



**THE CORPORATION OF THE  
TOWNSHIP OF JOHNSON**

**REQUEST FOR PROPOSALS 2024-1  
FOR THE PROPOSED SALE AND DEVELOPMENT  
OF THE PROPERTY AT  
5 MARGARET STREET, DESBARATS**

**Closing Date: January 24<sup>th</sup>, 2025**



---

## Communications

All requests for information, instructions or clarifications shall be submitted by email to CAO/Clerk Janet Maguire, [jmaguire@johnsontownship.ca](mailto:jmaguire@johnsontownship.ca), 705-782-6601 ext. 201 or Glenn Martin Project Manager [gmartin@johnsontownship.ca](mailto:gmartin@johnsontownship.ca) 705-782-6601 Ext 201 and using "Margaret Street RFP 2024-1" in the subject line.

All questions related to this Request for Proposals (RFP) or any clarification with respect to the RFP must be made by the **Question Deadline** of

**January 10<sup>th</sup>, 2025,**

in order that Township staff may have sufficient time to respond. The Township reserves the right to extend the deadline for questions if required regarding this RFP. Questions may be made after the deadline. The Township makes no guaranty or warranty that questions received after the deadline shall be addressed and or responded to.

Written answers or clarifications to issues of substance shall be shared with all Proponents and issued by email as part of the RFP in the form of an Addendum.

## Registration

Anyone may download the RFP from the website: <https://johnsontownship.ca/>. However, to submit a proposal, proponents must register with the Township. To register, proponents must email the following details to CAO/Clerk Janet Maguire, [jmaguire@johnsontownship.ca](mailto:jmaguire@johnsontownship.ca), with *Registration for Margaret Street RFP 2024-1* in the subject line:

- Company name
- Name of company representative
- Position
- Phone number
- Email address
- Address (and PO box)
- HST/Business number
- Company website address

## Proposal Submissions

Proponents are asked to submit their proposal clearly marked Margaret Street RFP 2024-1 no later than **4:00 p.m. EST on January 24<sup>th</sup>, 2025**, by:

- email to CAO/Clerk Janet Maguire, [jmaguire@johnsontownship.ca](mailto:jmaguire@johnsontownship.ca); or
- mail or hand deliver to Township of Johnson, 1 Johnson Drive, Desbarats, ON P0R 1E0

Any submissions received by email, delivery or mail after 4:00 p.m. EST on January 24<sup>th</sup>, 2025, will not be accepted.

Submissions should include the following information and provide adequate level of detail to describe the proposed development and address the evaluation criteria outlined in the following section:

- description of proposed development
- purchase price
- estimated value of investment
- development timeline/phasing and completion date
- community benefit
- draft concept/site plan
- company information
- experience with similar developments
- examples of developments completed

## **Request for Proposal for the Sale and Development of the Property at 5 Margaret Street, Desbarats**

### **Introduction**

The Township of Johnson is interested in receiving proposals from proponents who wish to purchase and develop a property that is owned by the Township. The property is located at 5 Margaret Street in the Hamlet of Desbarats, (on the Trans Canada Hwy, 57 km east of Sault Ste. Marie). The property fronts onto Margaret Street, is approximately 1.4 hectares (3.5 acres) and rectangular in shape with dimensions of approximately 166 m (fronting Margaret Street) by 80 m.

This is a strategic site for the Township as the property is in a prominent location in the Hamlet and located beside the Johnson Township Community Centre. The development of this property has the potential to deliver long-term public benefit by:

- providing a land use format/service that is currently not available;
- increasing the local population base and use of the community centre; and
- establishing a new benchmark for the quality of development.

**The Township is open to proposals that will provide community benefit and shall consider the development that is proposed and community benefit that is provided when negotiating the sale price of the property subject. The Township may also consider other financial development incentives if so warranted by the community benefit and the timeliness of the development.**



## **Background**

The property was the location of the previous Johnson-Tarbutt Central Public School. The Township purchased the property from the School Board and demolished the school, leaving the site vacant. The property provides a strategic development opportunity for the Township as the site is in a prominent position in Desbarats being adjacent to the Johnson Township Community Centre which will, over time, see ongoing investment in the physical and programming infrastructure. Recently the Township has completed approximately \$1.3 million of improvements with additional work expected over the next two years. The Township has been the recipient of several grants that will be used for a continued roll out of recreational programs.

Through the development of this property, there is the potential to further support the role of the Johnson Township Community Centre as an important community facility and gathering point by establishing a complimentary commercial or residential use with a direct link to the Community Centre.

Being a central gathering point and focus for residents, the Community Centre currently offers:

- facilities including a newly-constructed tennis/pickle-ball courts, full-sized indoor hockey arena, upstairs hall for meetings/events, full size kitchen for rent, an outdoor pavilion, basketball, tennis courts, soccer fields and baseball field;
- programs and activities including figure skating and hockey groups (youth and adult), public skating, youth soccer, slo-pitch, roller skating, 50+ club, Women's Institute and TreFry Centre home help, fitness programs, etc. for seniors;
- Health & Wellness and Seniors programs; *and*
- Annual Events including Farmer's Market (Saturdays June-October), Kids Holiday Party, Winter Activities Festival, CU-JO Memorial Family Hockey Tournament, Community Yard Sale, Breakfast Buffet, Community Days, Big Pike Fishing Derby, ATV Poker Run, Big Buck Contest, Summer craft shows, Christmas craft shows, Sylvan Circle Tour, Sustain Algoma Summit, and the biggest draw: the Outdoors Show.

Within a large artistic, agriculture, and outdoors community, the future residents are also provided with lifestyle options including:

- close to area elementary/intermediate/secondary school, with local day care at the school.
- walking distance to the Mennonite Market, the Mennonite Consignment Auction, and the Mennonite Produce Auction. Surrounded by additional Mennonite Farm gate stands or roadside stands for fresh fruits and veggies and other handmade goods like lumber, furniture and more.
- walking access to downtown Desbarats consisting of 2 local restaurants, to the local hardware/corner store/LCBO, post office, the volunteer fire department and the municipal offices.
- close to water way and public boat launch, the Voyageur trail & Great Lakes Waterfront Trail (biking, snowmobile trails, ATV trails, kayaking, canoeing, boating), the Kensington Conservancy (trails, outings, etc.), the Kensington Marina which is a full-service marina and two public parks with water access.

Building on the strength of community participation, activities and lifestyle, future investments in infrastructure and programs will result in:

- developing an active trails master plan to move through the township without vehicle use: includes more trails for hiking, walking, biking, running, blading etc.
- more outdoor winter trails – snowshoe, ski, fatbikes
- multi-court system for pickleball, tennis, badminton, hockey, basketball, shuffleboard, volleyball
- updates to parks/greenspaces/boat launches
- building an all-age inclusive natural playground (planned abutting the development lot)
- annual training sessions – tech, PAL, Food Safe, First Aid, Babysitting, etc.
- workshops, arts and crafts, canning, food preparation and more
- water sport lessons and outings
- trips to neighbouring cities/towns – berry picking, swim lessons, water aerobics, gymnastics
- summer camps and after school programs

It is expected that the development of the property will contribute to the quality lifestyle that is being invested in by the Township as described above. A development on this property is expected to provide direct benefit to residents which may be achieved by:

- providing a commercial use currently not available;
- increasing the residential housing stock and/or affordability;
- providing a senior’s home;
- quality building, urban design and landscaping standards;
- including accessibility design elements such as urban braille and wheelchair access;
- demonstrating the delivery of low impact development and energy efficient buildings; or
- improvements to infrastructure servicing the property.

The Township feels that the potential community benefits applied within this development could contributing value to the extent where these benefits could outweigh the actual value and purchase price of the property.

This concept is reflected in the weighted scoring of the evaluation criteria presented in this RFP. Although the Township is not prescribing specific approaches to providing community benefit, it is leaving options open to the developer to identify what benefits will be provided and how they will be provided.

#### **Legal Description and Location of Land:**

The property is legally described as Part of Desbarats Race Course Registered Plan No. 1108 Part of PIN 31457-0478. A copy of plan is attached. (Appendix 1)

#### **Official Plan and Zoning By-law**

In the Township of Johnson Official Plan (November 6, 2009) the property is designated as Hamlet Policy Area. In the Township of Johnson Zoning By-law 91-219 (January 18, 2012) the

property is zoned Multi Residential. In order to facilitate the development it is likely that the proponent will require a Site Plan Control application.

### **Johnson Township Community Improvement Plan**

The Johnson Township CIP is available upon request. The plan offers grants, including for the following:

- Fee Rebate
- Tax Incentive Equivalent Grant

These requirements for these incentives vary depending on the development and investment scenario. Proponents are encouraged to review the Community Improvement program to determine if any of the grants would apply to the proposed development.

### **Water and Sanitary Servicing**

Desbarats has a centralized water distribution system and a low-pressure sewage system. The low-pressure sewage system requires a septic style system on individual properties. The difference being the liquid holding tanks are drained by pipes into centralized storage lagoons and are not percolated into a yard as traditional septic systems are. The solids are pumped out on a regular basis at the Township expense.

To understand the water and sanitary capacity of the property, The Township commissioned 2 reports, Water Distribution System Assessment (Appendix 2) and Low-Pressure Sewage System Assessment (Appendix 3). As a result of these studies, Council has supported the development of up to 10 residential dwellings on the property or uses equivalent to this level of water consumption/sewage.

A summary of the assessment of the low-pressure sewage system indicates that the total sewage effluent from the proposed development should be limited to 0.38 L/s. If the total sewage generation from the site is greater than 0.38 L/sec, the effluent sewage tank should be sized to store the additional peak sewage flows for a minimum 2-hour time period. The solids sewage tank should be sized accordingly for the total generated sewage and rate at which the tank is pumped out.

### **Soil Quality**

The property was the former location of the Johnson-Tarbutt Central Public School. The school had an oil furnace which, at a point in time, contaminated the soil in the immediate vicinity. This property was decontaminated as verified in the report, Verification Soil Sampling Program (Appendix 4)



**Evaluation of Submissions**

Qualifying offers will be evaluated by an Evaluation Team and the following criteria will be used as a guideline for the purposes of evaluating submissions received.

<b>Evaluation Criteria</b>	<b>Weighted Score</b>
Public benefit – increase in specific type of housing stock (affordable, retirement, etc), provision of a commercial use that is currently not available, quality architectural, urban and landscaping design, net-zero building design, low impact development, infrastructure improvements	35%
Timing, phasing and completion date – development timeline, estimated start and completion dates, demonstrate ability to deliver project	30%
Proponent's experience with similar projects – history of company, demonstrated experience in developing similar projects, integrating components of public benefit identified in this proposal, cooperatively working with municipalities	20%
Purchase price and value of investment - the price offered for the property which may be offset by the value provided by the public benefit	15%
<b>Total</b>	<b>100%</b>

---

## INSTRUCTIONS TO PROPONENTS

These Instructions define your obligations and limit your rights. Failure to follow the instructions may result in the disqualification of your Proposal. Read carefully.

### 1 Interpretation

- 1) In these Instructions to Proponents, Special Instructions, Proposal Submission Information and Form of Proposal, unless expressly provided otherwise, the following definitions shall apply.

“Addendum” and “Addenda” means a written addendum, or addenda issued with respect to the RFP.

“Benchmark” means the minimum required score by category and by overall score of a Proponent’s Proposal in order to proceed from Step 1 to Step 2 of the evaluation process, as set out in the Proposal Submission Information.

“Bid” Shall have the same meaning as Proposal.

“Bidder” Shall have the same meaning as Proponent.

“Business Day” means any day other than a Saturday, Sunday, public holiday or other day on which banks in Ontario are authorized or required by Law to be closed or any other day on which the administrative offices of the Township are closed.

“Township” means the Township of Johnson and includes its designated employees, officials and agents.

“Township Representatives” includes the Townships elected officials, officers and employees, and those agents, representatives, Independent Consultant and other persons expressly authorized by the Township to act on its behalf, excluding the Successful Proponent and its Subcontractors.

“Closing Time” means the deadline by which to submit Proposals for this RFP set out in the RFP, as may be amended by Addendum or other written notice of the Township.

“Contract” means the contract arising upon the acceptance of a Proposal and award of the Contract by the Township in accordance with the RFP, irrespective of when notice of acceptance of a Proposal is received by a Successful Proponent.

“Contract Documents” means those documents as set out in subsection 1(3) of these Instructions to Proponents.

“Contractor” shall have the same meaning as Successful Proponent.

“Evaluation Team” means a team consisting of members of Township staff and, where considered appropriate by the Township in the exercise of an absolute discretion, Independent Consultants, who will perform the evaluation of each of the Proposals and

make such reports and recommendations to the award of this RFP as they consider appropriate.

“Form of Proposal” means the proposal form relating to the Work, as the case may be, and for the sake of greater certainty includes the Proposal Form and Schedule of Prices.

“Goods” means any item of tangible personal property of computer software, and includes:

- (i) deeds and instruments relating to or evidencing the title or right to such personal property, or a right to recover or receive such property;
- (ii) tickets or like evidence of right to be in attendance at a particular place at a particular time or times or of a right to transportation;
- (iii) energy, however generated; and
- (iv) items of tangible personal property that are intended for installation as a fixture or otherwise for incorporation into land, a building or structure, or that are ornamental or industrial trees, grass sod, flowering plants, shrubs, soil, seed or fertilizer.

“Independent Consultant” means any consultant, other than the Successful Proponent, retained by the Township to advise or perform services on the behalf of the Township with respect to the Work.

“Interlineation” means the act of writing between the lines of the document, to add something to the pre-printed text of the Form of Proposal.

“Law” means all statutes, laws, by-laws, regulations, requirements, ordinances, notices, rulings, orders, directives, policies and controls of the municipal, provincial, judgments and declarations of a court of competent jurisdiction.

“Procurement Manager” means the Townships Procurement Manager or the Townships Clerk

“Project Manager” means the person designated by the township to manage the delivery or performance of the Work to which this Contract relates, or to oversee the Work and/or the Townships obligations under this Contract and when there is no such designate appointed by the Township, the Procurement Manager shall be the Project Manager;

“Proponent” means any person submitting a Proposal in response to this RFP.

“Proposal” means a proposal made by a Proponent in response to this RFP.

“Proposal Submission Information” means the submission requirements and evaluation and selection process information for Proposals contained in the RFP.

“RFP” means this Request for Proposals including the Communications Notice, RFP Notice, Instructions to Proponents, Special Instructions, Proposal Submission Information,

Form of Proposal, Schedule of Prices, Terms of Reference or Specifications, sample Contract for Work, General Conditions, Special Conditions, any other schedules and appendices, and all Addenda to the RFP together with all other documents expressly forming part of the RFP for the Work (also collectively referred to “RFP” Documents”)

“Services” means a service of any description required in order to complete the Work, whether commercial, industrial, trade, or otherwise, and includes all professional, technical and artistic services and the transporting, acquiring supplying, storing and otherwise dealing in Goods.

“Subcontractor” is a person or entity having a direct contract with the Successful Proponent to perform a part or parts of the Services or to supply Goods or Services with respect to the Work, and whose performance and/or supply of Goods and Services shall be the full responsibility of the Successful Proponent.

“Successful Proponent” means the Proponent whose Proposal is selected and is awarded the Contract for this RFP by the Township.

“Value Added Taxes” means such sum as shall be levied upon the Total Contract Price by the federal or provincial or territorial government and is computed as a percentage of the Total Contract Price and includes the Goods and Services Tax, the Ontario Retail Sales Tax, the Quebec Sales Tax, the Harmonized Sales Tax, and any similar tax, the collection and payment of which have been imposed on the Proponent by the tax legislation.

“Total Contract Price” means the fully inclusive, all-in total contract price, constituting the sum of all costs quoted by a Proponent in its Proposal with respect to the Work:

- (i) including the purchase price for all materials, labour costs, service costs, costs for temporary structures and facilities, utility costs, warranty costs, life cycle costs, operating and disposal costs; *and*
- (ii) including all costs related to the retaining and managing subcontractors, and the costs for their work and/or services; *but*
- (iii) excluding any options or alternatives requested in the Contract Documents that the Township elects not to purchase; *and*
- (iv) excluding Value Added Taxes or other applicable sales taxes, imposed under the Laws of Ontario and the Laws of Canada applicable therein.

“Unit Price” means any unit price or other component of the Total Contract Price.

“Work” means everything to be done, supplied or provided by the Successful Proponent under the Contract as applicable.

- 2) Where in the RFP a reference is made to the express written agreement of the Township it shall be understood that the Township shall not be deemed or construed to have agreed to any stipulation; specification, exclusion, limitation or other term or condition

set out in a Proposal that deviates from a provision set out in any of the RFP Documents, unless that deviation is expressly confirmed in a written and express amendment to that agreement.

- 3) in the event of a conflict or inconsistency between, or an omission or ambiguity with respect to, any term(s), condition(s) or provision(s) contained in the following documents shall apply and prevail in the following successive order of priority to the extent of such conflict, inconsistency, omission or ambiguity or incongruity:
  - (i) any Addenda to this RFP;
  - (ii) Proposal Submission Information;
  - (iii) Terms of Reference or Specifications;
  - (iv) Special Conditions;
  - (v) any contract drawings;
  - (vi) Special Instructions;
  - (vii) General Conditions;
  - (viii) Instructions to Proponents;
  - (ix) the sample Contract for Work;
  - (x) Form of Proposal, including Schedule of Prices;
  - (xi) any other documents that form a part of the Request for Proposals;
  - (xii) Successful Proponent's Proposal, as accepted by the Township.
- 4) Notwithstanding subsection 1(3), of these Instructions to Proponents, in the event of conflict between any of the provisions of the Contract Documents, the provision most favourable to the Township, in the Township's determination, shall prevail and apply.
- 5) The Township shall not be bound by any oral representation or communication whatsoever, including but not limited to any instruction, amendment or clarification of these Instructions to Proponents or any of the Contract Documents, or any information, advice, inference or suggestion, from any person (including but not limited to an elected official, employee, agent, Independent Consultant or representative of the Township concerning a Proponent's submissions, the RFP, the Contract Documents, the proposed Contract or any other matter concerning the RFP or Work. In addition, the Township shall not be bound by any written representation whatsoever concerning a Proponent's submissions, the RFP, the Contract Documents, or any other matter concerning the RFP or Work, unless executed by the person designated with a direction or authorization of Township Council.
- 6) In these Instructions to Proponents, Special Instructions, Proposal Submission Information and Form of Proposal, unless expressly provided otherwise:
  - (i) The provisions shall be read with changes of gender, number or corporate status as the context may require;

- (ii) a reference to any Law or to a provision thereof shall be deemed to include a reference to any Law enacted in substitution thereof or amendment thereof;
- (iii) the headings to each section are inserted for convenience of reference only and do not form part of the RFP;
- (iv) all accounting terms have the meaning recognized by or ascribed to those terms by the Canadian Institute of Chartered Accountants;
- (v) all amounts are expressed in Canadian dollars and to be secured and payable in Canadian dollars;
- (vi) all references to time shall be deemed to be references to current time in the Township;
- (vii) any reference to an officer of the Township or to a person holding a specific position shall be construed to mean the person holding that office or position from time to time and shall include a designate, delegate or deputy of that person or successor to the office or position;
- (viii) any words and abbreviations, which have well-known professional, technical or trade meanings, are used in the Contract Documents in accordance with such recognized meanings;
- (ix) The number of days shall be calculated by:
  - a) counting all days including Saturdays, Sundays and public holidays, provided, however, that if the final day of any period shall fall on a Saturday, Sunday or public holiday, then the final day shall be deemed to be the next day which is not a Saturday, Sunday or public holiday;
  - b) where “month” is referred to, it shall be a calendar month.

## **2 Nature of the RFP**

- 1) The RFP is an invitation to Proponents describing the intent, purpose, requirements and concerns of the Township and prescribes how Proponents are to respond to this RFP.
- 2) This RFP may contain a general description of the Township requirements, including location constraints, information on space requirements, performance requirements and other technical specifications, warranty and maintenance requirements and other factors that the Township intends to take into account in the award of the Contract.
- 3) These Instructions to Proponents, the proposal submission information and other RFP documents explain how Proponents are to submit Proposals and address certain legal requirements and implications relating to the Proposal process and Contract and summarize how the Contract will be concluded.

- 
- 4) Without limiting any other right or privilege of the Township contained in the RFP, the following rules shall govern the evaluation of Proposals:
- (i) The Township may consider the full range of options, amenities and enhancement features offered by a Proponent when awarding the Contract. The Township shall be the sole judge as to whether the added value offered in respect thereof justifies any additional expenditure. This RFP may be subject to possible cost constraints, which the Township shall not be obliged to disclose to any Proponent, which may rule out the selection of a Proposal. While the Township shall not be obligated to consider optional features, no optional features will be considered by the Township unless the Proponent's submission fully complies with the RFP in all respects.
  - (ii) The Township reserves the right to award the Contract based solely upon considerations of Total Contract Price, or Total Contract Price with Options, or Total Contract Price and Community Benefit, or upon performance, technical, warranty, maintenance, compatibility and other considerations contained in section 11 (Reserved Privileges of the Township), section 15 Obligation of Suppliers to Deal in Good Faith and section 16 Record and Reputation, or any combination thereof, as the Township considers it in its best interests to do so.
  - (iii) Where compliance with any specified criteria is stated to be a condition preceded to the award of the Contract, that condition shall be deemed to be for the exclusive benefit of the Township which may elect to waive that condition in its absolute discretion, and the Township shall not be liable to any person by reason of so doing.
  - (iv) Based upon the evaluation criteria set by the Township, all compliant Proposals shall be evaluated, and a recommendation may be made to Council (or the designated person with authority delegated by Council to approve the recommendation for award) to award the Contract to the Proponent whose Proposal best satisfies the criteria that have been established by the Township, but where the Township for any reason in its sole discretion decides that all Proposals received were unsatisfactory, or that the terms and conditions set out in the RFP or an Addendum cannot be realized with that Proponent whose Proposal best satisfies the criteria that have been established by the Township then the Township reserves the absolute right, as it sees fit to:
    - (a) revise and the reissue the RFP; or
    - (b) cancel the RFP.

In no such case shall any person have any legal claim or recourse against the Township and the Township representatives on any grounds whatsoever. The

exercise of a right by the Township shall not preclude the exercise by the Township of any other right.

- (v) The Proposals will be evaluated based on the criteria listed in the RFP and any Addendum or Addenda thereto. Unless a specific weighting is indicated in this RFP or any Addendum or Addenda thereto:
  - (c) the Township may give such weighting to each of the identified criteria as the Township considers appropriate; and
  - (d) it is within the exclusive discretion of the Township to determine which of the features specified by a Proponent and any other features specified in the RFP or any Addendum or Addenda thereto offers the Township the best value for money.

Subject to the foregoing, the criteria for the evaluation of Proposals shall be as specified by the Township from time to time, and the Township shall be the sole authority to determine how those criteria are to be interpreted and applied, and the weighting to be given to each criterion, if any.

- (vi) The Evaluation Team may include such members of the Township's staff and outside Independent Consultants as the Township considers is necessary or advisable to provide proper technical (including legal and financial) evaluation and analysis of the Proposals that have been made. Depending upon the background and expertise required, evaluations may not individually score every component. The Evaluation Team will meet as required to create a team score for each Proponent's Proposal. The Evaluation Team may modify the Evaluation Team's score to reflect additional information obtained during the clarification of Proposals or at any meetings or interviews scheduled with Proponents.
- (vii) The Township shall not be obliged to disclose the evaluation scores of any individual member of the Evaluation Team, nor to justify any score awarded by that team or any member thereof. In the absence of evidence of manifest bad faith, any evaluation carried out by the Evaluation Team shall be considered to be fair and accurate for all purposes and shall not be subject to review by any court or other tribunal.
- (viii) The Township wishes to fully understand each Proposal. Therefore, each Proponent is encouraged to submit any additional material that it believes will facilitate the evaluation process, subject to any page quantity submission restrictions contained in this RFP. Furthermore, the Proponent must make available to the Township additional evaluation information as requested by the Township.



