system for 50,000 L/day to service the overnight and day use camping areas of the park.

Sewage System Inventory, Evaluation and Approvals, York Region Condominium Corporation 676, Aurora, (2015 - 2017)

Inventory and assessment of 20 existing onsite sewage systems servicing 80 dwelling units, generation of operation and maintenance plans. Ongoing project management and oversight for repairs, replacement and MOECC ECA approvals as required.

Sewage System Upgrades, Balls Falls Conservation Area, Lincoln (2019 - present)

Senior QA/QC for the design of a new sewage system to service the Balls Falls Field Centre, Washroom, and Event Barn.

Onsite Sewage System Upgrades, Seedrioru Estonian Summer Camp Society, Centre Wellington, Ontario (2014 - present)

Preparation of an Impact Assessment, liaison with MOE, detailed design for a new centralized sewage treatment and disposal system, including MOECC ECA and liaison with municipality and conservation authority, tendering and construction supervision.

Onsite Wastewater System Upgrades, Stanley Park Mobile Home Community, Killam Properties, Erin (2013 - present)

Ongoing assessment, design, approvals and construction oversight for new sewage works to service an existing 100-unit mobile home community.

Onsite Sewage System Design and MECP Approval, The Lighthouse Cove Trailer Park, Bayfield (2017 - present)

Detailed design, Impact Assessment, and MECP ECA for upgraded onsite sewage system.

Ongoing Consulting Services, Grand River Conservation Authority, Various Sites (2016 - present)

Senior oversight on the team that provides consulting services to the GRCA for water and sewage systems servicing GRCA properties. Specific projects include upgrades to sewage works at Guelph Lakes to improve flow balancing, and ongoing monitoring for the sewage works at Byng.

Onsite Sewage System Assessment and ECA Application, Caledon Central Public School, Caledon (2016 - present)

Field assessment and report for existing septic system servicing the school. Obtain ECA for existing sewage systems to accommodate funding for a daycare facility within the school.

Onsite Sewage System Assessment, Design and ECA Application, Construction Administration, Township of Wainfleet (2016 - present)

Field assessment, design of system upgrades and ECA, tendering and construction administration.

Onsite Sewage System Assessment and Repairs, Alloa Public School, Caledon (2018)

Field assessment of existing system, design and implementation of repairs to leaching beds.

Onsite Sewage System Upgrades, Knight's Beach Campground, Haldimand, Ontario (2016 - present)

Inventory, assessment and design of onsite sewage system upgrades for an existing campground, including MECP liaison.

Residential Development, Rama Lakefront Developments, Ramara (2015 - present)

Preliminary studies and reports, impact assessments, and detailed design of onsite wastewater treatment systems for a 24-Lot residential development. Ongoing construction review.

New Onsite Wastewater Treatment System, Beverly Central Elementary School and Community Centre (2015 - present)

Design of an onsite treatment system including flow balancing and advanced nutrient removal and onsite dispersal to service a proposed new school and community centre.

New Onsite Wastewater system, Sobeys, Owen Sound (2016 - present)

Assisted Sobeys with an evaluation of an existing onsite system, and design of an upgraded system and ECA application to accommodate a major renovation to the store.

Onsite Sewage System Design, Pike Lake Golf Centre and Campground, Minto, Ontario (2014 - present)

Inventory of existing sewage systems and detailed design of a replacement system for part of the campground, including MOECC liaison and obtaining an amended ECA.

Development of Study Parameters - Field Testing of Building Code Class 4 Onsite Sewage Systems in Ontario, Ministry of Municipal Affairs and Housing (2012-2013)

Developed a terms of reference for a province-wide field testing program to evaluate performance of existing sewage systems. Project involved a literature review, detailed scoping of the proposed field testing program and liaison with a Project Advisory Committee.

Sewage System Design, West Niagara Agricultural Society, West Lincoln, Ontario (2013- 2015)

Detailed design, MOECC ECA and construction oversight for a new onsite sewage system including flow balancing and full nitrification - denitrification.

Wastewater System Assessment, White Oaks Village, Haldimand (2014 - 2015)

Conducted a detailed assessment of an existing lagoon and spray irrigation system servicing a residential community and industrial business park, including liaison with MOECC to resolve a Provincial Officer's Order.

Onsite Sewage System Upgrades, Blue Heron Trailer Park, Haldimand, Ontario (2012-2016)

Detailed design, Impact Assessment, MOECC ECA and construction supervision for upgraded onsite sewage system at the park.

Onsite Sewage System Assessment and Approval, Barrie KOA Campground, Springwater, Ontario (2014 - 2016)

Completed a field inventory and assessment of existing sewage systems, design of upgrades, and MOECC liaison for an amended ECA.