- (ix) At its discretion, the Township may use the RFP process to identify a short-list of Proponents. Following an initial evaluation, the Township may invite such number of the top-ranked Proponent(s) as it considers advisable, to present their concept to the Evaluation Team in a formal interview session. Performance in this interview may be taken into account in the evaluation process.

### **3 Proposal Submissions and Form of Proposal**

- 1) Every proposal shall:
  - i) be submitted on the Township prescribed form of Proposal in its entirety;
  - ii) be legible;
  - iii) be completed in English;
  - iv) be submitted by mail or email; and
  - v) state all prices in Canadian funds, unless otherwise stipulated.
- 2) Every proposal shall include a copy of this RFP, including an Addendums issued, with every page hand initialled.
- 3) Proposal submissions shall be accepted and received by either email, delivery or mail, on or before the closing date and time stated in this Request for Proposals.
- 4) Time is of the essence with respect to the submission of a Proposal. It is the sole responsibility of each Proponent to ensure that its Proposal is received on or before the closing date and time stated in the Request for Proposals document. The closing time shall be as determined by the Township Clerk.
- 5) It is the exclusive responsibility of each Proponent to submit a complete Proposal in accordance with the Request for Proposals.
- 6) All documents prepared and work carried out by a Proponent in preparing a Proposal, and all oral presentations to the Township in connection with a Proposal, shall be without cost to the Township, and neither the Township publication of a Request for Proposals nor the submission of a Proposal shall be construed to oblige the Township to award a Contract.
- 7) All words and phrases forming part of a Proposal should be written out in full, and abbreviations should not be used.
- 8) No amendment may be made to a Proposal after it has been submitted, except in the circumstances set out in section 7 and subsection 10(4) of these Instructions to Proponents.

---

#### 4 Confidentiality

- 1) In accordance with the Municipal Freedom of Information and Privacy of Protection Act (“MFIPPA”) this will notify the Proponents that any personal information Proponents provide is being collected under authority of the Municipal Act, 2001, SO. 2001, c. 25, as amended, and will be used in the evaluation process and, with respect to the Successful Proponent, for the purposes of the subsequent Contract. All correspondence, documentation and information provided to the Township and /or the Township’s Representatives by any Proponent in connection with, or arising out of the RFP, and any Proposal submitted to the Township will become the property of the Township and a record of the Township. The foregoing records and the Contract Documents are subject to the provisions of the MFIPPA and the Townships obligations hereunder and may be released pursuant to such Acts. The Proponents name at a minimum shall be made public on request. In addition, certain contractual information must be disclosed to Council and accordingly may become part of the public record. All correspondence, documentation and information provided to the Evaluation Team may be reproduced for the purposes of evaluating the Proponent’s submission to this RFP.
- 2) For the purposes of MFIPPA, Proponents may mark as confidential any scientific, technical, commercial, proprietary or similar confidential information contained in their submission, the disclosure of which could cause them injury, except the Total Contract Price and their name. Complete Proposals are not to be identified as confidential. A watermark or rubber stamp imprint is suitable for this purpose. Subject to subsection (1), the Township will use its best efforts not to disclose any information so marked but shall not be liable in any manner to a Proponent or any other person where information so marked but shall not be liable in any manner to a Proponent or any other person where information is disclosed by virtue of an order of the Privacy Commissioner, a court of competent jurisdiction or otherwise as required by Law. The Township further makes no representations or warranties that the identification of a document as confidential will prevent its release under the provisions of MFIPPA, PHIPA or otherwise under Law. Any information in the Proponents’ submissions that is not specifically identified as confidential may be treated as public information.
- 3) Information regarding the application of MFIPPA and PHIPA is available from the Access to information and Privacy Section of the Townships Clerk’s office at The Township office.
- 4) Confidentiality of records and information of the Township relating to the Work must be maintained at all times. All correspondence, documentation and information provided by Township and /or the Township Representatives to any Proponent in connection with, or arising out of the RFP or the acceptance of any Proposal remains the property of the Township; must be treated as confidential; and must not be used for any purpose other than for replying to this RFP and for fulfillment of any related subsequent Contract.

Where any proprietary or confidential information belonging to or in the care of the Township is disclosed to any Proponent in connection with the RFP, the Proponent shall:

- (i) safeguard all information provided by the Township and the township Representatives, or any other person at the request of the Township;
- (ii) maintain in strict confidence and not reproduce or disclose any such information to any person except as required by Law or as expressly permitted in advance by the Township in writing;
- (iii) return forthwith and without demand all such information as may be in documentary form or recorded electronically by the Closing Time; and
- (iv) not use any such information for any purpose other than the purpose for which it was provided by the Township or by any other person at the request of the Township.

## **5 Prices**

- 1) Unless otherwise stipulated in the Special Instructions, all prices bid, including any Unit Prices, must be in stated in Canadian funds.
- 2) All prices shall be quoted exclusive of HST, and the Township may adjust any price quoted contrary to this requirement, unless otherwise specified in the Form of Proposal or any Special Instructions.
- 3) Subject to subsection (6), all prices include all excise taxes, customs duties, customs clearance and brokerage fees, royalties and patent or license fees.
- 4) The award of the Contract may be based on considerations other than price and may employ the utilization of a scoring method using evaluation criteria, as provided in this RFP.
- 5) Official notification may only be given to the Successful Proponent; however, persons who submitted a Proposal may obtain the Total Contract Prices for all Proponents upon request to the Purchasing Department.
- 6) Award information will be posted on the following website [johnsontownship.ca](http://johnsontownship.ca)

## **6 Conflict of Interest (Proponents)**

- 1) No employee or councillor of the Township shall personally sell Goods or Services to the Township, nor have a direct or indirect interest in a company that sells Goods or Services to the Township.
- 2) The Township may reject any Proposal submitted, or cancel at any time any contract awarded, in contravention of this section.
- 3) Each Proponent respectively shall be deemed to have warranted that it has not employed or retained any person, other than a bona fide employee, agent or broker working for the

Proponent to solicit or secure the proposed contract, and that it has not paid or agreed to pay any person, other than a bona fide employee, agent, or broker working solely for the Proponent, any fee, commission, percentage, gift or other consideration contingent upon or resulting from the award of that proposed contract, or as an inducement to be awarded that contract. Without prejudice to any of its other rights, the Township reserves the right to annul any contract or other arrangement entered into with a Proponent where there is a breach of this warranty.

- 4) Prior to the award of the contract, no Proponent shall contact elected official of the Township or member of Township staff or independent Consultant retained by the Township with respect to its Proposal, the RFP or the proposed Contract.
- 5) Except with the prior express written consent of the Township:
  - (i) no Proponent shall act on behalf of the Township with respect to any matter, issue or in connection with any property in which the Proponent or any director, officer, employee, councillor or subcontractor of the Proponent has a direct or indirect pecuniary interest, including any contingent interest; and
  - (ii) before submitting any Proposal to act on behalf of the Township, the Proponent shall exercise reasonable due diligence to confirm that there is no conflict of interest within the contemplation of subsection 5 (i) or subsection (6).
- 6) Each Proponent shall not act in any case where there may be any conflict of interest between it (or any of its directors, officers, employees, councillors or subcontractors) and the Township, and each Proponent shall notify the Township, in writing, immediately of any potential conflict of interest that may arise prior to the award of the Contract and fully disclose any details thereof.

## **7 Withdrawal of Proposals by Proponent**

- 1) Proponents may withdraw their Proposal prior to the closing date and time of the Request for Proposals by email to CAO/Clerk Janet Maguire, [jmaguire@johnsontownship.ca](mailto:jmaguire@johnsontownship.ca).
- 2) Proposals withdrawn may be edited and re-submitted prior to the closing date and time of the Requests for Proposals. Proponents are solely responsible to ensure:
  - (i) any required adjustments are made to their Proposal;
  - (ii) acknowledge all Addenda that have been issued for this Request for Proposal; and
  - (iii) ensure the re-submitted Proposal is received by the Township Clerk prior to the closing date and time of the Request for Proposals.

---

## **8 Proposals Open for Acceptance, Irrevocable, etc.**

- 1) Proposals shall not be opened until after the Closing Time of the RFP, and so far as practicable, all Proposals shall be opened at one time.
- 2) Unless otherwise provided in a Special Instructions or Addendum to this RFP, a Proposal shall be irrevocable (i.e. open for acceptance by the Township of Johnson) for a period of 90 calendar days following the closing date for the RFP.
- 3) Despite any requirement for the formal execution of a Contract, the Contract shall be deemed to arise upon the award of the Contract to the Successful Proponent. The Successful Proponent shall be responsible to the Township for any costs, expenses, losses, damages and liabilities that the Township may incur as a result of the Successful Proponent's failure or refusal to execute or perform the Contract as required.

## **9 Proponent's Responsibility**

- 1) Unless otherwise expressly agreed to by the Township in writing, where technical information or details is provided by the Township and forms part of the RFP or any Addenda thereto (including any quantity estimates, soil condition reports, ground water or drainage reports or geophysical data, archaeological and heritage information and documentation samples, or other documents of a similar kind or nature as may be provided together with the RFP Documents or incorporated by reference therein),
  - (i) The Township shall exercise reasonable care in the preparation of those estimates, documents and information but shall not be taken to warrant their accuracy and shall not be liable for any inaccuracy therein unless that inaccuracy is the result of the deliberate misrepresentation of the Township or a member of its staff;
  - (ii) Estimates, reports, data, or details shall be deemed to have been provided only as a guide for potential Proponents;
  - (iii) Proponents are required to examine carefully that information and the responsibility for verification of the information so provided shall rest with each Proponent.
  - (iv) The Township shall not be responsible for use by a Proponent including the Successful Proponent. All such information shall be verified by the Proponent or the Successful Proponent before relying on same; and
  - (v) Proponents shall be deemed to have released and waived any rights and claims against the Township and the Township Representatives for any negligent misrepresentation, error or omission.
- 2) Where the Work is to be carried out on Township occupied or owned property, Proponents shall be responsible for visiting the job site and no allowance shall be made

by the Township for failure by the Proponent to examine carefully all conditions relating to the site or Work.

- 3) All persons submitting Proposals and all their Subcontractors shall be held to have thoroughly examined all RFP Documents and to have visited and inspected the site on which the Services and Work is to be carried out to have thoroughly familiarized themselves with all pertinent conditions before delivery of their respective Proposals, and no allowance shall be subsequently given by the Township for or by reason of any error or omission on the part of any Proponent or Subcontractor with respect thereto. The Township shall not be liable for any costs associated with any site inspection.
- 4) Where clarification of any information, document or matters is required by a Proponent, it shall be the responsibility of the Proponent to seek clarification in a timely manner from the Township, in sufficient time to permit the Township to respond, and satisfy itself with respect to same before submitting a Proposal. Notwithstanding the foregoing, the Township shall have no obligation to respond.
- 5) It is the Proponent's responsibility to become familiar with and comply with all Township procurement policies.
- 6) A Proponent shall be deemed to have included in the Total Contract Price quoted in its Proposal, the entire cost of,
  - (i) all items that the Successful Proponent is responsible for under any of the Contract Documents, except where expressly provided otherwise; and
  - (ii) preparing and submitting such reports, drawings or documents as may be required by the Township.

#### **10 Addenda and Clarification of the Request for Proposals**

- 1) The Township reserves the right at any time prior to the award of the Contract, to:
  - (i) withdraw or cancel the RFP;
  - (ii) extend the time for the submission of Proposals; or
  - (iii) modify the RFP;by the publication of an Addendum, which shall become part of the RFP, and the Township shall not be liable for any expense, cost, loss or damage incurred or suffered by any Proponent (or any other person) as a result of its so doing.
- 2) Without limiting the Township's right, subsection (1) may apply to situations where no Proposal is compliant or an insufficient number of Proposals have been received.
- 3) Any Addendum shall be posted on the following website and is sufficiently served upon any prospective Proponent if so, posted at: [johnsontownship.ca](http://johnsontownship.ca)

- 
- (i) In addition to the above method of posting, the Township may also notify prospective Proponents of any Addendum by any other method it deems appropriate, including email, telephone, fax, courier, hand-delivery or by personal delivery. The need for additional notification and the method(s) to be used shall be in the absolute discretion of the Township and notification shall be sent to the contacts provided by the Proponent to the Township at the time it obtained or submitted the RFP from the Township.
    - (ii) It is the sole responsibility of each Proponent to provide full contact information to the Township to allow for additional notification.
    - (iii) It is the sole responsibility of each Proponent to check the website and ensure that it has received any and all Addenda issued by the Township. Proponents shall confirm in the Form of Proposal that they have received, examined and provided for all Addenda issued under the RFP. Proponents may in writing, seek confirmation of the number of Addenda issued under the RFP from the Township.
  - 4) Where a Proponent submits their Proposal prior to the Request for Proposals closing date and time and an Addendum has been issued by the Township, the Proponent is solely responsible to:
    - (i) make any required adjustments to their Proposal;
    - (ii) acknowledge all Addenda that have been issued for this Request for Proposals via listing all received within the Proposal; and
    - (iii) ensure the re-submitted Proposal is submitted before the closing date and time stated in the Request for Proposals.
  - 5) Proponents shall acknowledge receipt of any Addenda when submitting their Proposal through the Bidding System. Proponents shall check a box for all Addenda and any applicable attachments that has been issued before a Proponent can resubmit their Proposal submission online.
  - 6) All communication between a Proponent and the Township (including requests for information or clarification) shall be set down in writing and directed to the Township Clerk and/or CAO.
  - 7) Any request directed to the Township with respect to subsection (6) prior to the closing date of the RFP must allow sufficient time for a written response or clarification to be issued by the Township prior to the closing date, should the Township consider it necessary to issue such response or clarification.
  - 8) A written response or clarification of substance shall be shared with each Proponent and issued in the form of an Addendum.
-

- 9) The Township shall not be bound by any oral instruction, amendment or clarification or the RFP, information; or advice or suggestion provided by any member of the Township staff or consultant to the Township concerning the RFP or the manner in which the Work is to be carried out and the Proponent bears any and all risk in relying on such representation.
- 10) If the Township requires clarification of a Proponent's Proposal, that Proponent shall provide a written response to the Township request for clarification, in a timely manner, which shall bind the Proponent.
- 11) Each Proponent shall identify one senior individual by name, address and telephone number who will act as the Proponents primary contact with the Township regard to the RFP and any subsequent Contract and has the authority to bind the Proponent.

### **11 Reserved Privileges of the Township**

Without limiting or restricting any other right or privilege of the Township, the Township shall have the following reserved rights and privileges, which may be exercised or waived in its absolute discretion.

- 1) The Township may reject any Proposal, the lowest priced Proposal or all Proposals, or may cancel the RFP and require the submission of new Proposals for any reason within its absolute discretion.
- 2) The Township is not bound to accept the lowest priced compliant Proposal submitted and may accept another compliant Proposal which, in the Township's opinion, is more beneficial to the Townships interests notwithstanding that it may not be the lowest priced compliant Proposal.
- 3) When evaluating Proposals and assessing Proposal prices in the evaluation of Proposals and the awarding the Contract, the Township will consider its best interests and may exercise reasonable commercial judgment which may, but is not obliged to, include consideration of the following factors (without limitation):
  - (i) proposal prices;
  - (ii) the full lifetime cost implications to the Township with respect to each Proposal, including life-expectancy, the inclusion or exclusion of alternate or optional equipment or configurations and the price implications thereof, training or retraining costs length and scope of warranty coverage, and long-term maintenance requirements;
  - (iii) the need to achieve economies of scale in supply;
  - (iv) the need to diversify sources of supply;



- 
- (v) compatibility with existing equipment and infrastructure, such compatibility to be determined by tests conducted either by the Township or by an independent testing agency satisfactory to the Township;
  - (vi) compatibility with existing computer software and hardware, and capability to generate reports suitable to the Township's existing reporting requirements; such compatibility and capability to be determined by tests conducted either by the Township or by an independent testing agency satisfactory to the Township;
  - (vii) potential cost savings to the Township with existing Township Contracts and other synergy benefits;
  - (viii) any extraordinary or unjustified disparity between the lowest priced Proposal and the other Proposals received by the Township;
  - (ix) any prices contained in a Proposal that are, in the opinion of the Township Clerk/CAO/Council, below the Proponent's cost which do not appear to be offset by any other disclosed factors in the Proposal;
  - (x) any prices contained in a Proponent's Schedule of Maximum Hourly Rates for Additional Services that are, in the opinion of the Procurement Manager, unreasonable or excessive compared to industry standards for the quality or type of personal proposed for such Services;
  - (xi) the need to secure timely and reliable sources of supply;
  - (xii) the need to discontinue reliance on obsolete technology and methods;
  - (xiii) the need to provide state of the art service to the residents of the Township, or to integrate any aspect of Township operations with those of its neighbor's;
  - (xiv) the need to avoid the use of unproven technology and methodologies;
  - (xv) the need to spread and minimize risk to the Township;
  - (xvi) the proximity of any service centre of a Proponent to the Township;
  - (xvii) the benefit in employing suppliers who have a proven track record of successful delivery and good reputation within the business community for integrity and competence;
  - (xviii) the prior record of the Proponent as a vendor to the Township;
  - (xix) whether in the opinion of the Township or its professional advisors, the Proponent possesses the experience, or financial, technical, personnel or other resources that may reasonably be expected to be necessary in order to carry out the obligations that the Proponent proposes to assume under the terms of its Proposal;

- 
- (xx) alternate Proposals;
  - (xxi) such other considerations as would influence the decision of a reasonable and prudent purchaser in the particular circumstances of the Township at the time when the Contract is awarded.
- 4) In awarding the Contract the Township may take into account the adherence or nonadherence of a particular Proponent to the social economic or labour relations policies of the Township.
  - 5) The Township may waive compliance with any minor requirement governing the submission of Proposals.
  - 6) Where in the view of the Township, an insufficient number of Proposals have been received in response to a RFP, the Township may publish a further such RFP (on the same or revised terms from the original request).
  - 7) The Township may, in accepting any Proposal, impose conditions on such acceptance.
  - 8) Where the lowest prices compliant Proposal exceeds the Township's budgeted or estimated costs, the Township in its sole and absolute discretion may, but is not obligated to:
    - (i) cancel the RFP;
    - (ii) re-issue the RFP and accept new proposals based on revised specifications, terms and/or conditions;
    - (iii) provide all Proponents, who submitted compliant Proposals to the RFP by the Closing Time, the opportunity to re-submit Proposals;
    - (iv) enter into negotiations with the Proponent with the lowest priced compliant Proposal provided that the changes required to achieve a Proposal acceptable to the Township will not materially change the general nature of the specifications, terms and conditions in the RFP; or
    - (v) where only one Proposal has been received or only one Proposal is compliant with the RFP but the price is in excess of budgeted funds, proceed to negotiate conditions with such Proponent which will reduce costs to a level acceptable to the Township.
  - 9) where the Contract is awarded to a Proponent, the Township may, at its sole discretion, negotiate amendments to the Contract or to Services or Goods to be supplied under the Contract and no other Proponent shall have any right to object that its Proposal would have been superior in regards to the selection criteria had the negotiated amendments been included in the original RFP or RFP Notice.
-

---

## 12 Review of Proposals

- 1) All Proposals submitted by the Closing Time of the RFP will be examined by a representative of the Townships Clerk or designated employee to confirm that they are compliant and otherwise complete, subject to the Townships exercise of any right or privilege contained in the RFP. Proposals which are complete and compliant will be evaluated in accordance with the provisions of the RFP subject to the Townships exercise to any right or privilege contained on this RFP. The Township reserves the right to examine the compliance and completeness of Proposals in phases.
- 2) At its sole discretion, the Township may clarify any aspect of any Proposal received at any time and, without limiting or restricting the foregoing general right in any way, the purpose of such clarification may be to enable the Township to determine whether the proposal complies with the RFP and to resolve and ambiguity in the language used, or any other vague or uncertain aspect of the Proposal. No such clarification shall alter the Proposal or constitute negotiation or re-negotiation of the price or any aspect thereof, or the nature or quality of the Goods or Services to be supplied or performed as set out in the Proposal at the close of the RFP, and all correspondence with a Proponent for the purposes of such clarification shall be conducted through the Procurement Section.
- 3) Where a compliant Proposal that has been accepted contains an otherwise legible, clear and unambiguous change such as an erasure, strike out, white out, cross out or overwrite which has not been initialed, the Proponent will be required to initial such change within one Business Day of the Townships request. Failure to comply with the Townships request within the timeline provided, may result in, at the sole discretion of the Township, the rejection of the Proposal and the Proponent may be a banned from entering into or bidding on any contracts with the Township for a period of one year.
- 4) Without limiting subsection (2) the Township's right to clarify shall include the right to request additional information relating to the terms of the Proposal submitted.
- 5) The right of clarification provided under this section is within the sole, complete and unfettered discretion of the Township and is for its exclusive benefit and may or may not be exercised by the Townships at any time and in respect to any or all Proposals.
- 6) Notwithstanding the Township's right to request clarification, the Township shall have no obligation whatsoever to do so. Where in the opinion of the Township a Proposal or any part thereof is ambiguous, incompliant, deficient, or otherwise not acceptable in any aspect, the Township may reject such Proposal whether clarification has been sought, obtained or neither.
- 7) The Township's review of a Proponent's submission with a Proponent or its seeking of clarification under this section shall not in any way, be deemed to be an acceptance of any term or provision so clarified or be deemed to be an acknowledgement of the compliance

of the Proposal with the terms of the RFP; shall not constitute an acceptance of that Proposal or any other Proposal; and shall not oblige the Township to enter into a Contract with that Proponent or any other Proponent.

- 8) All clarifications provided by a Proponent pursuant to a request by the Township under this section shall be in writing, in a clear and unambiguous form satisfactory to bind the Proponent and satisfactory to the Township.
- 9) Any Proponent may be required to meet with officials of the Township within 14 days of being so requested to explain details of the submission, at a place in The Township of Johnson specified by the Township, and the Proponent shall bear all costs of its attendance and the attendance of any of its representatives at such meeting including but not limited to transportation to and from the meeting.

### **13 Rejection of Proposals by Township**

- 1) At its discretion, the Township may (but shall not be obliged to) reject any Proposal that does not:
  - (i) comply with this RFP or any Addenda thereto; or
  - (ii) contain in full all information required by this RFP, including all Appendices and all Addenda thereto.
- 2) The Township may reject any Proposal submitted by a Proponent or cancel any contract awarded to that Proponent without any compensation whatsoever payable to the Proponent where:
  - (i) any information provided by the Proponent in its Proposal or as part of any prequalification procedure is determined by the Township, in its sole opinion, to be false or otherwise misleading in any material respect; or
  - (ii) where the Proponent's declaration in its Form of Proposal that it is in compliance with all Township by-laws be untrue or incorrect, the Township shall be entitled at its sole discretion to reject the Proponent's Proposal.

### **14 Guidelines Regarding Proposal Irregularities**

- 1) As a guide to the Proponent, but without qualifying any rights and privileges reserved to the Township, the Proponents Guidelines set out below is indicative of the manner in which discretion reserved by the Township is to be exercised with respect to non-compliant Proposals. However, the Township shall not be liable to any Proponent or other person different from that indicated below.

<b>PROPOSERS GUIDELINES</b>		
	<b>IRREGULARITY</b>	<b>RESPONSE</b>
1.	Proposal not legible or in English.	Automatic rejection.
2.	Qualified or conditional Proposal (A Proposal restricted by a statement Amending the RFP or alterations made to the RFP)	Automatic rejection unless the Request for Proposals specifically permit such qualification or condition.
3.	A Proposal received in a format not specified in the Request for Proposals such as hardcopy submissions, fax, email, etc.	Automatic rejection.
4.	A Proposal received on documents other than those documents supplied by the Bidding System.	Automatic rejection.
5.	Proposal Security: Amount of Proposal Security provided by Proponent is insufficient, does not name correct Municipality as obligee, or no Proposal Security is provided or is not otherwise in compliance with the Request for Proposals requirements.	Automatic rejection.
6.	Execution of Proposal Bond: Corporate seal or electronic signature of Proponent, or both, are missing. Corporate seal or electronic signature of bonding company, or both, are missing.	Automatic rejection.
7.	Proposal Security: Digital proposal bond not electronically verifiable and enforceable e-Bond.	Automatic rejection.
8.	Where costing information is to be submitted separately from the Proposal Submission but has been included in the Technical Proposal.  1. Where costing information can: i) be easily and physically removed from the Technical Proposal; and ii) where the removal does not change the Technical Proposal Submission in any way.	1. Within one business day of notification, Proponent will be required to provide written authorization for the Purchasing Manager to remove applicable pages and include them in the Schedule of Prices. Any confirmation to proceed in this manner shall confirm that the Proponent waives its right to claim non-compliance or otherwise with the Request for Proposals.

	2. Where the above removal conditions are not met.	2. Automatic rejection.
9.	Where there is a direct or indirect conflict of interest that has the potential to harm the reputation of the Township of Johnston or its employees by way of association or any other form.	1. Automatic rejection.
10.	Other irregularities.	An irregularity that goes beyond the scope of the Proponent Guidelines may be considered by the Procurement Manager.

### 15 Obligation of Suppliers to Deal in Good Faith

- 1) Each Proponent is required to deal with the Township in utmost good faith with respect to the submission of its Proposal.

### 16 Record and Reputation

- 1) Without limiting or restricting any other right or privilege of the Township and regardless of whether or not a Tender or Proposal or Proponent otherwise satisfies the requirements of a Tender or RFP, the Township may reject summarily any Proposal or Tender from any person where:
- 2) In the opinion of the Council of the Township or the Clerk, the commercial relationship between the Township and the Proponent has been impaired by the prior and /or Lien's act(s) or omissions (s) of such Proponent including but not limited to:
  - (i) litigation with the Township of Johnson;
  - (ii) the failure of the Proponent to pay, in full, all outstanding payments (and where applicable, interests and costs) owing to the Township by such proponent, after the Township has made demand for payment of same;
  - (iii) the refusal to follow reasonable directions of the Township or to correct a default under any contract with the Township as and when required by the Township as and when required by the Township or the Township's Representatives;
  - (iv) the proponent refusing to enter into a contract with the Township after the Proponent's tender or proposal, bid or quote has been accepted by the Township;
  - (v) the Proponent refusing to perform or to complete performance of a contract with the Township, at any time, after the Proponent has been awarded the contract by the Township; and

- (vi) in the opinion of the Council of the Township of Johnson or the Township Clerk/CAO (or designate), there are reasonable grounds to believe that it would not be in the best interests of the Township to enter into a contract with the Proponent, including (without limiting the generality of the foregoing).

#### **17 No Lobbying and Single Point of Contact**

- 1) Each Proponent shall comply with the requirements and be entitled to the rights of a vendor set out in the Procurement Policy By-law.

#### **18 Ownership of Documents, Use of Designs, etc.**

- 1) All maps, drawings, plans, specifications, physical data devices and other documents,
  - (i) provided by the Township to a Proponent shall remain the property of the Township and shall be returned by the Proponent to the Township (whether or not the Proponent submits a Proposal) upon demand by the Township for their return; or
  - (ii) prepared by the Proponent as part of its Proposal shall be the property of the Township and may be disposed of by the Township as it considers fit.
- 2) Unless the Township otherwise agrees in writing, where any plan, drawing or design is provided by a Proponent in connection with an RFP, then the submission of a Proposal by the Proponent shall be deemed to constitute a license by that Proponent to construct one sample model of the work or project contemplated based upon that plan, drawing or design, where such a sample is required to make an informed decision concerning the attractiveness, functionality or other merit of the plan, drawing or design in question. The license conferred herein shall not be deemed to constitute an assignment, unless otherwise provided in the RFP.

#### **19 Copyright and Use of Documents**

- 1) The Total Contract Price shall include all payments made or to be made to any third party in respect of any right, patent, design, trademark or copyright used for the purpose of the successful Proponent performing the contract.

#### **20 Governing Law**

This Contract shall be governed by, subject to and construed in accordance with the laws of the Province of Ontario and the laws of Canada, as applicable to the matters herein. Unless the Township otherwise agrees in writing, any action or other legal proceeding arising under or with respect to the Contract (including any motion or other interlocutory proceeding) shall be brought in a Court or a tribunal, whichever may be applicable, sitting in The Township of Johnson, Ontario. In the event that there is no applicable Court or tribunal sitting in The Township of Johnson, the proceeding shall be brought in the court

(or other forum) of competent jurisdiction nearest to the Township of Johnson within the Province of Ontario.

## **21 Applicable Law and Limit on Liability**

- 1) Without limiting any other rights or privileges of the Township in this RFP with respect to delay the Successful Proponent is not entitled to and releases and waives any rights to any remedies, claims, demands, costs, penalties, fines, fees, damages and causes of action, whether directly or indirectly related to any delays on the part of the Township with respect to:
  - (i) awarding of the Contract, or
  - (ii) providing notification to the Successful Proponent of award of the Contract.
- 2) The Proponent agrees that:
  - (i) any action or proceeding relating to the RFP process shall be brought in an Ontario court of competent jurisdiction and any such action or proceeding shall be issued at the Township of Johnson, Ontario office of that Court and for that purpose each party irrevocably and unconditionally attorns and submits to the jurisdiction of that Ontario court near The Township of Johnson Ontario;
  - (ii) it irrevocably waives any right to and will not oppose any Ontario action or proceeding relating to the RFP process on any jurisdictional basis, including forum non conveniens; and
  - (iii) it will not oppose, in any other jurisdiction, the enforcement against it of any judgment or order duly obtained from an Ontario court near the Township of Johnson, Ontario as set out above.
- 3) If a Proponent is required by applicable law to hold or obtain a license, permit, consent or authorization to carry on an activity contemplated in its Proposal, neither acceptance of the Proposal nor execution of the Contract shall be considered to be approval by the Township of carrying on such activity without the requisite license, permit, consent or authorization.
- 4) The Proponent agrees that if the Township commits a material breach of the RFP (that is, a material breach of the contract as awarded), The Township's liability to the Proponent and the aggregate amount of damages recoverable against the Township for any matter relating to or arising from that material breach, whether based upon an action or claim in contract, warranty, equity, negligence, intended conduct or otherwise, including any action or claim arising from the acts or omissions, negligent or otherwise, of the Township, shall be no greater than the Proposal preparation costs that the Proponent seeking damages from the Township can demonstrate.



---

## 22 Contract for Delivery of Project

- 1) The Township may require the Successful Proponent to execute a formal Contract for Delivery of Project the project with the Township.
- 2) Within 20 business days of the Township awarding the Contract to the Successful Proponent, or such later date as may be specified in the notice of award by the Township, the Successful proponent and the Township will finalize and execute the formal Contract for Delivery of Project.
- 3) The Township may finalize the terms and conditions of the formal Contract for Delivery of Project with the Successful Proponent, and as part of that process, may, in the Townships sole discretion, negotiate changes, amendments or modifications to the Contract for Delivery of Project Contract and the successful proponent:
  - (i) shall, no later than 20 business days after the Township has sent the notice of award to the Successful Proponent, or such later date as may be specified in the written notice given by the Township enter into and execute the formal Contract for Delivery of Project, where required by the Township; and
  - (ii) submit any other documents required by the Contract.
- 4) Any Proponent identified as a Successful Proponent acknowledges its obligation to finalize and execute the Contract for Delivery of Project, where required by the Township, in good faith based on its Proposal selected by the Township.
- 5) If the Successful Proponent fails or refuses to enter into the Contract or execute a Contract for Delivery of Project and provide all security, insurance and other ancillary documents required under the RFP and the Contract Documents, then the Township reserves the absolute right as it sees fit, in addition to all other rights and remedies that the Township has under the Request for Proposals, including but not limited to the Township's rights and remedies respecting the Proposal Security supplies by the Successful Proponent, to take on or more of the following actions:
  - (i) terminate discussions with the Successful Proponent;
  - (ii) select another Proponent as the Successful Proponent and may enter into Contract discussions to finalize and execute the Contract for Work;
  - (iii) revise and reissue the RFP or cancel the RFP; and/or
  - (iv) pursue any other rights or remedies available under the RFP, or otherwise at law or in equity.

## 23 Accommodations for Proponents with Disabilities

- 1) In accordance with the Ontario Human Rights Code, Ontarians with Disabilities Act, 2001 (ODA) and Accessibility for Ontarians with Disabilities Act, 2005 (AODA), the Township pf

Johnson will accommodate for a disability, ensuring full and equitable participation throughout the bid process.

- 2) If a Proponent requires the Request for Proposals in a different format to accommodate a disability, the Proponent must contact the Purchasing Department as soon as possible and in any event prior to the closing date. The Request for Proposals in the different format will be issued only to the requesting Proponent and all addenda will be issued in such different format only to the requesting Proponent.

# **Appendix 1**

## **5 Margaret Street, Desbarats Plan of Survey**









Source: Esri, DigitalGlobe, GeoEye, IGN, GeoEye, CNES/Airbus, D5, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Maps are provided as a courtesy only and the Johnson Township makes no guarantees as to the accuracy of this information. This map is not intended to be used for conveyance, authoritative definition of the legal boundary, or property title. This is not a survey product.

The Corporation of the Township of Johnson  
 Creation of One Lot (1.4 Hectares)  
 Retained (2.6 Hectares)  
 5 Margaret Street



## **Appendix 2**

# **Water Distribution System Assessment**







# Water Distribution System Assessment

## Desbarats, Ontario

### 228217P



A. J. Clarke and Associates



January 24, 2024



Planners | Surveyors | Biologists | Engineers

January 24, 2024  
228217P

**Doug Giles, MCIPP, RPP**  
A. J. Clarke and Associates Ltd.  
25 Main Street West, Suite 300  
Hamilton, ON  
L8P 1H1

Re: Water Distribution System Assessment  
Desbarats, Ontario

Dear Sir,

Please find enclosed our water distribution system assessment for the Hamlet of Desbarats, Ontario.

This package includes a report summarizing the findings of the above noted project. Within the report, a discussion of Desbarats' distribution system, the model and results, and system recommendations can be found.

We trust the enclosed is adequate for your needs at this time. If there is anything further we can provide, please contact us at your convenience.

Sincerely,

A handwritten signature in blue ink that reads 'Chris Valela'.

**Christopher Valela, PhD, P.Eng.**  
Project Engineer

## DISTRIBUTION LIST

# of Hard Copies	PDF Required	Association / Company Name
0	1	A. J. Clarke and Associates Ltd.

## REVISION LOG

Revision #	Revised By	Date	Issue / Revision Description
0	CV	January 24, 2024	DRAFT - Issued for Client Comments

## TULLOCH SIGNATURES

Report Prepared By:



---

Christopher Valela, PhD, P.Eng.  
Project Engineer

Report Reviewed By:



---

Josh Lelievre, P.Eng.  
Project Manager

## STATEMENT OF QUALIFICATIONS AND LIMITATIONS

The attached Report (the “Report”) has been prepared by Tulloch (“Consultant”) for the benefit of the client (“Client”) in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the “Agreement”).

The information and data contained in the Report:

- are subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”)
- represent Consultant’s professional judgement in light of the Limitations and industry standards for the preparation of similar reports
- may be based on information provided to Consultant which has not been independently verified
- have not been updated since the date of issuance of the Report and their accuracy is limited to the time period and circumstances in which they were collected, processed, made or issued
- must be read as a whole and sections thereof should not be read out of such context
- were prepared for the specific purposes described in the Report and the Agreement
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time

Unless expressly stated to the contrary in the Report or the Agreement, Consultant:

- shall not be responsible for any events or circumstances that may have occurred since the date on which the Report was prepared or for any inaccuracies contained in information that was provided to Consultant
- agrees that the Report represents its professional judgement as described above for the specific purpose described in the Report and the Agreement, but Consultant makes no other representations with respect to the Report or any part thereof
- in the case of subsurface, environmental or geotechnical conditions, is not responsible for variability in such conditions geographically or over time

The Report is to be treated as confidential and may not be used or relied upon by third parties, except:

- as agreed by Consultant and Client
- as required by law
- for use by governmental reviewing agencies

Any use of this Report is subject to this Statement of Qualifications and Limitations. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report.

## TABLE OF CONTENTS

1.	Introduction	1
2.	Water Distribution system	2
3.	Distribution system Model	3
3.1	Modelling Software	3
3.2	Model Generation	4
3.3	Model Calibration	4
3.4	Water Demand	5
3.4.1	Pipe Roughness	6
3.4.2	Pressure	7
4.	Modelling Results	7
4.1	Existing Conditions	7
4.2	Potential Developments	7
4.2.1	Vacant Land	7
4.2.2	Former School Site	8
5.	Discussion	9
5.1	Concerns	9
5.2	Water Distribution System Recommendations	10
6.	Conclusions	11
7.	Report Limitations And Guidelines For Use	11
8.	Closure	11



## LIST OF FIGURES

Figure 1.1. Location of Desbarats, Ontario	1
Figure 2.1. Water Distribution System Geographic Coverage	2
Figure 3.1. Daily Water Demand on February 1, 2023 (raw data provided by the PUC)	5

## LIST OF TABLES

Table 3.1. User-Defined Model Parameters	4
Table 3.2. Rating Factors for 24-Hour Period	6
Table 4.1. Water Distribution System Performance - Vacant Lot Development	8
Table 4.2. Water Distribution System Performance – Former School Site Development	9

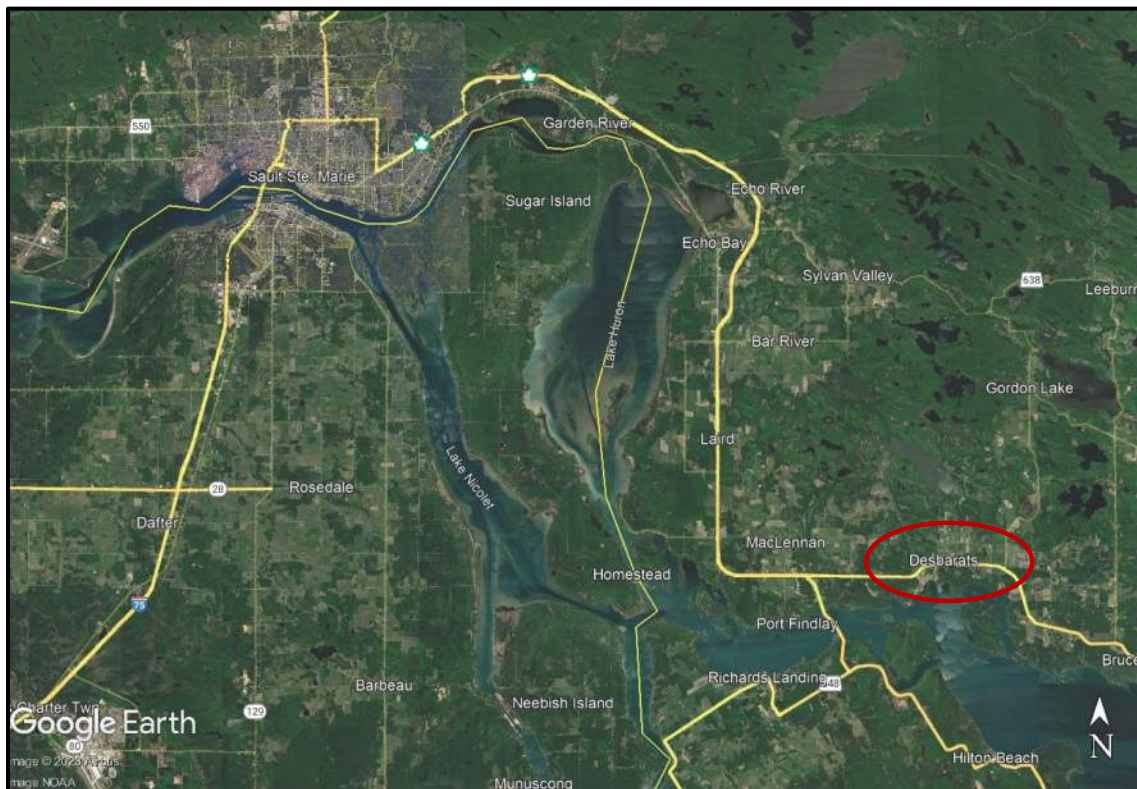
## APPENDICES

Appendix A - Vacant Lots for Potential Future Development

## 1. INTRODUCTION

TULLOCH has been retained by A. J. Clarke and Associates Ltd. to complete an assessment of the current water distribution system in the Hamlet of Desbarats (referred to herein as 'Desbarats') which is the main community within Johnson Township. Desbarats is located approximately 60km east of the City of Sault Ste. Marie and is situated on the TransCanada highway, as shown in **Figure 1.1**.

The primary objective of this assessment was to determine the available capacity within Desbarats' existing water distribution system in support of potential future developments. Desbarats currently has a number of vacant lots and are seeking an engineering opinion as to the additional demand that the existing water distribution system can withstand without jeopardizing public safety, water quality and quantity, and distribution system infrastructure.



**Figure 1.1. Location of Desbarats, Ontario**

Achieving this objective was accomplished by developing a computer model of the entire distribution system based on as-built and recorded data. Various development scenarios were modelled and the results were compared to the current conditions. Recommendations were then generated based on the findings.

## 2. WATER DISTRIBUTION SYSTEM

TULLOCH understands Desbarats to have a centralized water distribution system operated by the Public Utilities Commission (PUC). The system consists of several kilometers of watermain for potable water consumption purposes only (fire suppression is not provided) within the general geographic area shown in **Figure 2.1**. The water distribution system includes a single water treatment plant located at Kensington Point (south end of Desbarats) along the north channel of Lake Huron. The water supply for the distribution system is sourced from the north channel of Lake Huron with an intake located approximately 150m from the water treatment plant.

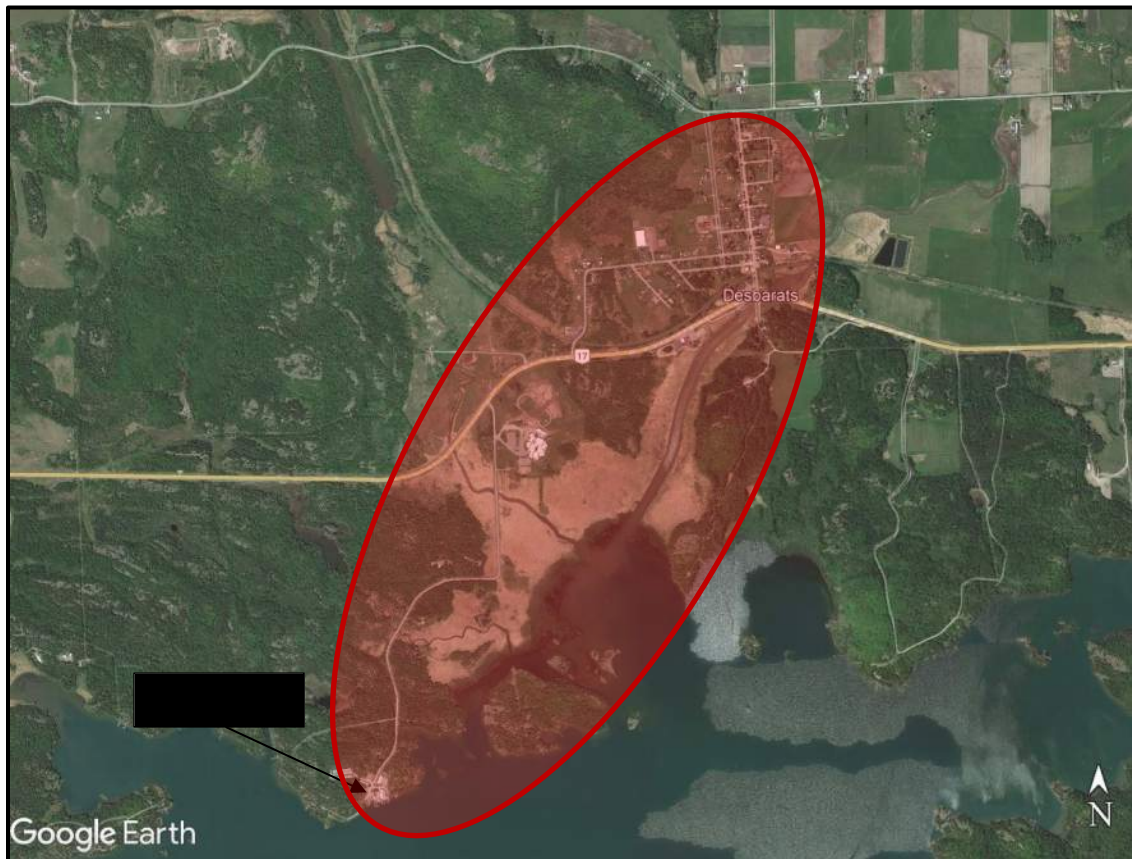


Figure 2.1. Water Distribution System Geographic Coverage

Once the raw water is pumped from the channel and treated, it resides in three (3) interconnected clearwell cells located within the treatment plant. The water level in the clearwell was estimated



to maintain an average elevation of 177.4 m based on data provided by the PUC. To transport the treated water from the clearwell to the distribution system, one (1) of three (3) identical 3 HP Myers Ranger high lift pumps is intermittently operated. Based on the information provided from the PUC, multiple pumps do not operate simultaneously regardless of the demand.

In order to maintain water pressure within the distribution system while the high lift pumps are off, six (6) identical model WX-302 pressure tanks are utilized simultaneously. The pressure tanks are situated immediately after the high lift pumps in the distribution system at the treatment plant, and according to the PUC, are operated between approximately 67-84 psi. Therefore, the aforementioned pressure range governs when the high lift pumps turn on and off. For the given pressure range, each pressure tank has 67 L of usable capacity thus totaling 268 L of capacity for the entire system.

The transmission main that transports the treated water from the treatment plant to the consumers is located along the bottom of the Desbarats River until it reaches Highway 17. At which point, the transmission main exits the river and remains on land for the remainder of the distribution system.

The Desbarats water distribution system was not designed for fire protection purposes as there are no fire hydrants and the available water capacity and pressure is limited. Thus, the distribution system provides potable water for consumption only and fire protection is provided by alternative means.

### **3. DISTRIBUTION SYSTEM MODEL**

#### **3.1 Modelling Software**

Modelling of Desbarats water distribution system was completed using PCSWMM. PCSWMM is a software application that interfaces with EPANET to model pressurized water distribution systems. EPANET is a tool developed for understanding the movement and fate of drinking water constituents within distribution systems. This software can be used for many different types of applications in the analysis of distribution systems.

During each simulation, the modelling software calculates and updates the head at each junction, flow rate in each pipe, and level in each tank at specified time steps based on user-defined demands and reservoir levels. To accomplish this, the model simultaneously solves the

conservation of flow and head loss equations for each corresponding junction and link through an iterative technique.

### 3.2 Model Generation

Generating a model to replicate the Desbarats water distribution system consisted of gathering and inputting attribute data for various parameters. The user-defined parameters are presented in **Table 3.1**.

**Table 3.1. User-Defined Model Parameters**

Parameter	Attribute
Pipes	<ul style="list-style-type: none"> <li>○ Diameter</li> <li>○ Material type</li> <li>○ Roughness</li> <li>○ Length</li> </ul>
Junctions	<ul style="list-style-type: none"> <li>○ Elevation</li> <li>○ Water demand</li> </ul>
Reservoirs	<ul style="list-style-type: none"> <li>○ Water level</li> </ul>
Pumps	<ul style="list-style-type: none"> <li>○ Pump flow rate versus head</li> <li>○ Control rules</li> </ul>
Tanks	<ul style="list-style-type: none"> <li>○ Elevation</li> <li>○ Initial level</li> <li>○ Minimum level</li> <li>○ Maximum level</li> <li>○ Diameter</li> </ul>

The values inputted for the above parameters were gathered from numerous resources consisting of the PUC, Township representatives, as-built drawings, MECP Design Guidelines and others.