Onsite Sewage System Upgrades, Bee Happy Family Campground, Innisfil, Ontario (2012-Present)

Detailed assessment of existing septic systems, preparation of an Impact Assessment, liaison with MOECC, detailed design and construction supervision for a new centralized sewage system, including MOE ECA application.

Onsite Sewage Systems, Poltawa Country Club, Caledon, Ontario (2011-Present)

Resolved an MOECC order with respect to sewage system permits. Currently providing engineer services to several residents. Design and construction inspection of sewage system upgrades including and associated MOE, NEC and CVC approvals.

Campground Flow and Occupancy Monitoring Program, Camping in Ontario, Various Locations (2012)

Daily monitoring of campground occupancy, water use and sewage flow data over a 1 week period, including coordinating, instructing, and deploying 6 contracted students with only 2 weeks lead time. Compiled and assessed data.

Communal Wastewater System Upgrades, Creg Quay, Lancaster Ontario (2012 - 2017)

Completed an assessment of an existing wastewater collection and treatment system (pumping stations and lagoons), including liaison with MOECC, design and construction supervision of recommended system upgrades.

Septic System for New Gymnasium, Moose Deer Point First Nation, MacTier, Ontario (2010 -2011)

Detailed septic system design and construction inspection for a new gymnasium, including a raised leaching bed and flow equalization.

Septic System Manuals, Avon Maitland District School Board (2010)

Preparation of Operation and Maintenance Manuals for 15 school septic systems owned by the school board.

Layzee Acres Campground Sewage System, Layzee Acres Campground and RV Sales, Kawartha Lakes, Ontario (2005-2007)

Detailed design, procurement of MOE approval, and construction inspection for 75,000 L/day treatment and subsurface disposal, including nitrification-denitrification.

Onsite Sewage Treatment and Disposal Systems, Various Clients, Various Locations, Ontario

Numerous residential, commercial and institutional onsite sewage treatment and disposal systems in various locations, including assessment of existing systems, design of new systems, and construction inspection services.

Expert Review - Onsite Wastewater Systems

Expert Review and Testimony for Local Planning Appeal Tribunal, Proposed Residential Development, Hamilton, Ontario (2019)

Provided studies and design support, as well as expert witness testimony in support of a proposed residential development to be serviced with individual onsite wastewater treatment systems.

Expert Review and Testimony for Ontario Municipal Board Hearing, Communal Wastewater Treatment Plant, Minaki Cottagers Association (2013 - 2017)

Provided a review of a communal wastewater treatment system for a proposed development in Minaki, Ontario, on behalf of the Minaki Cottagers Association, including expert witness testimony at a 2017 OMB hearing.

Expert Review and Testimony for Ontario Municipal Board Hearing, Township of Georgian Bay (2015)

Provided peer review and expert testimony related to an onsite sewage system with phosphorus management, for a cottage property on an island.

Expert Review and Testimony for Ontario Municipal Board Hearing, County of Oxford (2014)

Provided peer review and expert testimony for the sewage servicing associated with County of Oxford road patrol yard.

Expert Review, Septic System Failure, Elgin-St. Thomas Health Unit (2010)

Review design information and report on failed septic system to provide an opinion to the Health Unit regarding a potential legal case.

Peer Review of Onsite and Communal Sewage Treatment and Disposal Systems, Various Locations, Ontario

Participate in peer reviews on behalf of municipal and private clients, to review onsite and communal sewage system work by other consultants.

Publications and Presentations

"What You Should Know About Your Onsite Wastewater System", Presentation to the Ontario Private Campground Association, Huntsville, Ontario, November 2017.

Presentations to the Ontario Onsite Wastewater Association at various Annual Conferences (2009, 2011, 2012, 2013, 2014, 2015, 2016, 2017); Regional Meetings (2014, 2015, 2016, 2017).

"Onsite Wastewater Considerations for Campground Owners". Presentation to Camping in Ontario (Spring Regional Meetings), 2012.

McCarey, Anne E. D. (Ms. Anne Egan), B. C. Anderson, and D. Martin. January 2004. "Monitoring spatial and temporal variations of phosphorus within a cold climate subsurface flow constructed wetland". Journal of Environmental Engineering and Science, Volume 3, Number 1, pp. 51-60.

Boards, Committees and Commissions

Ontario Onsite Wastewater Association

President (March 2016 - April 2020); Board of Directors (2014 - Present), Co-chair, Onsite Technical Committee.

Building Materials Evaluation Commission

Appointed Member (2014 - 2016)

Centre for Advancement of Water and Wastewater Technologies Advisory Board (2019 - present)