### 3.3 Model Calibration

After generating the water distribution network in PCSWMM (referred to herein as the 'Model'), calibration exercises were performed to closely simulate the model results to the existing condition. Due to a lack of available data, model calibration was limited, and model validation could not be performed; therefore, the accuracy of the provided results is limited.

### 3.4 Water Demand

To initially depict the water consumption throughout the entire distribution system, the MECP 'Design Guidelines for Drinking-Water Systems' was used to estimate the demand at each point of consumption (approximately 110 points of consumption). Upon establishing the individual demands, the consumption across the entire system was totalled and each demand was adjusted uniformly so that the total demand matched the PUC's treatment plant records for the average daily demand. According to the PUC, the average daily demand typically varies between 80-100 m<sup>3</sup>/day. Records from February 1, 2023, indicate a total demand of 118.38 m<sup>3</sup>/day which is amongst the greatest of the provided data with no recorded watermain breaks or excessive demands on said day. Therefore, 118.38 m<sup>3</sup>/day was selected as the average daily demand given its conservative nature.

In order to more accurately represent the water demand in Desbarats, rating factors were used to replicate the demand throughout a typical day. The demand on February 1, 2023, (selected day of the average daily demand) is presented in **Figure 3.1** with data recorded in five-minute intervals throughout the 24-hour duration at the treatment plant.

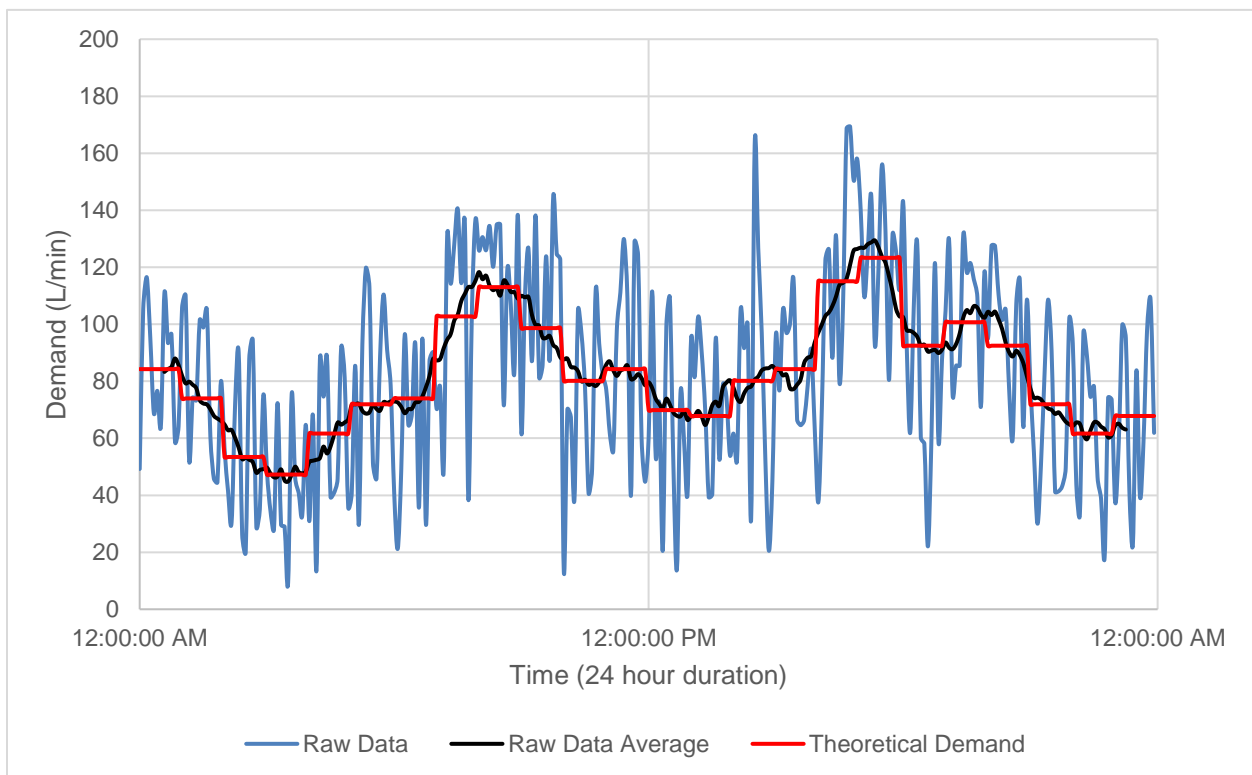


Figure 3.1. Daily Water Demand on February 1, 2023 (raw data provided by the PUC)

The raw data was time-averaged and theoretical hourly rating factors were generated accordingly while ensuring the average daily demand remained unchanged. The maximum and minimum hourly rating factors were 1.5 and 0.575, respectively. The hourly rating factors used in the model are presented below.

**Table 3.2. Rating Factors for 24-Hour Period**

<b>Time (Hours)</b>	<b>Rate Factor</b>	<b>Time (Hours)</b>	<b>Rate Factor</b>
12:00 AM	1.025	12:00 PM	0.85
1:00 AM	0.9	1:00 PM	0.825
2:00 AM	0.65	2:00 PM	0.975
3:00 AM	0.575	3:00 PM	1.025
4:00 AM	0.75	4:00 PM	1.4
5:00 AM	0.875	5:00 PM	1.5
6:00 AM	0.9	6:00 PM	1.125
7:00 AM	1.25	7:00 PM	1.225
8:00 AM	1.375	8:00 PM	1.125
9:00 AM	1.2	9:00 PM	0.875
10:00 AM	0.975	10:00 PM	0.75
11:00 AM	1.025	11:00 PM	0.825

The population of Desbarats, and corresponding water demand, varies depending on the time of day as Desbarats is home to Central Algoma Secondary School (CASS). CASS is the leading consumer of water in the system serving approximately 600 students on a daily basis from within and outside of the Desbarats area.

### *3.4.1 Pipe Roughness*

The pipe roughness (C-Factor) was set to 100 for all the pipes in the system. Field collected flow and pressure data was unavailable to calibrate such parameter, therefore the C-Factor was estimated based on published values within the MECP 'Design Guidelines for Drinking-Water Systems' document.

### 3.4.2 Pressure

Pressure data was unavailable throughout the system at the time of this assessment with the exception of that provided by the PUC for the pressure tanks. Thus, the model was developed based off the limited provided data.

## 4. MODELLING RESULTS

The objective was to evaluate the existing conditions of the Desbarats water distribution system using the Model and to provide opinions about potential future developments.

### 4.1 Existing Conditions

According to the Model results performed using the average daily demand, Desbarats' water distribution system currently has a minimum operating pressure of 48.8 psi located at the west end of Main Street. This is above the minimum operating pressure of 40 psi, but marginally below the recommended normal operating pressure range of 50-70 psi, as defined within the MECP 'Design Guidelines for Drinking-Water Systems' document. The maximum water velocity in the system is 0.16 m/s, which is generally regarded as being low. Low flow rates in a water distribution system raise water quality concerns which should be investigated further.

In order to uphold the system pressure and to meet the average daily demand, the high lift pump cycles 150 times per day. During peak demands, the pump operates continuously for a duration of 7 minutes.

The data obtained for the existing conditions forms the base line for all comparisons here on in.

### 4.2 Potential Developments

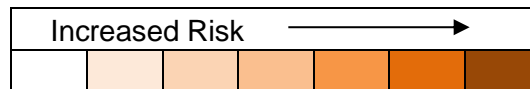
#### 4.2.1 Vacant Land

Desbarats contains vacant lots throughout the hamlet which are suitable for residential development. Based on data provided by Desbarats representatives, it was estimated that approximately 37 single-family homes could be constructed on the available vacant land (refer to Appendix A for vacant land map), excluding the former elementary school site. If all 37 single-family homes were to be constructed and serviced from the centralized water distribution system, such system would be put under substantial stress, as summarized in **Table 4.1**. Particularly, the

pump would run continuously in the evening during peak demand for a duration of approximately 126 minutes without turning off. This is due to the demand being too large for the pressure tanks to function as intended, thus requiring the pump to bypass the pressure tanks and pressurize and supply the system directly. Therefore, developing all of the vacant land without upgrading the water distribution system is not recommended (refer to **Section 5** for water distribution system recommendations). Determining the maximum number of vacant properties which can be developed without requiring system upgrades depends on the property location, as location impacts the system performance.

**Table 4.1. Water Distribution System Performance - Vacant Lot Development**

System Parameters	Existing Condition	Vacant Land Infill (37 single-family homes with 3.2 people per house)
Minimum system pressure (psi)	48.8	47.3
Maximum velocity (m/s)	0.16	0.26
Pump cycles per day	150	116
Continuous pump runtime (min)	7	126

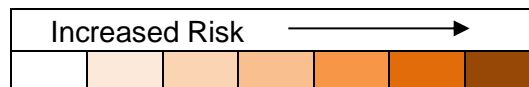


#### 4.2.2 Former School Site

An elementary school was formerly located on Margaret Street but was recently demolished. This site is now a potential location for future high-density residential developments. Below, in **Table 4.2**, a comparison was performed of the impact that various sized residential developments would have on the existing water distribution system. It was determined that regardless of the development size, additional stress would be put on the system. As the number of units increases, the pump run time during peak demand, and the maximum velocity in the system, increases accordingly. Upon reaching approximately 70 new units, the existing water distribution system would not be able to meet the demand resulting in unsafe system pressures, limited water quantity, and extreme system stress.

**Table 4.2. Water Distribution System Performance – Former School Site Development**

System Parameters	Additional Single-Family Units (3.2 people per house)						
	0 (existing condition)	10	20	25	30	50	70
Minimum system pressure (psi)	48.8	47.9	48.2	48.5	47.8	47.6	0
Maximum velocity (m/s)	0.16	0.16	0.25	0.30	0.36	0.57	n/a
Pump cycles per day	150	148	144	140	135	113	n/a
Continuous pump runtime (min)	7	10	15	22	62	130	n/a



High lift pumps are designed to run for continuous periods of time with the understanding that the required maintenance, mechanical wear, and probability of a break down, are increased as the run time increases. Given the performance of the water distribution system shown in **Table 4.2** and the risk associated with additional demands, TULLOCH does not recommend developing more than approximately 20 single-family units at the former elementary school site (assuming no other developments occur within the system including any vacant land). If any vacant land within Desbarats is developed, or additional demands within the system occur, the maximum recommended number of proposed units at the former school site will decrease.

Desbarats has two additional high lift pumps which serve as back-ups in the event of failure. These back up pumps help to reduce the risk with increasing the demand, particularly if a pump were to fail.

## 5. DISCUSSION

Upon analysing the performance of Desbarats’ water distribution system using the results located in Section 4, the following concerns and recommendations were generated for the current and potential future increased demand.

### 5.1 Concerns

The distribution system uses a transmission main located on the bottom of the Desbarats River to convey the potable water from the treatment plant to the consumers. There currently is no redundancy in the system such that if there was a break in the transmission main, the residents of Desbarats would be without water. Furthermore, there is no connection point in the system to

manually input water (ex. from an approved water truck) in the event the treatment plant or transmission main were not operable.

The water distribution system consists of a series of dead-end spurs which do not allow for redundancy or circulation of water in the system. This raises two primary concerns: (1) if a break were to occur anywhere in the system, consumers downstream would be without water, and (2) water quality could be reduced due to a lack of water movement (and the low flow velocities discussed earlier).

Desbarats has six (6) pressure tanks to store and pressurize water for the entire system. When the pressure in the tanks drop below a defined threshold, the high lift pump turns on to concurrently pressurize the system and fill the tanks. Once the tanks reach a set pressure, the pump turns off and the system relies on the volume of water and pressure in the tanks to supply the system. As the demand increases, the pressure tanks drain faster and take longer to fill causing the pump to run for longer periods of time. Thus, any developments will increase the stress on the pumps and pressure tanks therefore increasing the probability of system failure.

Overall, the water distribution system contains significant inherent risk under the current demands, thus servicing additional developments without improving the system will only increase the risk of failure.

## **5.2 Water Distribution System Recommendations**

Given the concerns presented above, TULLOCH recommends the following upgrades to the water distribution system:

- (1) Water tower installation: To improve the existing system as well as meet the demand of potential future developments, it is recommended to replace the existing pressure tanks with a water tower. The water tower would act as a reservoir and store larger quantities of water; therefore, exerting less stress on the pumps, maintaining and regulating the operating pressure, and providing a connection point to manually input water into the system. If the water tower is constructed downstream of the under-water transmission main, the inherent system risk would be greatly reduced, as a shutdown at the treatment plant or failure of the under-water transmission main would still allow a majority of consumers to be serviced through manually filling the water tower.



- (2) Adding pipe network redundancy: By connecting some of the existing underground pipe network spurs, water in the system would be able to circulate and not remain stagnant. This would potentially improve water quality and reduce the number of consumers impacted by a failure in the system.
- (3) Incorporating fire protection: Currently, the Desbarats water distribution system does not provide fire protection for the residents. If upgrades were to be done to the system, it is recommended to consider incorporating fire protection to improve public safety.

## **6. CONCLUSIONS**

A model was developed to replicate Desbarats' water distribution system and under both current and potential future increased demands, the performance of the system was analysed. A number of concerns were raised; particularly, any additional developments will increase the stress on the system which already contains significant inherent risk. Presented in the report are three primary recommendations which will help reduce the inherent risk and improve the robustness of the system.

## **7. REPORT LIMITATIONS AND GUIDELINES FOR USE**

We have prepared this report for the exclusive use of A. J. Clarke and Associates Ltd. and its authorized agents for the Water Distribution System Assessment. The report is only applicable to the project described herein. Any changes to the project require a review by TULLOCH.

The existing pipe network, in terms of infrastructure condition, was not assessed as it was beyond the scope of this study.

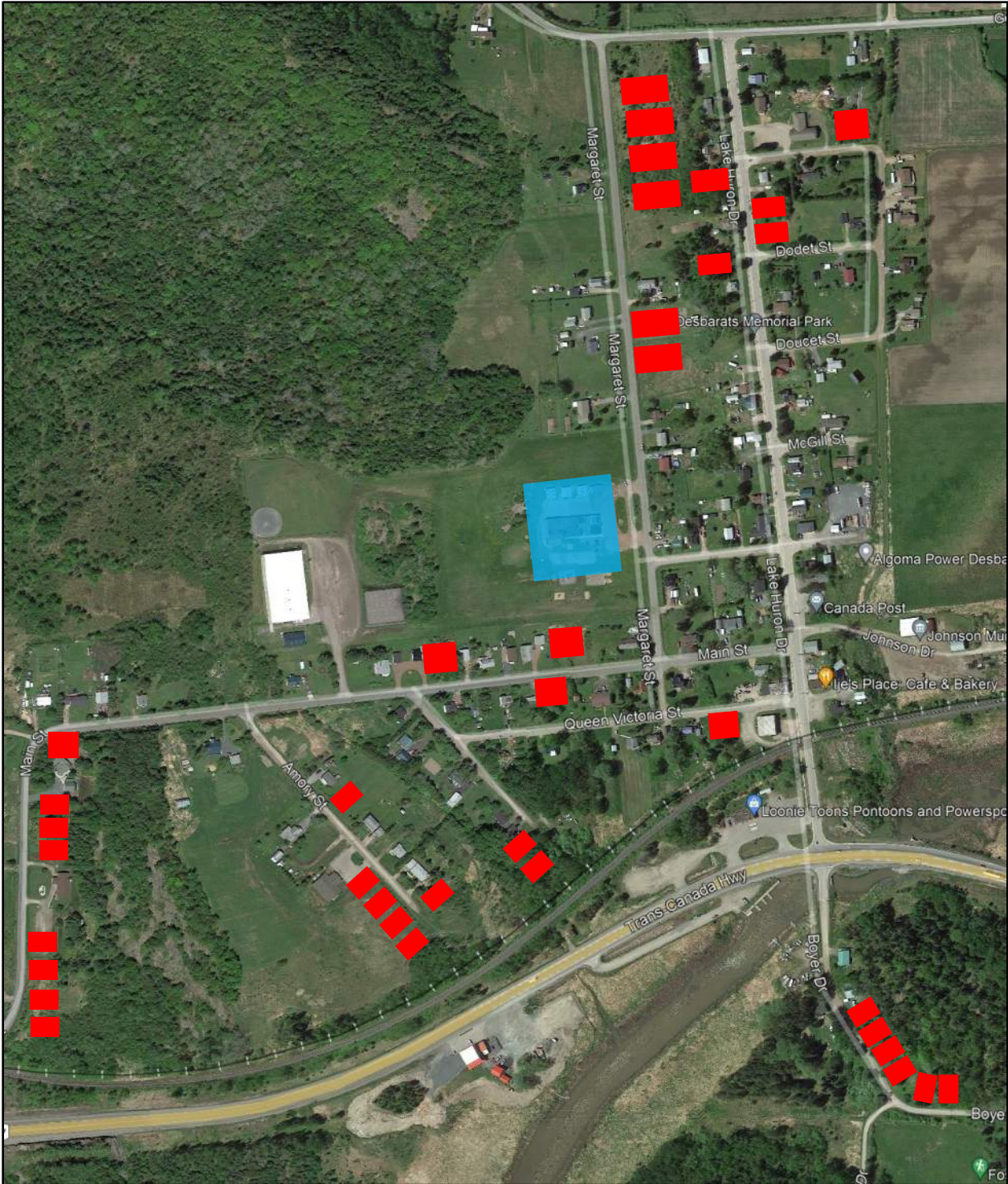
## **8. CLOSURE**

We trust that the information and recommendations in this report will be found to be complete and adequate for your consideration. Should further elaboration be required for any portion of this report, we would be pleased to provide assistance.



## **APPENDIX A**

---

### **Vacant Lots for Potential Future Development**



**Legend**

-  = Vacant Lot with Single-Family House
-  = Former Elementary School Site

## **Appendix 3**

# **Low Pressure Sewage System Assessment**





Planners | Surveyors | Biologists | Engineers

January 29, 2024  
228217P

**Doug Giles, MCIPP, RPP**  
A. J. Clarke and Associates Ltd.  
25 Main Street West, Suite 300  
Hamilton, ON  
L8P 1H1

Re: Low Pressure Sanitary Sewage System Assessment  
Desbarats, Ontario

Dear Sir,

Please find enclosed our low pressure sewage system (LPSS) assessment for the Hamlet of Desbarats, Ontario.

This package includes a report summarizing the findings of the above noted project. Within the report, a discussion of Desbarats' LPSS including the analysis, results, and recommendations can be found.

We trust the enclosed is adequate for your needs at this time. If there is anything further we can provide, please contact us at your convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read 'JL', is positioned above the name of the sender.

**Josh Lelievre, P.Eng.**  
Project Manager





# Low Pressure Sewage System Assessment

## Desbarats, Ontario

### 228217P



A. J. Clarke and Associates



January 29, 2024

## DISTRIBUTION LIST

# of Hard Copies	PDF Required	Association / Company Name
0	1	A. J. Clarke and Associates Ltd.

## REVISION LOG

Revision #	Revised By	Date	Issue / Revision Description
0	JL	January 29, 2024	DRAFT - Issued for Client Comments

## TULLOCH SIGNATURES

Report Prepared By:



---

Josh Lelievre, P.Eng.  
Project Manager



## STATEMENT OF QUALIFICATIONS AND LIMITATIONS

The attached Report (the “Report”) has been prepared by Tulloch (“Consultant”) for the benefit of the client (“Client”) in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the “Agreement”).

The information and data contained in the Report:

- are subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”)
- represent Consultant’s professional judgement in light of the Limitations and industry standards for the preparation of similar reports
- may be based on information provided to Consultant which has not been independently verified
- have not been updated since the date of issuance of the Report and their accuracy is limited to the time period and circumstances in which they were collected, processed, made or issued
- must be read as a whole and sections thereof should not be read out of such context
- were prepared for the specific purposes described in the Report and the Agreement
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time

Unless expressly stated to the contrary in the Report or the Agreement, Consultant:

- shall not be responsible for any events or circumstances that may have occurred since the date on which the Report was prepared or for any inaccuracies contained in information that was provided to Consultant
- agrees that the Report represents its professional judgement as described above for the specific purpose described in the Report and the Agreement, but Consultant makes no other representations with respect to the Report or any part thereof
- in the case of subsurface, environmental or geotechnical conditions, is not responsible for variability in such conditions geographically or over time

The Report is to be treated as confidential and may not be used or relied upon by third parties, except:

- as agreed by Consultant and Client
- as required by law
- for use by governmental reviewing agencies

Any use of this Report is subject to this Statement of Qualifications and Limitations. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report.

## TABLE OF CONTENTS

1.	Introduction	1
2.	Existing Conditions	2
3.	Proposed Development	4
3.1	Hydraulic Analysis	4
3.2	Potential Developments	5
3.2.1	Vacant Land	5
3.2.2	Former School Site	5
4.	Discussion	5
4.1	Concerns	5
4.2	Recommendations	6
5.	Conclusions	6
6.	Report Limitations And Guidelines For Use	6
7.	Closure	7

## LIST OF FIGURES

Figure 1.1.	Location of Desbarats, Ontario	1
Figure 2.1.	Low Pressure Sewage System Geographic Coverage	2
Figure 2.2.	Barnes EH512 Series Pump Curve	3

## APPENDICES

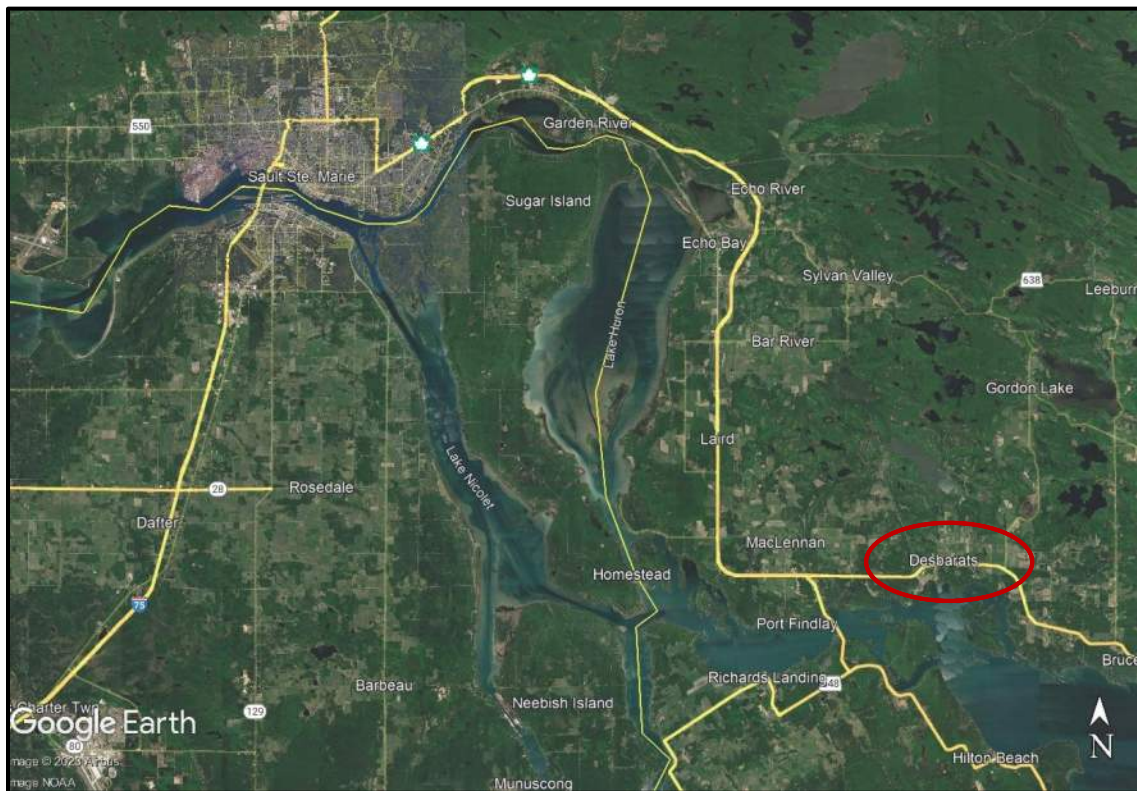
Appendix A - Vacant Lots for Potential Future Development

Appendix B – Hydraulic Analysis Results

## 1. INTRODUCTION

TULLOCH has been retained by A. J. Clarke and Associates Ltd. to complete an assessment of the current low pressure sewage system (LPSS) in the Hamlet of Desbarats (referred to herein as ‘Desbarats’) which is the main community within Johnson Township. Desbarats is located approximately 60km east of the City of Sault Ste. Marie and is situated on the TransCanada highway, as shown in **Figure 1.1**.

The primary objective of this assessment was to determine the available capacity within Desbarats’ existing LPSS in support of potential future developments. Desbarats currently has a number of vacant lots and are seeking an engineering opinion as to the additional demand that the existing LPSS can withstand.



**Figure 1.1. Location of Desbarats, Ontario**

A hydraulic analysis of the existing LPSS was completed based on as-built drawings provided by the Municipality. Various development scenarios were reviewed and the results were compared to the current conditions. Recommendations were then generated based on the findings.

## 2. EXISTING CONDITIONS

TULLOCH understands Desbarats to have a centralized LPSS as indicated on the original design drawings completed by Wm. R. Walker Engineering Inc. The system consists of several kilometers of sewers ranging in size from 50 – 100 mm diameter within the general geographic area shown in **Figure 2.1**. The original design drawings indicate 96 service connections to the existing LPSS and a current count based on Google mapping dated May 30, 2015 indicates up to 101 service connections. As such 101 service connections was used as the existing condition for the hydraulic analysis.

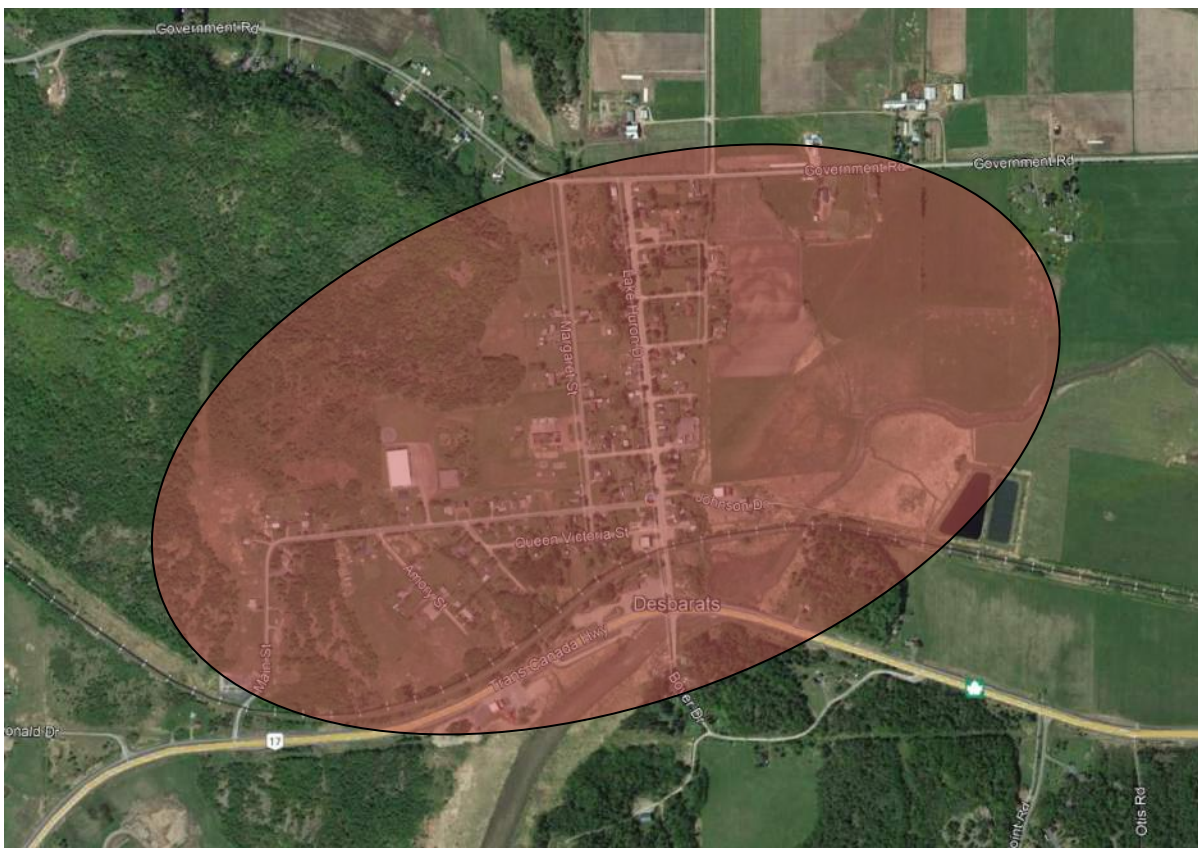


Figure 2.1. Low Pressure Sewage System Geographic Coverage



The original system was designed on the basis that a specific pump be used for each service connection. In this case it was the Barnes EH31 or E41 series effluent pump rated at 0.3 and 0.4 hp respectively. The original drawings indicate the EH31 has a shut off head of 7 m at a flow rate of 1.0 L/s and the EH41 has a shut off head of 10.5 m at a flow rate of 1.0 L/s. Pump curves were not available for the existing pumps however a current model Barnes EH512 series 0.5 hp effluent pump has a shut off head of approximately 10.5 m at a flow rate of 1.0 L/s as indicated on the pump curve in Figure 2.2 below.

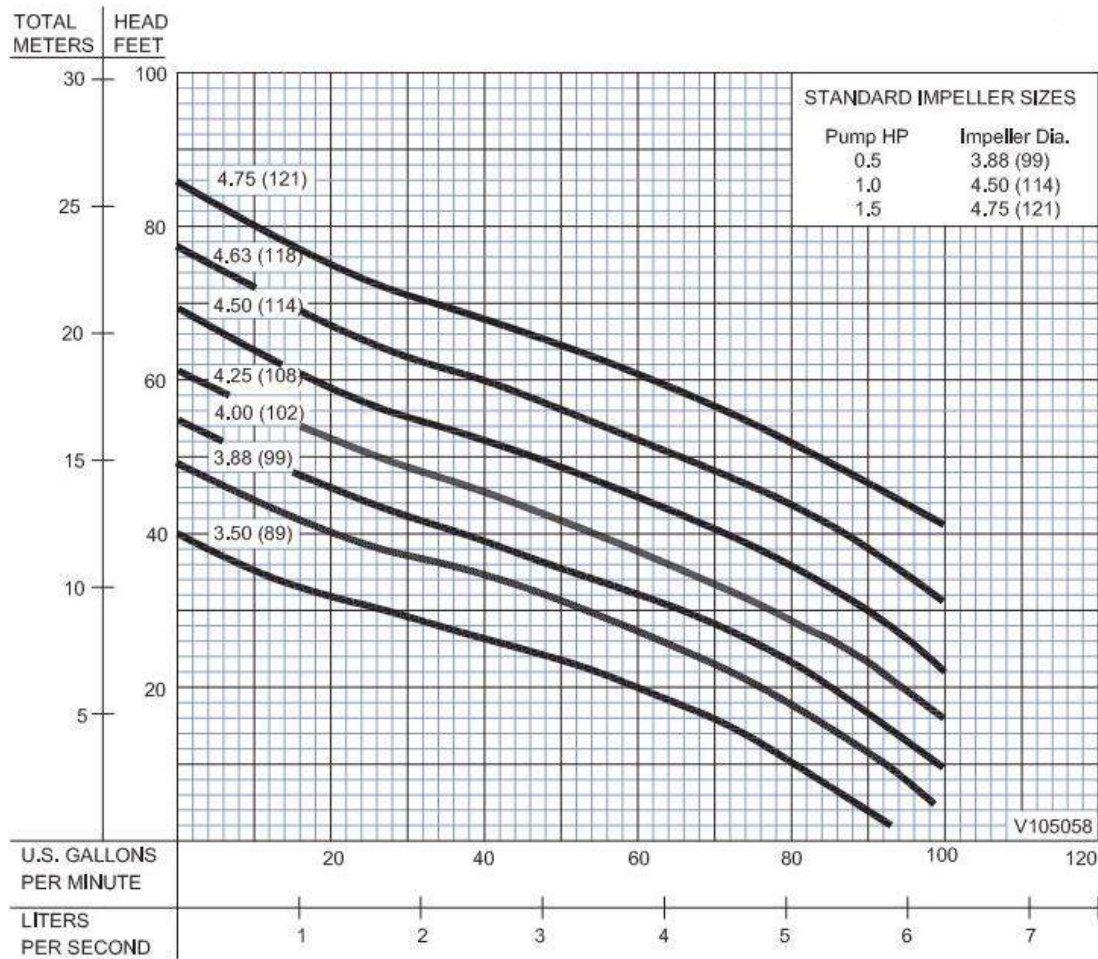


Figure 2.2. Barnes EH512 Series Pump Curve

A pump schedule was included on the original drawings indicating which properties contained which pumps. It should be noted the findings of this report are based the original pump schedule being adhered to and assumes that a smaller pump has not been installed where a larger one was originally designed for.

Under current conditions with 101 assumed service connections the hydraulic analysis indicates the maximum head within the LPSS is 7.57 m at the dead end of Bolton Street. The original pump schedule drawing indicates the properties on Bolton Street have the E41 model pump with a shut off head of 10.5 m.

### **3. PROPOSED DEVELOPMENT**

#### **3.1 Hydraulic Analysis**

Desbarats is currently looking to determine how many service connections could be added to the vacant lot at Civic 20 Margaret Street and how this will affect future development throughout the remainder of the Town.

A hydraulic analysis of the Desbarats LPSS was completed for various scenarios as follows:

- Existing conditions based on the original design drawings – 96 total service connections.
- Current conditions based on Google mapping dated May 30, 2015 – 101 total service connections.
- Current conditions with the addition of 13 service connections at Civic 20 Margaret Street.

As previously mentioned, the current condition with 101 service connections was used for the base analysis. With the addition of 13 service connections at Civic 20 Margaret Street the total head at the dead end of Bolton Street increased to 8.45 m which is still below the 10.5 m shut off head for the E41 pump model. The total head at the dead end of Margaret Street increased to 6.54 m which is below the 7.0 m shut off head for the E31 pump model which, according to the original design drawings, is the pump model used at Civics 25 & 26 Margaret Street. As such it is not recommended to increase the amount of service connections by more than 13 at Civic 20 Margaret Steet. It should be further noted that any additional service connections throughout the Town would need to be further analysed to determine if the LPSS can accommodate the flows.

## 3.2 Potential Developments

### 3.2.1 Vacant Land

Desbarats contains vacant lots throughout the hamlet which are suitable for residential development. Based on data provided by Desbarats representatives, it was estimated that approximately 37 single-family homes could be constructed on the available vacant land (refer to Appendix A for vacant land map), excluding the former elementary school site. If all 37 single-family homes were to be constructed and serviced from the LPSS, significant upgrades would be required to obtain adequate capacity. Determining the maximum number of vacant properties which can be developed without requiring system upgrades depends on the property location, as location impacts the system performance.

### 3.2.2 Former School Site

An elementary school was formerly located on Margaret Street but was recently demolished. This site is now a potential location for future high-density residential developments. As per the above analysis, TULLOCH does not recommend developing more than 13 new service connections at the former elementary school site (assuming no other developments occur within the system including any vacant land). If any vacant land within Desbarats is developed, or additional demands within the system occur, the maximum recommended number of proposed units at the former school site will decrease.

## 4. DISCUSSION

Upon analysing the performance of Desbarats' LPSS using the results located in Section 3, the following concerns and recommendations were generated for the potential future increased demand.

### 4.1 Concerns

The LPSS was originally designed for two (2) specific pump models with low shut off heads. As such the system can only accommodate a limited amount of future development which should be analysed prior to any lot development.

There are specific locations within the LPSS where velocities are lower than the recommended cleansing velocity of 0.6 m/s which could result in additional maintenance and flushing of the system.

## **4.2 Recommendations**

Given the analysis results and concerns presented above, TULLOCH recommends the following:

- (1) Independent LPSS: To accommodate development at Civic 20 Margaret Street and maintain capacity for other future development throughout the Town a new independent LPSS could be provided from the sewage lagoon to Margaret Street so there is no affect on the existing LPSS.
- (2) Pump upgrades: Pumps could be upgraded to models with higher shut off heads for all current/future service connections. This would allow for additional future development connected to the existing LPSS.

## **5. CONCLUSIONS**

A hydraulic analysis was completed for Desbarats' LPSS and under both current and potential future increased demands, the performance of the system was analysed. Some concerns were raised; particularly, any additional development at Civic 20 Margaret Street will limit the amount of future development elsewhere in the Town. Presented above are two recommendations which would help alleviate the capacity issues.

## **6. REPORT LIMITATIONS AND GUIDELINES FOR USE**

We have prepared this report for the exclusive use of A. J. Clarke and Associates Ltd. and its authorized agents for the LPSS Assessment. The report is only applicable to the project described herein. Any changes to the project require a review by TULLOCH.

The existing pipe network, in terms of infrastructure condition, was not assessed as it was beyond the scope of this study.



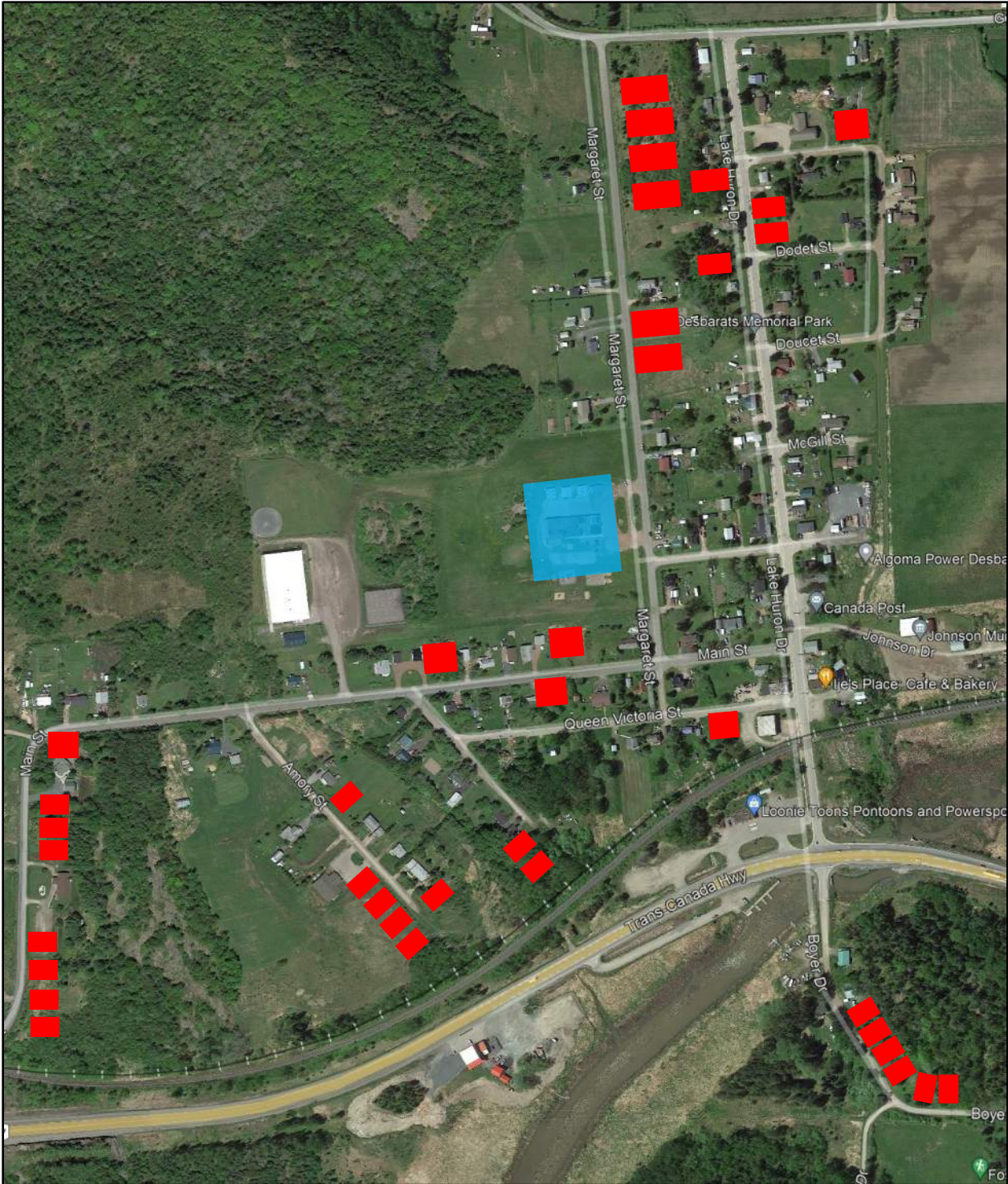
## 7. CLOSURE

We trust that the information and recommendations in this report will be found to be complete and adequate for your consideration. Should further elaboration be required for any portion of this report, we would be pleased to provide assistance.



## **APPENDIX A**

---

### **Vacant Lots for Potential Future Development**



**Legend**

-  = Vacant Lot with Single-Family House
-  = Former Elementary School Site

## **APPENDIX B**

---

### **Hydraulic Analysis Results**

**Desbarats - Original Design Drawing Unit Count - 96 Service Connections**  
**External Servicing (C=130)**  
**Low Pressure Sanitary Sewer**

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
From/ To	Description	Number of Pumps	Total Pumps Contributing	Q (L/s)	Pipe Dia. (mm)	Velocity (m/s)	Length (m)	h <sub>L</sub> C=130	H <sub>L</sub> C=130	HGL in pipe Elevation (m)	Ground Elevation (m)	TDH at street (m)	TDH at street (psi)	TDH at Pump (m)
				Column 5 X 0.69 L/s					Column 9 X Column 10/100	Column 11 (line 2) + Column 12 (line 1)		Column 12 - Column 13	Column 14 X 1.42 psi/m	
Lagoon	Access Road									176.4	179	-2.60	-3.69	-0.60
		1	96	4.04	100	0.51	590	0.36	2.10					
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									178.50	178.36	0.14	0.20	2.14
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									178.50	178.36	0.14	0.20	2.14
		2	2	1.06	50	0.54	61	0.88	0.54					
VC 17	Lake Huron									179.04	180.42	-1.38	-1.96	0.62
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									178.50	178.36	0.14	0.20	2.14
		0	93	3.95	75	0.89	66	1.39	0.91					
VC 19	Corner of Canadian Pacific Ave and Gillespie St									179.42	178.23	1.19	1.69	3.19
VC 19	Corner of Canadian Pacific Ave and Gillespie St									179.42	178.23	1.19	1.69	3.19
		1	25	1.79	75	0.41	169.5	0.32	0.54					
VC 20	Lake Huron St									179.96	182	-2.04	-2.89	-0.04
		6	24	1.76	50	0.90	179	2.24	4.00					
VC 21	Dodet St									183.97	183.56	0.41	0.58	2.41
		9	9	1.29	50	0.65	217.5	1.25	2.72					
VC 22	Government Road									186.68	184.5	2.18	3.10	4.18
VC 21	Dodet St									183.97	183.56	0.41	0.58	2.41
		2	2	1.06	50	0.54	54	0.88	0.47					
VC 25	Dodet St/Lake Huron Drive									184.44	184.83	-0.39	-0.55	1.61
VC 21	Dodet St									183.97	183.56	0.41	0.58	2.41
		1	7	1.22	50	0.62	76	1.14	0.86					
VC 23	Canadian Pacific Avenue									184.83	182.33	2.50	3.55	4.50
		6	6	1.19	50	0.61	263.5	1.08	2.85					
VC 24	Canadian Pacific Avenue									187.68	183.1	4.58	6.51	6.58

**Desbarats - Original Design Drawing Unit Count - 96 Service Connections**  
**External Servicing (C=130)**  
**Low Pressure Sanitary Sewer**

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
VC 19	Corner of Canadian Pacific Ave and Gillespie St									179.42	178.23	1.19	1.69	3.19
		6	68	3.16	75	0.71	134	0.91	1.23					
VC 13	Gillespie St									180.64	185.54	-4.90	-6.95	-2.90
VC 13	Gillespie St									180.64	185.54	-4.90	-6.95	-2.90
		2	25	1.79	75	0.41	137	0.32	0.44					
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									181.08	181.74	-0.66	-0.93	1.34
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									181.08	181.74	-0.66	-0.93	1.34
		8	8	1.25	50	0.64	71	1.19	0.85					
VC 12	Queen Victoria St									181.93	183.67	-1.74	-2.47	0.26
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									181.08	181.74	-0.66	-0.93	1.34
		6	15	1.48	50	0.75	190	1.61	3.06					
VC 10	Queen Victoria St									184.15	185.31	-1.16	-1.65	0.84
		7	9	1.29	50	0.65	90	1.25	1.12					
VC 8	Bolton St									185.27	185.78	-0.51	-0.72	1.49
VC 8	Bolton St									185.27	185.78	-0.51	-0.72	1.49
		2	2	1.06	50	0.54	128	0.88	1.13					
VC 9	Bolton St									186.40	181.28	5.12	7.26	7.12
VC 13	Lake Huron									180.64	185.54	-4.90	-6.95	-2.90
		7	7	1.22	50	0.62	174	1.14	1.98					
VC 14	Lake Huron									182.62	185	-2.38	-3.38	-0.38
VC 13	Lake Huron									180.64	185.54	-4.90	-6.95	-2.90
		4	30	1.95	50	0.99	94.5	2.70	2.56					
VC 4	Corner of Gillespie St and Margaret St									183.20	186.18	-2.98	-4.23	-0.98
VC 4	Corner of Gillespie St and Margaret St									183.20	186.18	-2.98	-4.23	-0.98
		3	8	1.25	50	0.64	192.5	1.19	2.29					
VC 5	Margaret St									185.49	187.36	-1.87	-2.65	0.13
		5	5	1.16	50	0.59	186.5	1.03	1.92					
VC 6	Margaret St									187.42	187.69	-0.27	-0.39	1.73
VC 4	Corner of Gillespie St and Margaret St									183.20	186.18	-2.98	-4.23	-0.98
		3	18	1.57	75	0.36	291.5	0.25	0.73					
VC 3	Main St									183.93	186.26	-2.33	-3.31	-0.33
		4	15	1.48	75	0.33	238.7	0.22	0.53					
VC 2	Main St									184.47	186.34	-1.87	-2.66	0.13

**Desbarats - Original Design Drawing Unit Count - 96 Service Connections**  
**External Servicing (C=130)**  
**Low Pressure Sanitary Sewer**

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
VC 2	Main St									184.47	186.34	-1.87	-2.66	0.13
		4	4	1.13	50	0.57	219	0.98	2.14					
VC 7	Amory St									186.61	184.6	2.01	2.85	4.01
VC 2	Main St									184.47	186.34	-1.87	-2.66	0.13
		7	7	1.22	50	0.62	248.3	1.14	2.82					
VC 1	Main St									187.29	188.2	-0.91	-1.29	1.09

Note: Maximum Pressure is \_\_\_\_\_ or \_\_\_\_\_ TDH

\* Blue shaded areas indicate subsections of main run



**Desbarats - Current Unit Count - 101 Service Connections**  
**External Servicing (C=130)**  
**Low Pressure Sanitary Sewer**

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
From/ To	Description	Number of Pumps	Total Pumps Contributing	Q (L/s)	Pipe Dia. (mm)	Velocity (m/s)	Length (m)	h <sub>L</sub> C=130	H <sub>L</sub> C=130	HGL in pipe Elevation (m)	Ground Elevation (m)	TDH at street (m)	TDH at street (psi)	TDH at Pump (m)
				Column 5 X 0.69 L/s					Column 9 X Column 10/100	Column 11 (line 2) + Column 12 (line 1)		Column 12 - Column 13	Column 14 X 1.42 psi/m	
Lagoon	Access Road									176.4	179	-2.60	-3.69	-0.60
		1	103	4.27	100	0.54	590	0.39	2.32					
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									178.72	178.36	0.36	0.52	2.36
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									178.72	178.36	0.36	0.52	2.36
		2	2	1.06	50	0.54	61	0.88	0.54					
VC 17	Lake Huron									179.26	180.42	-1.16	-1.65	0.84
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									178.72	178.36	0.36	0.52	2.36
		1	100	4.17	75	0.94	66	1.53	1.01					
VC 19	Corner of Canadian Pacific Ave and Gillespie St									179.73	178.23	1.50	2.14	3.50
VC 19	Corner of Canadian Pacific Ave and Gillespie St									179.73	178.23	1.50	2.14	3.50
		1	25	1.79	75	0.41	169.5	0.32	0.54					
VC 20	Lake Huron St									180.28	182	-1.72	-2.44	0.28
		6	24	1.76	50	0.90	179	2.24	4.00					
VC 21	Dodet St									184.28	183.56	0.72	1.03	2.72
		9	9	1.29	50	0.65	217.5	1.25	2.72					
VC 22	Government Road									187.00	184.5	2.50	3.55	4.50
VC 21	Dodet St									184.28	183.56	0.72	1.03	2.72
		2	2	1.06	50	0.54	54	0.88	0.47					
VC 25	Dodet St/Lake Huron Drive									184.76	184.83	-0.07	-0.10	1.93
VC 21	Dodet St									184.28	183.56	0.72	1.03	2.72
		1	7	1.22	50	0.62	76	1.14	0.86					
VC 23	Canadian Pacific Avenue									185.15	182.33	2.82	4.00	4.82
		6	6	1.19	50	0.61	263.5	1.08	2.85					
VC 24	Canadian Pacific Avenue									188.00	183.1	4.90	6.96	6.90



Desbarats - Current Unit Count - 101 Service Connections

External Servicing (C=130)

Low Pressure Sanitary Sewer

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
VC 19	Corner of Canadian Pacific Ave and Gillespie St									179.73	178.23	1.50	2.14	3.50
		6	74	3.35	75	0.76	134	1.02	1.37					
VC 13	Gillespie St									181.10	185.54	-4.44	-6.30	-2.44
VC 13	Gillespie St									181.10	185.54	-4.44	-6.30	-2.44
		2	25	1.79	75	0.41	137	0.32	0.44					
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									181.54	181.74	-0.20	-0.28	1.80
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									181.54	181.74	-0.20	-0.28	1.80
		8	8	1.25	50	0.64	71	1.19	0.85					
VC 12	Queen Victoria St									182.39	183.67	-1.28	-1.82	0.72
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									181.54	181.74	-0.20	-0.28	1.80
		6	15	1.48	50	0.75	190	1.61	3.06					
VC 10	Queen Victoria St									184.60	185.31	-0.71	-1.00	1.29
		7	9	1.29	50	0.65	90	1.25	1.12					
VC 8	Bolton St									185.73	185.78	-0.05	-0.07	1.95
VC 8	Bolton St									185.73	185.78	-0.05	-0.07	1.95
		2	2	1.06	50	0.54	128	0.88	1.13					
VC 9	Bolton St									186.85	181.28	5.57	7.91	7.57
VC 13	Lake Huron									181.10	185.54	-4.44	-6.30	-2.44
		7	7	1.22	50	0.62	174	1.14	1.98					
VC 14	Lake Huron									183.08	185	-1.92	-2.73	0.08
VC 13	Lake Huron									181.10	185.54	-4.44	-6.30	-2.44
		4	36	2.14	50	1.09	94.5	3.21	3.04					
VC 4	Corner of Gillespie St and Margaret St									184.14	186.18	-2.04	-2.90	-0.04
VC 4	Corner of Gillespie St and Margaret St									184.14	186.18	-2.04	-2.90	-0.04
		3	10	1.32	50	0.67	192.5	1.31	2.51					
VC 5	Margaret St									186.65	187.36	-0.71	-1.01	1.29
		7	7	1.22	50	0.62	186.5	1.14	2.12					
VC 6	Margaret St									188.77	187.69	1.08	1.54	3.08
VC 4	Corner of Gillespie St and Margaret St									184.14	186.18	-2.04	-2.90	-0.04
		3	22	1.70	75	0.38	291.5	0.29	0.85					
VC 3	Main St									184.98	186.26	-1.28	-1.81	0.72
		4	19	1.60	75	0.36	238.7	0.26	0.62					
VC 2	Main St									185.60	186.34	-0.74	-1.04	1.26

**Desbarats - Current Unit Count - 101 Service Connections**  
**External Servicing (C=130)**  
**Low Pressure Sanitary Sewer**

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
VC 2	Main St									185.60	186.34	-0.74	-1.04	1.26
		6	6	1.19	50	0.61	219	1.08	2.37					
VC 7	Amory St									187.98	184.6	3.38	4.79	5.38
VC 2	Main St									185.60	186.34	-0.74	-1.04	1.26
		9	9	1.29	50	0.65	248.3	1.25	3.10					
VC 1	Main St									188.71	188.2	0.51	0.72	2.51

Note: Maximum Pressure is \_\_\_\_\_ or \_\_\_\_\_ TDH

\* Blue shaded areas indicate subsections of main run

**Desbarats - Current Unit Count - 101 Service Connections with 13 Additional Connection at 20 Margaret**  
**External Servicing (C=130)**  
**Low Pressure Sanitary Sewer**

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
From/ To	Description	Number of Pumps	Total Pumps Contributing	Q (L/s)	Pipe Dia. (mm)	Velocity (m/s)	Length (m)	h <sub>L</sub> C=130	H <sub>L</sub> C=130	HGL in pipe Elevation (m)	Ground Elevation (m)	TDH at street (m)	TDH at street (psi)	TDH at Pump (m)
				Column 5 X 0.69 L/s					Column 9 X Column 10/100	Column 11 (line 2) + Column 12 (line 1)		Column 12 - Column 13	Column 14 X 1.42 psi/m	
Lagoon	Access Road									176.4	179	-2.60	-3.69	-0.60
		1	115	4.65	100	0.59	590	0.46	2.72					
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									179.12	178.36	0.76	1.08	2.76
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									179.12	178.36	0.76	1.08	2.76
		2	2	1.06	50	0.54	61	0.88	0.54					
VC 17	Lake Huron									179.66	180.42	-0.76	-1.08	1.24
VC 18	Corner of Canadian Pacific Ave and Access Road to Lagoon									179.12	178.36	0.76	1.08	2.76
		1	112	4.55	75	1.03	66	1.80	1.19					
VC 19	Corner of Canadian Pacific Ave and Gillespie St									180.31	178.23	2.08	2.95	4.08
VC 19	Corner of Canadian Pacific Ave and Gillespie St									180.31	178.23	2.08	2.95	4.08
		1	25	1.79	75	0.41	169.5	0.32	0.54					
VC 20	Lake Huron St									180.85	182	-1.15	-1.63	0.85
		6	24	1.76	50	0.90	179	2.24	4.00					
VC 21	Dodet St									184.86	183.56	1.30	1.84	3.30
		9	9	1.29	50	0.65	217.5	1.25	2.72					
VC 22	Government Road									187.57	184.5	3.07	4.36	5.07
VC 21	Dodet St									184.86	183.56	1.30	1.84	3.30
		2	2	1.06	50	0.54	54	0.88	0.47					
VC 25	Dodet St/Lake Huron Drive									185.33	184.83	0.50	0.71	2.50
VC 21	Dodet St									184.86	183.56	1.30	1.84	3.30
		1	7	1.22	50	0.62	76	1.14	0.86					
VC 23	Canadian Pacific Avenue									185.72	182.33	3.39	4.82	5.39
		6	6	1.19	50	0.61	263.5	1.08	2.85					
VC 24	Canadian Pacific Avenue									188.58	183.1	5.48	7.78	7.48

**Desbarats - Current Unit Count - 101 Service Connections with 13 Additional Connection at 20 Margaret**  
**External Servicing (C=130)**  
**Low Pressure Sanitary Sewer**

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
VC 19	Corner of Canadian Pacific Ave and Gillespie St									180.31	178.23	2.08	2.95	4.08
		6	86	3.73	75	0.84	134	1.24	1.67					
VC 13	Gillespie St									181.98	185.54	-3.56	-5.06	-1.56
VC 13	Gillespie St									181.98	185.54	-3.56	-5.06	-1.56
		2	25	1.79	75	0.41	137	0.32	0.44					
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									182.42	181.74	0.68	0.96	2.68
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									182.42	181.74	0.68	0.96	2.68
		8	8	1.25	50	0.64	71	1.19	0.85					
VC 12	Queen Victoria St									183.26	183.67	-0.41	-0.58	1.59
VC 11	Corner of Lake Huron Ave. and Queen Victoria St									182.42	181.74	0.68	0.96	2.68
		6	15	1.48	50	0.75	190	1.61	3.06					
VC 10	Queen Victoria St									185.48	185.31	0.17	0.24	2.17
		7	9	1.29	50	0.65	90	1.25	1.12					
VC 8	Bolton St									186.60	185.78	0.82	1.17	2.82
VC 8	Bolton St									186.60	185.78	0.82	1.17	2.82
		2	2	1.06	50	0.54	128	0.88	1.13					
VC 9	Bolton St									187.73	181.28	6.45	9.16	8.45
VC 13	Lake Huron									181.98	185.54	-3.56	-5.06	-1.56
		7	7	1.22	50	0.62	174	1.14	1.98					
VC 14	Lake Huron									183.96	185	-1.04	-1.48	0.96
VC 13	Lake Huron									181.98	185.54	-3.56	-5.06	-1.56
		4	48	2.52	50	1.28	94.5	4.35	4.11					
VC 4	Corner of Gillespie St and Margaret St									186.09	186.18	-0.09	-0.13	1.91
VC 4	Corner of Gillespie St and Margaret St									186.09	186.18	-0.09	-0.13	1.91
		15	22	1.70	50	0.86	192.5	2.09	4.02					
VC 5	Margaret St									190.11	187.36	2.75	3.91	4.75
		7	7	1.22	50	0.62	186.5	1.14	2.12					
VC 6	Margaret St									192.23	187.69	4.54	6.45	6.54
VC 4	Corner of Gillespie St and Margaret St									186.09	186.18	-0.09	-0.13	1.91
		3	22	1.70	75	0.38	291.5	0.29	0.85					
VC 3	Main St									186.93	186.26	0.67	0.96	2.67
		4	19	1.60	75	0.36	238.7	0.26	0.62					
VC 2	Main St									187.56	186.34	1.22	1.73	3.22

**Desbarats - Current Unit Count - 101 Service Connections with 13 Additional Connection at 20 Margaret**  
**External Servicing (C=130)**  
**Low Pressure Sanitary Sewer**

1	2	3	4	6	7	8	9	10	11	12	13	14	15	16
VC 2	Main St									187.56	186.34	1.22	1.73	3.22
		6	6	1.19	50	0.61	219	1.08	2.37					
VC 7	Amory St									189.93	184.6	5.33	7.57	7.33
VC 2	Main St									187.56	186.34	1.22	1.73	3.22
		9	9	1.29	50	0.65	248.3	1.25	3.10					
VC 1	Main St									190.66	188.2	2.46	3.49	4.46

Note: Maximum Pressure is \_\_\_\_\_ or \_\_\_\_\_ TDH

\* Blue shaded areas indicate subsections of main run

## **Appendix 4**

# **Verification of Soil Sampling Program**





---

**Johnson Township**

**5 Margaret Street, Desbarats,  
Ontario**

**Verification Soil Sampling Program**

Two vertical lines, one blue and one green, are positioned to the left of the text.

**December 19, 2022  
TULLOCH Project #: 22-0880**





## DISTRIBUTION LIST

# Of Hard Copies	PDF Required	Association / Company Name
0	1	Johnson Township

## Revision Log

Revision #	Revised By	Date	Issue / Revision Description

## TULLOCH Signatures

Report Prepared By:

Nick Conte  
Environmental Technologist

Report Reviewed By:

Tyler Moody, A.Sc.T.  
Environmental Project Manager

Report Reviewed By:

Robert Bressan, P. Eng.  
Environmental Engineer

## STATEMENT OF QUALIFICATIONS AND LIMITATIONS

The attached Report (the “Report”) has been prepared by TULLOCH Inc. (“Consultant”) for the benefit of the Client (“Client”) in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the “Agreement”).

The information, data, recommendations, and conclusions contained in the Report (collectively, the “Information”):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”)
- represents Consultant’s professional judgement in light of the Limitations and industry standards for the preparation of similar reports
- may be based on information provided to consultant which has not been independently verified
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made, or issued
- must be read as a whole and sections thereof should not be read out of such context
- was prepared for the specific purposes described in the Report and the Agreement
- in the case of subsurface, environmental, or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

Consultant shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. Consultant accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental, or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

Consultant agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but Consultant makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information, or any part thereof.

The Report is to be treated as confidential and may not be used or relied upon by third parties, except:

- as agreed in writing by Consultant and Client
- as required by law
- for use by governmental reviewing agencies.

Consultant accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on



Verification Soil Sampling Program  
5 Margaret Street  
Desbarats, Ontario

the Report or any of the Information (“improper use of the Report”), except to the extent those parties have obtained the prior written consent of Consultant to use and rely upon the Report and the Information. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use. This Statement of Qualifications and Limitations is attached to, and forms part of, the Report and any use of the Report is subject to the terms hereof.

## EXECUTIVE SUMMARY

TULLOCH Inc. (TULLOCH) was retained by Johnson Township (Client) to conduct a soil remediation and Verification Soil Sampling Program (VSSP) of petroleum hydrocarbon (PHC) impacted soils at the property located at 7 Margaret Street, Desbarats, Ontario (Site).

The terms of reference for this project are based on TULLOCH being retained by the Client on April 27, 2022.

The objective of this VSSP was to conduct and supervise a remedial excavation and VSSP of PHC-impacted soils identified by M.R. Wright & Associates Co. Ltd. (MRW) report entitled “*Environmental Site Re-Assessment, Johnson Tarbutt Central Public School, Desbarats, Ontario*” and dated May 2006, from historical activities at the Site, and to verify that the soil at the final limits of the remedial excavation satisfy the applicable Ontario Ministry of the Environment, Conservation and Parks (MECP) Standards. The exact source and quantity of the fuel/oil loss was unknown but was suspected to have originated from historical activities of the previous school at the Site.

Based on the findings of the MRW report, the Client retained TULLOCH to conduct a focused soil and groundwater investigation at the Site. The activities were reported in the TULLOCH report entitled “*Focused Soil and Groundwater Investigation, Johnson Township, Margaret Street, Desbarats, Ontario*” and dated July 2022 (2022 TULLOCH Focused Soil & Groundwater Report). At the completion of the investigation, it was determined that soils were impacted by benzene, ethylbenzene, toluene, and xylenes (collectively known as BTEX) and PHCs in the F1 to F4 fractions (PHCs F1-F4). TULLOCH identified that impacts remained in the soil on Site and therefore recommended a soil remediation be completed to remove the PHC impacts.

The Client completed the soil remediation with the guidance of TULLOCH field personnel to identify remedial excavation limits. At the completion of the remediation, TULLOCH completed a post-remedial VSSP.

The following is a summary of work completed during this VSSP:

- TULLOCH field personnel attended the Site between September 12 and October 4, 2022, to complete a soil remediation and verification soil sampling program.
- Field observations made during the remedial excavation indicated the soil stratigraphy below surface consisted of brown sandy silt with some gravel to a depth of approximately 2.0 metres below ground surface (mbgs), followed by grey silt to 3.0 mbgs, and brown clay extending the full depth of the excavation at ~3.5. Bedrock was not encountered during this investigation.
- Based on previous reported Site-specific information, the soil quality was assessed based on Table 6 SCS for Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for fine-textured soils and residential/ parkland/ institutional property use.
- Based on the size of the remedial excavation, three (3) worst-case floor samples, five (5) “worst-case” sidewall samples, and one field duplicate, were collected from the final excavation limits as verification soil samples in accordance with the applicable regulatory

criteria. All soil samples were submitted for laboratory analysis of BTEX and PHCs (F1-F4) and met the Table 6 SCS, except for:

- Soil sample F-26 collected from the floor of the excavation, at a depth of 3.3 mbgs for PHCs F2 with a concentration of 122 µg/g, which exceeded Table 6 SCS of 98 µg/g.
- Following the sample exceedance, TULLOCH returned to the site with the Client to over excavate the exceeded sample. Soil sample F-101 was collected from the floor of the over excavated excavation at ~3.5 mbgs and submitted to SGS for analysis of BTEX and PHCs (F1-F4). As a result, soil sample F-101 met the Table 6 SCS for BTEX and PHCs (F1-F4). The Client reported that the over excavated material was transported to the landfill for disposal.

Based on the above, it's TULLOCH's opinion that no further soil or groundwater remediation work is required on site in relation to the petroleum impacted soils identified by the MRW report and the 2022 TULLOCH Focused Soil & Groundwater Report from historical activities at the Site.

The results of this VSSP pertain only to the remedial excavation completed to address the BTEX and PHCs (F1-F4) impacts to the soil and groundwater that were identified in the MRW report. TULLOCH cannot provide commentary on the environmental condition of the remainder of the property without conducting additional environmental assessments.

## TABLE OF CONTENTS

1.	Introduction	1
1.1	Background	1
2.	Health and Safety	2
3.	Excavation Methodology	3
3.1	Scope of Work	3
3.2	Remedial Excavation Activities	3
3.3	Excavation Field Screening and Soil Sample Collection	4
3.4	Verification Soil Sampling	5
3.5	Analytical Testing	5
3.6	Site Condition Standards	5
4.	Results	6
4.1	Site Geology	6
4.2	Soil Vapour Concentrations and Field Observations	6
4.3	Analytical Results	6
4.3.1	Soil Results	6
4.3.2	Groundwater Results	6
4.3.3	Backfill Material	7
4.4	Quality Assurance & Quality Control	7
4.5	Earthwork Volumes	7
4.6	Excavation Groundwater	8
4.7	Backfilling	8
5.	Conclusions	8

### List of Figures

Figure 1	Site Plan
Figure 2	Remedial Excavation Location Plan

### List of Figures

Table 1	Soil Analytical Results
---------	-------------------------



## List of Appendices

- Appendix A Figures
- Appendix B Photographs
- Appendix C Laboratory Certificates of Analysis
- Appendix D Toxicity Characteristic Leachate Procedure (TCLP) Report

## 1. INTRODUCTION

TULLOCH Inc. (TULLOCH) was retained by Johnson Township (Client) on April 27, 2022, to conduct a focused soil and groundwater investigation of petroleum impacted soils at the site, known as 5 Margaret Street, Desbarats, Ontario (Site). Subsequent to the completion of the focused soil and groundwater investigation, a focused soil remediation and verification soil sampling program (VSSP) was carried out.

As indicated on Figure 1 (Site Location Map), the Site is located on the west side of Margaret Street, in Desbarats, Ontario. The area of remediation was the central east portion of the Site; as shown on Figure 2 (Sample Location Plan). All figures are provided in Appendix A.

### 1.1 Background

The Site consists of a vacant area, which was formerly occupied by an elementary school. The former school is believed to have been first developed in the 1950's and had remained unchanged until its demolition in 2016.

TULLOCH reviewed the following reports to gather historical information related to the potential area of concern:

- M.R. Wright & Associates Co. Ltd. (MRW) report entitled "*Environmental Site Re-Assessment, Johnson Tarbutt Central Public School, Desbarats, Ontario*" and dated May 2006 (2006 MRW report); and
- TULLOCH report entitled "*Focused Soil and Groundwater Investigation, Johnson Township, 5 Margaret Street, Desbarats, Ontario*", dated July 2022 (2022 TULLOCH Focused Soil & Groundwater Report).

In July 2002 during the replacement of heating fuel oil tanks, impacted soils with petroleum hydrocarbons (PHC) fuel oil were discovered under the building. In November 2002, soil and groundwater remediation activities commenced. In August 2004, the remediation activities were abandoned as the vertical extent of the contamination and the severity of the impacts made the removal of impacted soils unfeasible and unsafe. Recommendations were made in 2004 to install seven groundwater monitoring wells to determine hydrogeological characteristics and the potential migration of the contaminants.

In 2006, MRW reassessed the Site conditions to the new Ontario Regulation 153/04, which came into effect in November 2004. As part of this re-assessment, MRW performed three rounds of groundwater sampling and collected ten (10) new soil samples from locations that had been previously sampled during past assessments.

The conclusions of the MRW report indicated that all the soil sampled met the MECP Table 5 Stratified Non-Potable Soil Condition Standards (SCS). The report also reported that some



groundwater samples from the monitoring wells exceeded the MECP Table 2 SCS for potable groundwater conditions.

Based on the review of the 2006 MRW report, TULLOCH recommended and carried out the following scope of work to identify the presence of any remaining PHC impacts (specifically PHC fractions F1 to F4 (PHC F1-F4) and Benzene, Toluene, Ethylbenzene, and Xylenes (collectively known as BTEX)) to the soils and groundwater at the Site:

- A total of twelve (12) boreholes were advanced at the Site, within the vicinity of the former school building footprint, up to a maximum depth of 6.0 mbgs. Five (5) of the boreholes were instrumented with groundwater monitoring wells;
- Field screened soil samples collected from the boreholes for the presence of petroleum derived vapours. One worst-case soil sample from each borehole was submitted for laboratory analysis of BTEX and PHCs (F1-F4);
- Development and purging of the groundwater monitoring wells. Subsequently, TULLOCH collected one representative groundwater sample from each monitoring well for laboratory analysis of BTEX and PHCs (F1-F4); and
- Preparation of a report with recommendations for the remediation of all identified PHC impacted soils and groundwater identified during the assessment.
- The reported concentrations of BTEX and PHCs (F1-F4), in the soil samples submitted for analysis met the Table 6 Site Condition Standards (SCS), with the exception of the following:
  - BH106 7.5-10 at a depth of 2.3–3.1 mbgs for PHC F1 with a concentration of 463 µg/g, which exceeded Table 6 SCS of 65 µg/g; and
  - BH107 7.5-10 at a depth of 2.3–3.1 mbgs with the following concentrations: PHC F1 - 412 µg/g (F1 Table 6 SCS 150 µg/g); and PHC F2 - 176 µg/g (F2 Table 6 SCS 150 µg/g).

The reported concentrations of BTEX and PHCs (F1-F4), in the groundwater samples submitted for analysis met the Table 6 Site Condition Standards (SCS).

TULLOCH recommended that the PHC-impacted soils at the Site be remediated and disposed of at a licensed landfill, along with the completion of a VSSP report.

## 2. HEALTH AND SAFETY

TULLOCH prepared a Site-Specific Health and Safety Plan (HASP) in accordance with the Ontario Occupational Health & Safety Act (OHSA) detailing standard safety procedures and protocols for the proposed work program. The HASP included a task hazard analysis for personal protective equipment selection, noise hazards, relevant work controls such as decontamination procedures, and other health and safety related issues as required. Daily tailgate safety meetings were also conducted by TULLOCH field personnel prior to commencing field activities at the Site.

### 3. EXCAVATION METHODOLOGY

#### 3.1 Scope of Work

The scope of work completed by TULLOCH, as part of the soil remediation and VSSP, included the following:

- Complete a remedial excavation with the guidance of TULLOCH field personnel to identify remedial excavation limits. All excavation activities were carried out by the Client.
- TULLOCH collected one sample of soil for Toxic Characteristic Leaching Procedure (TCLP) analysis on one worse case sample from the excavation to characterize the soils for disposal purposes.
- Once the remedial excavation limits were established by the Client, verification soil samples were collected by TULLOCH field personnel from the walls and floors of the excavation to verify that the extents of the previously identified PHC (F1-F4) and BTEX impacts were over excavated and thus confirmation the impacts do not remain.
- The sampling plan was prepared and performed in accordance with the Ministry of Environment, Conservation and Parks (MECP) document entitled "*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*" dated December 1996, (MECP Sampling Document).
- All remedial verification soil samples collected as part of this program, including one of the backfill soil, were submitted to an independent and accredited laboratory for analysis of BTEX and PHCs (F1-F4);
- TULLOCH utilized previous report information from the Site to determine the appropriate site condition standards, as identified in the MECP document entitled "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*" dated April 15, 2011 (2011 MOE Standards);
- TULLOCH collected and submitted one field duplicate soil sample for quality assurance and quality control (QA/QC) purposes; which was analyzed for BTEX and PHCs (F1-F4);
- Upon receipt of the soil and groundwater analytical data, TULLOCH compared the results with the applicable criteria stipulated in the 2011 MECP Standards; and
- TULLOCH prepared a report documenting the findings of the assessment and recommendations related to subsurface impacts.

#### 3.2 Remedial Excavation Activities

The Client conducted the remedial excavation activities on-Site with intermittent supervision from TULLOCH field personnel.

TULLOCH field personnel attended the Site between September 12 and October 4, 2022, to conduct and document the verification soil sampling program of impacted soil from the excavation. While screening soils from the floor and walls of the excavation, TULLOCH noted areas that required additional excavation. The Client provided a track-mounted excavator, which was operated by the Client as well as MECP-licensed tandem dump trucks for the disposal of the

PHC-impacted soils at the Johnson & Tarbutt Joint Landfill Site, which is an MECP-approved facility licensed to accept solid non-hazardous waste (see TULLOCH's Toxicity Characteristic Leachate Procedure Report in Appendix D).

Subsurface conditions were logged by TULLOCH personnel following the remedial excavation activities and during the verification soil sampling program. Soil samples were strategically collected from the sidewalls and floor of the final excavation based on field screening, visual and olfactory classification, and submitted for laboratory analysis and verification. Site photographs of the remedial activities completed are located in Appendix B.

### **3.3 Excavation Field Screening and Soil Sample Collection**

Field sampling was completed in accordance with the MECP document entitled "*Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*", dated December 1996 (MECP Sampling Guidelines).

The encountered stratigraphy (e.g., major soil types, colour and moisture), as well as visual and olfactory evidence of potential environmental contamination was noted. Soil samples were split and deposited into laboratory supplied jars and placed on ice to preserve sample integrity for laboratory submission; the second half of the sample was placed into plastic Ziploc® bags and left in a warm area and left to volatilize under warm temperatures for a minimum of 10 minutes. Measurement of headspace vapour concentrations were taken from each soil sample recovered using portable hydrocarbon detection instrument (RKI Eagle) to measure total combustible organic vapours (COVs).

Clean nitrile gloves were used between samples throughout the investigation program to prevent cross-contamination of the recovered samples. Samples to be shipped for chemical analysis were packaged in coolers with sufficient packing material to ensure safe shipment of glass containers. Samples were kept cool (<10°C) with ice or ice packs.

TULLOCH placed soil samples for laboratory analysis directly into new, labeled, laboratory supplied containers. TULLOCH packed the soil into the containers minimizing the volume of headspace in each sample reducing the potential for volatile losses. Labeled samples were placed in coolers with ice for temporary storage and transported to the analytical laboratory using standard chain-of-custody procedures. The final limits of the remedial excavation illustrating the field screening sample locations, COV concentrations and locations of verification soil samples submitted for analysis are depicted on Figure 2, located in Appendix A.

Groundwater was not encountered during the remedial excavation.

### 3.4 Verification Soil Sampling

Following the excavation, a total of three (3) worst-case floor samples, five (5) “worst-case” sidewall samples, and one field duplicate, were collected from the final excavation limits as verification soil samples in accordance with the applicable regulatory criteria. All soil samples were submitted for laboratory analysis of BTEX and PHCs (F1-F4).

Samples collected for analysis, along with their respective locations and parameters are provided in Table 1, and on Figure 2.

### 3.5 Analytical Testing

For the results of chemical analyses are to be compared to the MECP SCS, it is essential that well documented, validated and consistently applied analytical methods are utilized and that appropriate quality assurance and quality control (QA/QC) procedures be carried out. The soil samples collected from the Site were submitted to SGS Canada Inc. (SGS) in Lakefield, Ontario, which is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) in accordance with the “International Standards ISO/IEC 17025 – General Requirement for the Competence of Testing and Calibration Laboratories”, dated December 15, 1999. All analyses used the analytical methods prescribed in the “*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*”, as amended.

### 3.6 Site Condition Standards

The results of the soil and groundwater analyses were compared to the generic criteria described in the MECP’s “*Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, April 15, 2011*” under O. Reg. 153/04 (O. Reg. 153/04), as amended by O.Reg.511/09 (MECP SCS).

O. Reg. 153/04 (as amended) states that a Site is classified as an environmentally sensitive area if the pH of the surface soil (less than 1.5 mbgs) is less than 5 or greater than 9, the pH of the subsurface soil (greater than 1.5 mbgs) is less than 5 or greater than 11, or if the Site is within an Area of Natural and Scientific Interests (ANSI) or is adjacent to or contains land within 30 metres of an ANSI.

As per the 2022 TULLOCH Focused Soil & Groundwater Report, the appropriate MECP SCS for the Site is Table 6 SCS for Generic Site Condition Standards for Shallow Soils in a Potable Groundwater Condition for fine-textured soils and residential/ parkland/ institutional property use.

As such, all analytical results have been compared to these *Table 6 MECP Standards*.

## 4. RESULTS

### 4.1 Site Geology

The soil stratigraphy at the Site consisted of brown sandy silt with some gravel to a depth of approximately 2.0 metres below ground surface (mbgs), followed by grey silt to 3.0 mbgs, and brown clay extending the full depth of the excavation at ~3.5 mbgs. The groundwater elevation was determined to be at approximately 0.8-1.9 mbgs in the 2022 TULLOCH Focused Soil & Groundwater Report. The assumed groundwater flow direction is from west to east; however, the groundwater flow direction could be influenced by former building foundations and infrastructure.

### 4.2 Soil Vapour Concentrations and Field Observations

Vapour concentrations measured in the verification soil samples collected during the remedial excavation are presented on Figure 2 in Appendix A. Vapour concentrations were measured between 0 and 30 ppm among the extents of the final remedial excavation.

### 4.3 Analytical Results

#### 4.3.1 Soil Results

As indicated in Table 1, all reported concentrations of BTEX and PHCs (F1-F4) in the soil samples collected from the final extents of the remedial excavation met the *Table 6 SCS*, with the exception of:

- Soil sample F-26 collected from the floor of the excavation, at a depth of 3.2 mbgs for PHCs F2 with a concentration of 122 µg/g, which exceeded *Table 6 SCS* of 98 µg/g.

TULLOCH returned to the Site with the Client and over excavated the soils in the area of PHC-exceeded soil sample F-26. An additional 300 mm of soil was removed in and around soil sample F-26 and soil sample F-101 was subsequently collected from the floor of the excavation at a depth of ~3.5 mbgs. The collected soil sample was submitted to SGS for analysis of BTEX and PHCs (F1-F4).

As indicated in Table 1, all reported concentrations of BTEX and PHCs (F1-F4) for soil sample F- 101 met *Table 6 SCS*. The Client reported that the over excavated material was transported and disposed of at the landfill.

#### 4.3.2 Groundwater Results

As previously noted, groundwater was not encountered as part of this remediation. No groundwater samples were collected.

#### 4.3.3 Backfill Material

Imported backfill materials used to infill the remedial excavation were sampled and analyzed for BTEX and PHCs (F1-F4). The backfill sample collected from the Site met the *Table 6 SCS*.

#### 4.4 Quality Assurance & Quality Control

No laboratory instrumentation, shipping, chain of custody, breakage or temperature control issues were noted in the Certificate of Analysis provided by SGS that would suggest an invalidation of the analytical data.

One split field duplicate of soil was collected during this project. The split field duplicate soil sample DUP-1 collected from the excavation was obtained at the same time and location as sample E-15 and submitted for laboratory analysis of BTEX and PHCs (F1-F4). Upon review of the analytical data for the verification samples and their duplicate, a calculation of relative percent differences did not indicate levels exceeding alert limits that would suggest analytical uncertainty; as such, the analytical and field data is considered reliable for this application.

All field instrumentation calibration checks were completed by TULLOCH field staff members prior to use on-Site. All field operations conducted by TULLOCH field staff members were completed using standard equipment decontamination and sampling procedures, and no deviations from the sampling plan were noted.

No field or laboratory QA/QC issues were identified with the respective sampling and lab analysis that would be expected to impact the quality of data and/or the conclusions presented in this report. Various quality assurance/quality control (QA/QC) protocols were followed during the assessment to ensure that representative samples were obtained, and that representative analytical data were reported by the laboratory.

Field sampling was completed in accordance with the MECP document entitled "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", dated December 1996 (MECP Sampling Guidelines).

SGS's internal laboratory QA/QC consisted of the analysis of laboratory duplicate, method blank, matrix spike and spiked blank samples, an evaluation of relative percent difference calculations for laboratory duplicate samples, and an evaluation of surrogate recoveries for the method blank, matrix spike and spiked blank samples.

#### 4.5 Earthwork Volumes

The final measured aerial extent of the excavation was approximately 110 square metres (m<sup>2</sup>), with a maximum depth of 3.5 mbgs. The Client reported that the impacted soil was disposed of at the Johnson & Tarbutt Joint Landfill Site.

#### **4.6 Excavation Groundwater**

It was noted by TULLOCH while on Site that groundwater was not encountered during excavation activities.

#### **4.7 Backfilling**

The Client reported to TULLOCH that backfilling and soil compaction activities subsequent to confirming that remedial excavation operations were completed. The excavation area was backfilled to grade with imported granular fill material from a local aggregate pit.

### **5. CONCLUSIONS**

It is TULLOCH's opinion that no further soil or groundwater remediation work is required on Site in relation to the petroleum impacted soils identified by the MRW report and the 2022 TULLOCH Focused Soil & Groundwater Report from historical activities at the Site.

The results of this VSSP pertain only to the remedial excavation completed to address the BTEX and PHCs (F1-F4) impacts to the soil and groundwater that were identified in the MRW report. TULLOCH cannot provide commentary on the environmental condition of the remainder of the property without conducting additional environmental assessments.

# APPENDIX A

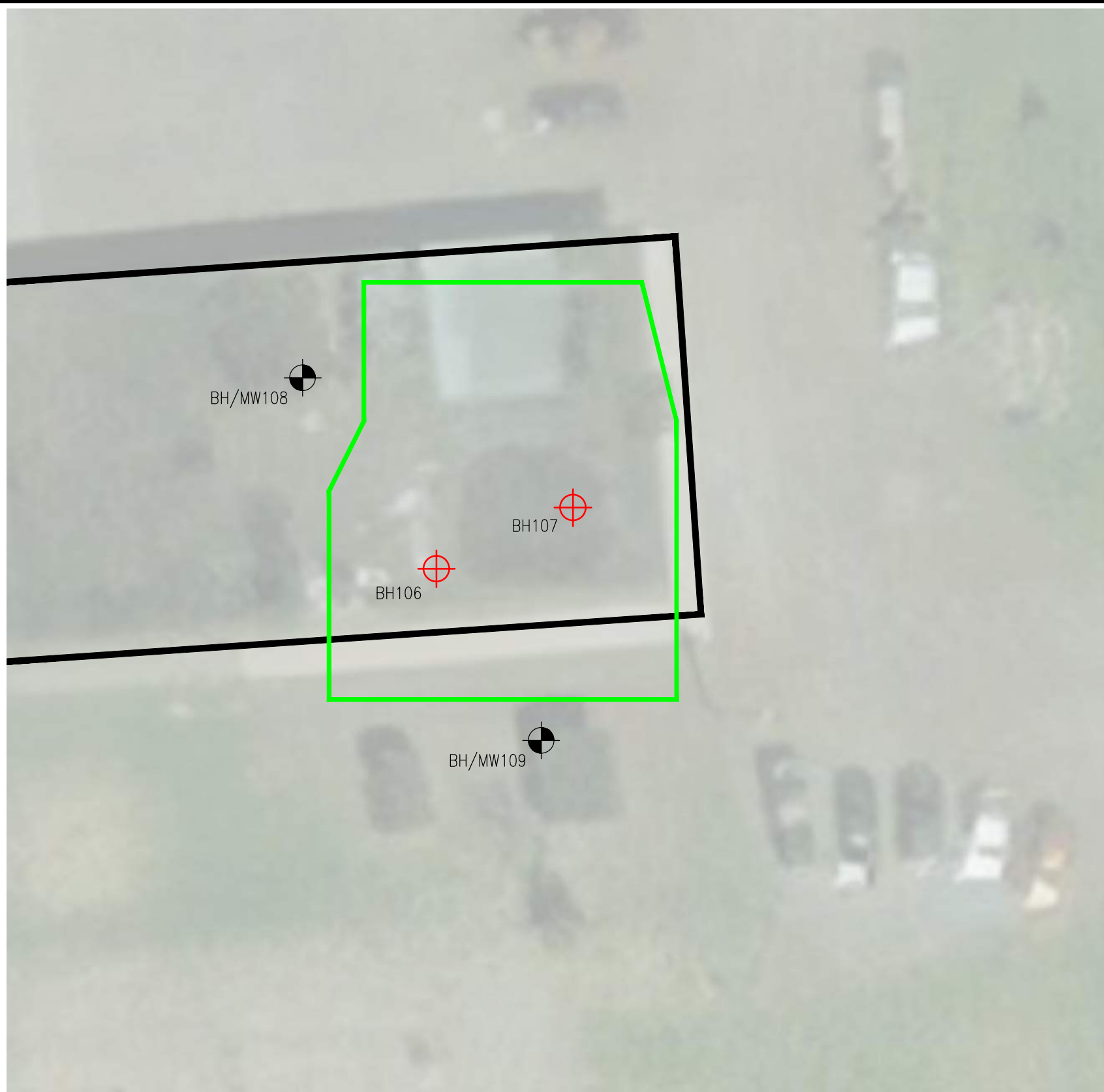
---

## Figures








**KEY MAP**  
N.T.S.

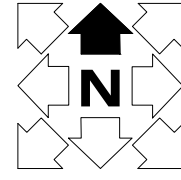


**REMEDIAL EXCAVATION  
LOCATION PLAN**

N.T.S.

**LEGEND**

-  MONITORING WELL LOCATION
-  BOREHOLE WITH SOIL EXCEEDANCE
-  REMEDIATION EXTENTS

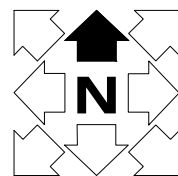


PROJECT:		<b>REMEDIAL EXCAVATION AND VSSP TOWNSHIP OF JOHNSON 5 MARGARET STREET, DESBARATS, ON</b>	
DRAWING:		REMEDIAL EXCAVATION LOCATION PLAN	
TULLOCH		TULLOCH	
ISSUED FOR REPORT		ISSUED FOR REPORT	
0	NOV. 17, 2022	CM	ISSUED FOR REPORT
No.	DATE	BY	ISSUES / REVISIONS
CM		TJCM	PROJECT No. : 22-0880
RM		TJCM	DRAWING No. <b>F1</b>
AS NOTED	NOV. 17, 2022	NOV. 17, 2022	REVISION No. <b>0</b>
ENGINEER'S SEAL			

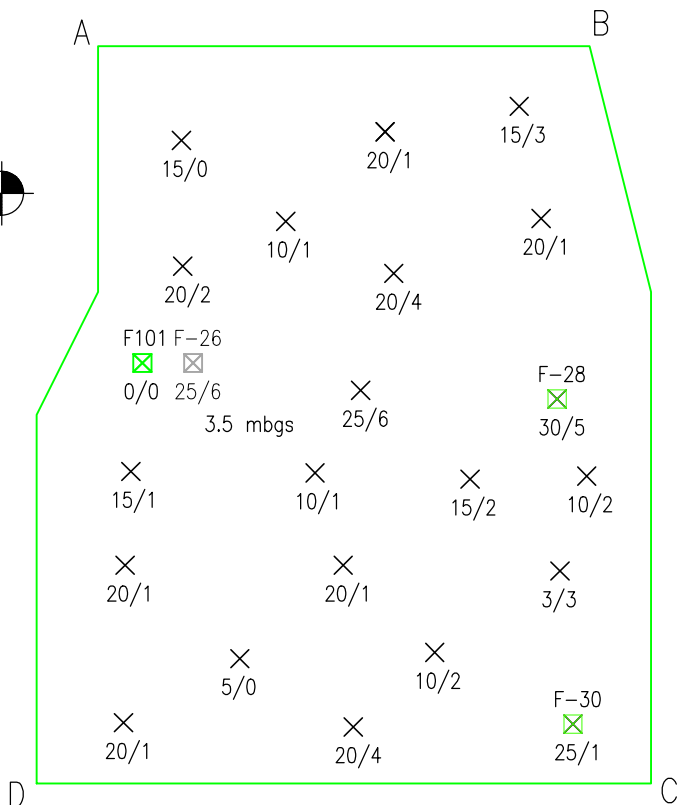
P:\2022\220880 Twp. Johnson - Soils and GW Drilling\Drawings and client documents\22-0880 - TWP. Johnson Focused Soil GW Investigation - 121922.dwg



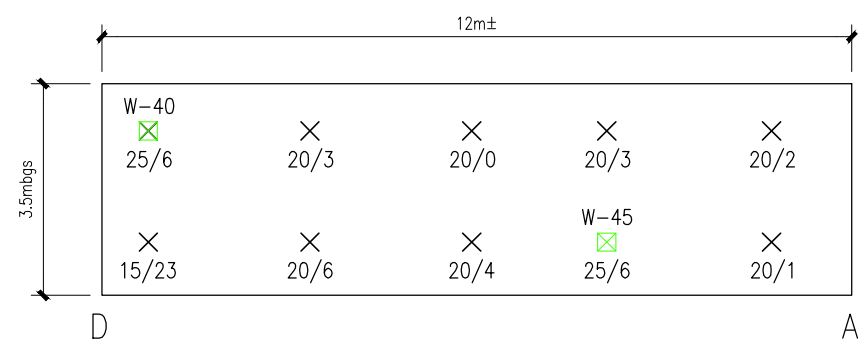
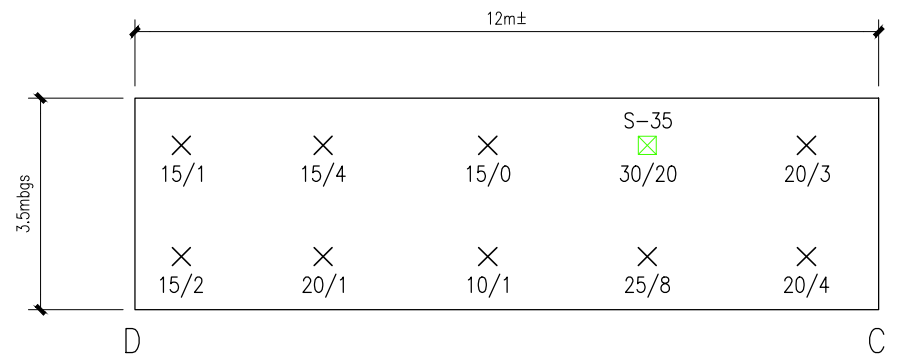
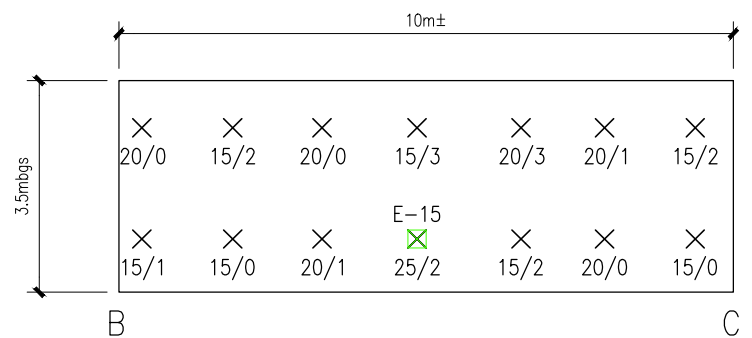
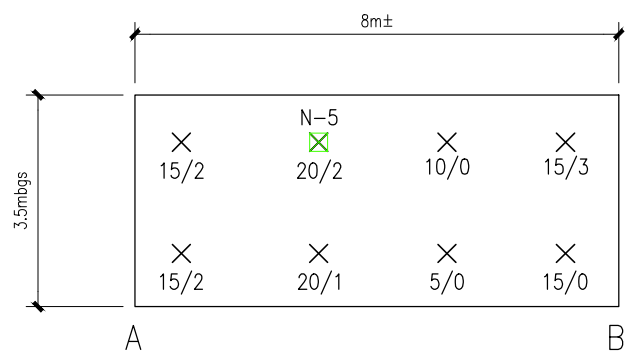
**KEY MAP**  
N.T.S.



BH/MW108



BH/MW109



**LEGEND**

- MONITORING WELL LOCATION
- REMEDIATION EXTENTS
- SOIL SCREENING SAMPLE LOCATION (ppm)
- VERIFICATION SOIL SAMPLE LOCATION SUBMITTED FOR LABORATORY ANALYSIS (ppm)
- VERIFICATION SOIL SAMPLE LOCATION OVER-EXCAVATED (ppm)
- ppm PARTS PER MILLION (HEX/IBL)
- mbgs METRES BELOW GROUND SURFACE

**REMEDIAL EXCAVATION LOCATION  
PLAN AND WALL PROFILES**

N.T.S.



ISSUED FOR REPORT		ISSUES / REVISIONS		PROJECT No. : 22-0880		DRAWING No. <b>F2</b>		REVISION No. <b>0</b>	
0	NOV. 17, 2022	CM	BY	TJCM	APPROVED BY:	TJCM	DATE:	NOV. 17, 2022	
DRAWN BY:		CHECKED BY:		DESIGNED BY:		SCALE:		AS NOTED	
CM		TJCM		RM		AS NOTED		ENGINEER'S SEAL	

<p><b>PROJECT:</b> <b>REMEDIAL EXCAVATION AND VSSP TOWNSHIP OF JOHNSON 5 MARGARET STREET, DESBARATS, ON</b></p>	<p><b>DRAWING:</b> <b>REMEDIAL EXCAVATION PLAN AND WALL PROFILES WITH SAMPLE LOCATIONS</b></p>
---	--



## **APPENDIX B**

---

### **Site Photographs**



Photo 1 – View of the remedial excavation activities.



Photo 2 – View of the northwest excavation wall.





Photo 3 – View of the remedial excavation, looking northwest.



Photo 4 – View of the beginning of remedial excavation activities.

## **APPENDIX C**

---

### **Laboratory Certificates of Analysis**



## FINAL REPORT

CA15272-SEP22 R

22-0880

Prepared for

**Tulloch Engineering**

**First Page**

CLIENT DETAILS		LABORATORY DETAILS	
Client	Tulloch Engineering	Project Specialist	Brad Moore Hon. B.Sc
Address	71 Black Road, Unit 8 Sault Ste. Marie, Ontario P6B 0A3, Canada	Laboratory	SGS Canada Inc.
Contact	Rod Morrison	Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-949-1457	Telephone	705-652-2143
Facsimile		Facsimile	705-652-6365
Email	rod.morrison@tulloch.ca; ssmenv@tulloch.ca	Email	brad.moore@sgs.com
Project	22-0880	SGS Reference	CA15272-SEP22
Order Number		Received	09/20/2022
Samples	Soil (10)	Approved	09/28/2022
		Report Number	CA15272-SEP22 R
		Date Reported	09/28/2022

**COMMENTS**

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 21 degrees C

Cooling Agent Present: Yes

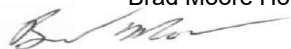
Custody Seal Present: Yes

Chain of Custody Number: 025639

QC Batch - GCM0309-SEP22- F2(C10-C16),F3(C16-C34) and F4(C34-C50) LCS; Recovery is outside control limits; the overall quality control for this analysis has been assessed and was determined to be acceptable.

**SIGNATORIES**

Brad Moore Hon. B.Sc





QC Batch - GCM0394-SEP22- F2(C10-C16) Duplicate; RPD for this parameter is outside method criteria due to sample heterogeneity.

## TABLE OF CONTENTS

---

First Page.....	1-2
Index.....	3
Results.....	4-5
Exceedance Summary.....	6
QC Summary.....	7-9
Legend.....	10
Annexes.....	11



# FINAL REPORT

CA15272-SEP22 R

**Client:** Tulloch Engineering

**Project:** 22-0880

**Project Manager:** Rod Morrison

**Samplers:** Nick Conte

MATRIX: SOIL

L1 = REG153 / SOIL / COARSE - TABLE 7 - Residential/Parkland - UNDEFINED

Sample Number	7	8	9	10	11	12	13	14
<b>Sample Name</b>	N-5	E-15	S-35	W-40	W-45	F-26	F-28	F-30
<b>Sample Matrix</b>	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
<b>Sample Date</b>	15/09/2022	15/09/2022	15/09/2022	15/09/2022	15/09/2022	15/09/2022	15/09/2022	15/09/2022

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result	
<b>BTEX</b>												
Benzene	µg/g	0.02	0.21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	
Ethylbenzene	µg/g	0.05	2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Toluene	µg/g	0.05	2.3	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
Xylene (total)	µg/g	0.05	3.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
m/p-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	
o-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	

**Metals and Inorganics**

Moisture Content	%	no		19.6	21.2	27.4	27.9	28.5	37.1	32.9	3.1
------------------	---	----	--	------	------	------	------	------	------	------	-----

**PHCs**

F1 (C6-C10)	µg/g	10	55	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10	55	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
F2 (C10-C16)	µg/g	10	98	14	< 10	< 10	< 10	< 10	122	< 10	< 10
F3 (C16-C34)	µg/g	50	300	52	< 50	< 50	< 50	< 50	< 50	< 50	< 50
F4 (C34-C50)	µg/g	50	2800	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	no		YES	YES	YES	YES	YES	YES	YES	YES



# FINAL REPORT

CA15272-SEP22 R

**Client:** Tulloch Engineering  
**Project:** 22-0880  
**Project Manager:** Rod Morrison  
**Samplers:** Nick Conte

MATRIX: SOIL

<b>Sample Number</b>	15	16
<b>Sample Name</b>	Back Fill	DUP-1
<b>Sample Matrix</b>	Soil	Soil
<b>Sample Date</b>	15/09/2022	15/09/2022

L1 = REG153 / SOIL / COARSE - TABLE 7 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	Result	Result
<b>BTEX</b>					
Benzene	µg/g	0.02	0.21	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	2	< 0.05	< 0.05
Toluene	µg/g	0.05	2.3	< 0.05	< 0.05
Xylene (total)	µg/g	0.05	3.1	< 0.05	< 0.05
m/p-xylene	µg/g	0.05		< 0.05	< 0.05
o-xylene	µg/g	0.05		< 0.05	< 0.05

**Metals and Inorganics**

Moisture Content	%	no		13.7	24.2
------------------	---	----	--	------	------

**PHCs**

F1 (C6-C10)	µg/g	10	55	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10	55	< 10	< 10
F2 (C10-C16)	µg/g	10	98	< 10	< 10
F3 (C16-C34)	µg/g	50	300	< 50	< 50
F4 (C34-C50)	µg/g	50	2800	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	no		YES	YES

## EXCEEDANCE SUMMARY

Parameter	Method	Units	Result	REG153 / SOIL / COARSE - TABLE 7 - Residential/Parklan d - UNDEFINED L1
-----------	--------	-------	--------	--

### F-26

F2 (C10 to C16)	CCME Tier 1	µg/g	122	98
-----------------	-------------	------	-----	----

## QC SUMMARY

### Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0297-SEP22	µg/g	10	<10	ND	30	89	80	120	90	60	140

### Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0309-SEP22	µg/g	10	<10	ND	30	125	80	120	118	60	140
F3 (C16-C34)	GCM0309-SEP22	µg/g	50	<50	ND	30	125	80	120	118	60	140
F4 (C34-C50)	GCM0309-SEP22	µg/g	50	<50	ND	30	125	80	120	118	60	140
F2 (C10-C16)	GCM0394-SEP22	µg/g	10	<10	91	30	116	80	120	92	60	140
F3 (C16-C34)	GCM0394-SEP22	µg/g	50	<50	ND	30	116	80	120	92	60	140
F4 (C34-C50)	GCM0394-SEP22	µg/g	50	<50	ND	30	116	80	120	92	60	140

## QC SUMMARY

### Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Benzene	GCM0297-SEP22	µg/g	0.02	<0.02	ND	50	64	60	130	64	50	140
Ethylbenzene	GCM0297-SEP22	µg/g	0.05	<0.05	ND	50	63	60	130	66	50	140
m/p-xylene	GCM0297-SEP22	µg/g	0.05	<0.05	ND	50	61	60	130	63	50	140
o-xylene	GCM0297-SEP22	µg/g	0.05	<0.05	ND	50	64	60	130	67	50	140
Toluene	GCM0297-SEP22	µg/g	0.05	<0.05	ND	50	64	60	130	66	50	140

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

**Multielement Scan Qualifier:** as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

**Duplicate Qualifier:** for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

**Matrix Spike Qualifier:** for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.



# FINAL REPORT

CA15272-SEP22 R

## QC SUMMARY

---



## LEGEND

---

### FOOTNOTES

- NSS** Insufficient sample for analysis.
- RL** Reporting Limit.
  - ↑ Reporting limit raised.
  - ↓ Reporting limit lowered.
- NA** The sample was not analysed for this analyte
- ND** Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm).

The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Reproduction of this analytical report in full or in part is prohibited.

This report supersedes all previous versions.

-- End of Analytical Report --

## Request for Laboratory Services and CHAIN OF CUSTODY

Received By: Robert Macchonda Received By (signature): [Signature] Laboratory Information Section - Lab use only  
 Received Date: SEP 27 2012 (mm/dd/yy) Custody Seal Present: Yes  No   
 Received Time: \_\_\_\_\_ (hr : min) Custody Seal Intact: Yes  No   
 Cooling Agent Present: Yes  No  Type: Water Bottle  
 Temperature Upon Receipt (°C): 21.5  
 LAB LIMS # 415272-Sep28

**REPORT INFORMATION** Company: Tullach  (same as Report Information)  
 Contact: Bob Morrison Company: \_\_\_\_\_  
 Address: 71 Black Rd Contact: \_\_\_\_\_  
Suit Ste Marie ON Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_ Email: ap@tullach.ca

**INVOICE INFORMATION** Quotation #: \_\_\_\_\_ P.O. #: \_\_\_\_\_  
 Project #: 22-0880 Site Location/ID: \_\_\_\_\_  
**TURNAROUND TIME (TAT) REQUIRED**  
 Regular TAT (5-7days) TATs are quoted in business days (exclude statutory holidays & weekends).  
 RUSH TAT (Additional Charges May Apply):  1 Day  2 Days  3 Days  4 Days  
 PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION  
 Samples received after 6pm or on weekends: TAT begins next business day  
 Specify Due Date: \_\_\_\_\_ **NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY**

**REGULATIONS**  O.Reg 153/04  O.Reg 406/19 Other Regulations: \_\_\_\_\_  
 Table 1  Res/Parq  Soil Texture: \_\_\_\_\_ Sewer By-Law: \_\_\_\_\_  
 Table 2  Ind/Com  Coarse  PW/O  MMER  Storm  Storm  
 Table 3  Agri/Other  Medium/Fine  CCME  Other: \_\_\_\_\_ Municipality: \_\_\_\_\_  
 Table 7  Appx. \_\_\_\_\_ MISA \_\_\_\_\_  
 Soil Volume  <350m3  >350m3  ODS Not Reportable (See note)

**RECORD OF SITE CONDITION (RSC)**  YES  NO

Field Filtered (Y/N)	M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP tests	TCLP tests						
	<b>Metals &amp; Inorganics</b> <small>Incl CrVI, CN, Hg, pH, B(HWS), EC, SAR-soil (C, Na-water)</small>	<b>Full Metals Suite</b> <small>ICP metals plus B(HWS-soil only) Hg, CrVI</small>	<b>ICP Metals only</b> <small>Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Pb, Mo, Ni</small>	<b>PAHs only</b>	<b>SVOCs</b> <small>all incl PAHs, ABNs, CPs</small>	<b>PCBs</b> Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	<b>F1-F4 + BTEX</b>	<b>F1-F4 only</b> <small>no BTEX</small>	<b>VOCs</b> <small>all incl BTEX</small>	<b>BTEX only</b>	<b>Pesticides</b> <small>Organochlorine or specify other</small>	<b>Sewer Use:</b> <small>Specify pkg:</small>	<b>Water Characterization Pkg</b> <small>General <input type="checkbox"/> Extended <input type="checkbox"/></small>	<input type="checkbox"/> Metals <input type="checkbox"/> Metals <input type="checkbox"/> VOC <input type="checkbox"/> VOC <input type="checkbox"/> 1,4-Dioxane <input type="checkbox"/> 1,4-Dioxane <input type="checkbox"/> OCP <input type="checkbox"/> OCP <input type="checkbox"/> ABN <input type="checkbox"/> ABN	<input type="checkbox"/> Metals <input type="checkbox"/> Metals <input type="checkbox"/> VOC <input type="checkbox"/> VOC <input type="checkbox"/> PCB <input type="checkbox"/> PCB <input type="checkbox"/> BTEX <input type="checkbox"/> BTEX <input type="checkbox"/> ABN <input type="checkbox"/> ABN <input type="checkbox"/> pH <input type="checkbox"/> pH

SAMPLE IDENTIFICATION				DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1	N-5			15/09/22		3	S
2	E-15						
3	S-35						
4	W-40						
5	W-45						
6	F-26						
7	F-28						
8	F-30						
9	Back Fill						
10	DUP-1						
11							
12							

**Observations/Comments/Special Instructions**

**Sampled By (NAME):** Nick Conte **Signature:** [Signature] **Date:** 19/09/22 (mm/dd/yy) **Yellow & White Copy - SGS**

**Relinquished by (NAME):** Bob Morrison **Signature:** [Signature] **Date:** 19/09/22 (mm/dd/yy) **Pink Copy - Client**

Revision # 1.5 Date of Issue: 11 June 2021 Note: Submission of samples to SGS is acknowledgment that you have been provided direction on sample collection, handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



## FINAL REPORT

CA40017-OCT22 R

22-0880, Johnson

Prepared for

**Tulloch Engineering**

**First Page**

CLIENT DETAILS		LABORATORY DETAILS	
Client	Tulloch Engineering	Project Specialist	Jill Campbell, B.Sc.,GISAS
Address	71 Black Road, Unit 8 Sault Ste. Marie, ON P6B 0A3, Canada	Laboratory	SGS Canada Inc.
Contact	Nick Conte	Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-949-1457	Telephone	2165
Facsimile		Facsimile	705-652-6365
Email	nicholas.conte@tulloch.ca;tyler.moody@tulloch.ca	Email	jill.campbell@sgs.com
Project	22-0880, Johnson	SGS Reference	CA40017-OCT22
Order Number		Received	10/05/2022
Samples	Soil (1)	Approved	10/06/2022
		Report Number	CA40017-OCT22 R
		Date Reported	10/06/2022

**COMMENTS**

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

- nC6 and nC10 response factors within 30% of response factor for toluene: YES
- nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES
- C50 response factors within 70% of nC10 + nC16 + nC34 average: YES
- Linearity is within 15%: YES

Hydrocarbon results are expressed on a dry weight basis..

Temperature of Sample upon Receipt: 7 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: 025921

**SIGNATORIES**

Jill Campbell, B.Sc.,GISAS



## TABLE OF CONTENTS

---

First Page.....	1-2
Index.....	3
Results.....	4
Exceedance Summary.....	5
QC Summary.....	6-8
Legend.....	9
Annexes.....	10



# FINAL REPORT

CA40017-OCT22 R

**Client:** Tulloch Engineering  
**Project:** 22-0880, Johnson  
**Project Manager:** Nick Conte  
**Samplers:** Nick Conte

MATRIX: SOIL

**Sample Number** 7  
**Sample Name** F101  
**Sample Matrix** Soil  
**Sample Date** 04/10/2022

L1 = REG153 / SOIL / COARSE - TABLE 7 - Industrial/Commercial - UNDEFINED

L2 = REG153 / SOIL / COARSE - TABLE 7 - Residential/Parkland - UNDEFINED

Parameter	Units	RL	L1	L2	Result
<b>BTEX</b>					
Benzene	µg/g	0.02	0.32	0.21	< 0.02
Ethylbenzene	µg/g	0.05	9.5	2	< 0.05
Toluene	µg/g	0.05	68	2.3	< 0.05
Xylene (total)	µg/g	0.05	26	3.1	< 0.05
m/p-xylene	µg/g	0.05			< 0.05
o-xylene	µg/g	0.05			< 0.05

**Metals and Inorganics**

Moisture Content	%	no			29.5
------------------	---	----	--	--	------

**PHCs**

F1 (C6-C10)	µg/g	10	55	55	< 10
F1-BTEX (C6-C10)	µg/g	10	55	55	< 10
F2 (C10-C16)	µg/g	10	230	98	< 10
F3 (C16-C34)	µg/g	50	1700	300	< 50
F4 (C34-C50)	µg/g	50	3300	2800	< 50
Chromatogram returned to baseline at nC50	Yes / No	no			YES

**EXCEEDANCE SUMMARY**

---

No exceedances are present above the regulatory limit(s) indicated



## QC SUMMARY

### Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0071-OCT22	µg/g	10	<10	ND	30	95	80	120	108	60	140

### Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0061-OCT22	µg/g	10	<10	ND	30	104	80	120	124	60	140
F3 (C16-C34)	GCM0061-OCT22	µg/g	50	<50	ND	30	104	80	120	124	60	140
F4 (C34-C50)	GCM0061-OCT22	µg/g	50	<50	ND	30	104	80	120	124	60	140

## QC SUMMARY

### Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Benzene	GCM0071-OCT22	µg/g	0.02	<0.02	12	50	75	60	130	86	50	140
Ethylbenzene	GCM0071-OCT22	µg/g	0.05	<0.05	ND	50	72	60	130	81	50	140
m/p-xylene	GCM0071-OCT22	µg/g	0.05	<0.05	ND	50	99	60	130	112	50	140
o-xylene	GCM0071-OCT22	µg/g	0.05	<0.05	ND	50	73	60	130	82	50	140
Toluene	GCM0071-OCT22	µg/g	0.05	<0.05	ND	50	74	60	130	84	50	140

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

**Multielement Scan Qualifier:** as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

**Duplicate Qualifier:** for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

**Matrix Spike Qualifier:** for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.



# FINAL REPORT

CA40017-OCT22 R

## QC SUMMARY

---

## LEGEND

---

### FOOTNOTES

- NSS** Insufficient sample for analysis.
- RL** Reporting Limit.
  - ↑ Reporting limit raised.
  - ↓ Reporting limit lowered.
- NA** The sample was not analysed for this analyte
- ND** Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm).

The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Reproduction of this analytical report in full or in part is prohibited.

This report supersedes all previous versions.

-- End of Analytical Report --



### Request for Laboratory Services and CHAIN OF CUSTODY

#### Laboratory Information Section - Lab use only

Received By: Katie Marchand  
 Received Date: 10/05/22 (mm/dd/yy)  
 Received Time: \_\_\_\_\_ (hr : min)

Received By (signature): K Marchand  
 Custody Seal Present: Yes  No   
 Custody Seal Intact: Yes  No

Cooling Agent Present: Yes  No  Type: ice  
 Temperature Upon Receipt (°C) 7.7

LAB LIMS #: CA40017-0022

REPORT INFORMATION	INVOICE INFORMATION
Company: <u>Tulloch</u>	<input checked="" type="checkbox"/> (same as Report Information)
Contact: <u>Nich Conte</u>	Company: _____
Address: <u>71 Black Rd</u>	Contact: _____
<u>Summit Stc. Marie ON</u>	Address: _____
Phone: <u>705 975 0913</u>	Phone: <u>ap@tulloch.ca</u>
Fax: <u>SSMEN@Tulloch.ca</u>	Email: <u>SSMEN@Tulloch.ca</u>
Email: <u>nicholas.conte@tulloch.ca</u>	

Quotation #: 22-0880 P.O. #: \_\_\_\_\_  
 Project #: \_\_\_\_\_ Site Location/ID: Johnson

**TURNAROUND TIME (TAT) REQUIRED**  
 Regular TAT (5-7days) TAT's are quoted in business days (exclude statutory holidays & weekends).  
 Samples received after 6pm or on weekends: TAT begins next business day

RUSH TAT (Additional Charges May Apply):  1 Day  2 Days  3 Days  4 Days  
**PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION**

Specify Due Date: \_\_\_\_\_ \*NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

**REGULATIONS**

O.Reg 153/04  O.Reg 406/19

Other Regulations:  
 Reg 347/558 (3 Day min TAT)  
 PWQO  MMR  
 CCME  Other:  
 MISA  
 ODWS Not Reportable \*See note

Sewer By-Law:  
 Sanitary  
 Storm  
 Municipality: \_\_\_\_\_

Soil Volume  <350m3  >350m3  
 Res/Park  Soil Texture:  
 Table 1  Ind/Com  Coarse  
 Table 2  Agri/Other  Medium/Fine  
 Table 7  Appx.  
 Table 3

#### ANALYSIS REQUESTED

RECORD OF SITE CONDITION (RSC)  YES  NO

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	ANALYSIS REQUESTED											SPLP	TCLP	COMMENTS:									
					M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	Specify tests	Specify tests														
1 F101	Oct. 4	9:00	3	S	Field Filtered (Y/N)	Metals & Inorganics <small>Incl: Cu, Ni, CN, Hg, pH, (B)(H)(V)(S), EC, SAR, (soil) (C), (No-water)</small>	Full Metals Suite <small>ICP metals plus B (H)(V)(S) only, Hg, CrVI</small>	ICP Metals only <small>Sr, As, Ba, Be, B, Cd, Cr, Co, Cu, Pb, Mo, Ni</small>	PAHs only	SVOCs <small>all incl: PAHs, ABNs, CPs</small>	PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only <small>no BTEX</small>	VOCs <small>all incl: BTEX</small>	BTEX only	Pesticides <small>Organochlorine or specify other</small>	Other	Specify pkg: General <input type="checkbox"/> Extended <input type="checkbox"/>	Water Characterization Pkg General <input type="checkbox"/> Extended <input type="checkbox"/>	Metals <input type="checkbox"/> M&I <input type="checkbox"/> VOC <input type="checkbox"/> VOC <input type="checkbox"/> 1,4-Dioxane <input type="checkbox"/> PCB <input type="checkbox"/> OCP <input type="checkbox"/> B(a)P <input type="checkbox"/> ABN <input type="checkbox"/> ABN <input type="checkbox"/> Ignit. <input type="checkbox"/>							
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Observations/Comments/Special Instructions

Sampled By (NAME): Nich Conte Signature: \_\_\_\_\_ Date: Oct 4, 2022 (mm/dd/yy) Pink Copy - Client  
 Relinquished by (NAME): Nich Conte Signature: \_\_\_\_\_ Date: Oct 4, 2022 (mm/dd/yy) Yellow & White Copy - SGS

## **APPENDIX D**

---

### **Toxicity Characteristic Leachate Procedure (TCLP) Report**



71 Black Road  
Unit 8  
Sault Ste. Marie,  
ON  
P6B 0A3

T. 705 949.1457  
F. 705 949.9606  
TF. 866 806.6602

[saultsternarie@TULLOCH.ca](mailto:saultsternarie@TULLOCH.ca)

August 30, 2022  
22-0880

Johnson Township  
1 Johnson Drive, PO Box 160  
Desbarats, Ontario  
P0R 1E0

**Attention: Mr. Glenn Martin**

**Re: Analytical Results - Toxicity Characteristic Leachate Procedure (TCLP)  
5 Margaret Street, Desbarats, Ontario**

Dear Mr. Martin,

TULLOCH Engineering (TULLOCH) was retained by Johnson Township (Client) to determine disposal options for soil removed during the proposed remediation of hydrocarbon impacted soils from the former school property located at 5 Margaret Street in Desbarats, Ontario (herein referred to as the 'Site').

A test pit was excavated to a depth of 8 feet in the area of the impacted soils of the Site by the Client on August 16, 2022. The collected soil sample was screened for visual and olfactory evidence of impacts and was sent for analysis to classify the soils under Ontario Regulation 347 as amended to Ontario Regulation 558/00. The sample was submitted for laboratory analysis via the Toxicity Characteristic Leachate Procedure (TCLP) to determine whether the waste material is considered a "leachate toxic waste" in accordance with the regulation. Selected parameters for analysis (Metals, VOC, Anions, Free Cyanide and Ignitability) were chosen because of the known nature and source of the contaminant, Petroleum Hydrocarbons impacts, present at the Site.

The soil sample (TCLP-@8') was relinquished to SGS Canada Inc. (SGS). SGS is accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) in accordance with the International Standards ISO/IEC 17025 – General Requirement for the Competence of Testing and Calibration Laboratories.

TULLOCH compared the results of SGS's analytical report, number CA15241-AUG22, with the corresponding allowable concentration as prescribed by the Schedule 4 Leachate Quality Criteria, established by Ontario Regulation 558/00. The following table illustrates the TCLP results in comparison with the Schedule 4 Leachate Quality Criteria.

Parameter	Units	RDL <sup>1</sup>	Result	Schedule 4 Criteria <sup>2</sup>
<b>Metals &amp; Anions</b>				
Arsenic	mg/L	0.002	0.008	2.5
Barium	mg/L	0.00008	0.823	100
Boron	mg/L	0.02	0.14	500
Cadmium	mg/L	0.00003	0.00137	0.5
Chromium	mg/L	0.0008	0.0141	5
Lead	mg/L	0.00009	0.00097	5
Mercury	mg/L	0.00001	<0.00001	0.1
Selenium	mg/L	0.0004	0.0005	1
Silver	mg/L	0.0005	<0.0005	5
Uranium	mg/L	0.00002	0.00711	10
Fluoride	mg/L	0.06	0.26	150
Free Cyanide	mg/L	0.05	<0.05	20
N Leachate	mg/L	0.9	<0.9	1000
<b>Volatile Organic Compounds</b>				
1,1-Dichloroethylene	mg/L	0.02	<0.02	1.4
1,2-Dichlorobenzene	mg/L	0.02	<0.02	20
1,2-Dichloroethane	mg/L	0.02	<0.02	0.5
1,4-Dichlorobenzene	mg/L	0.02	<0.02	0.5
Benzene	mg/L	0.02	<0.02	0.5
Carbon tetrachloride	mg/L	0.008	<0.008	0.5
Monochlorobenzene	mg/L	0.02	<0.02	8
Chloroform	mg/L	0.02	<0.02	10
Dichloromethane	mg/L	0.02	<0.02	5
Methyl ethyl ketone	mg/L	0.8	<0.8	200
Tetrachloroethylene	mg/L	0.02	<0.02	3
Trichloroethylene	mg/L	0.02	<0.02	5
Vinyl chloride	mg/L	0.008	<0.008	0.2
<b>Ignitability</b>				
Ignitability	N/A	N/A	No	N/A
<b>Particle Size</b>				
Particle Size (Description)	N/A	N/A	Fine	N/A

**NOTES:**

<sup>1</sup>RDL means Reportable Detection Limit.

<sup>2</sup>Leachate Quality Criteria are prescribed by Schedule 4 of Ontario Regulation 558/00, Regulation (Amended O. Reg. 347), made under the Environmental Protection Act, dated March 31, 2001.

<sup>3</sup>The sum of Nitrate and Nitrite (as Nitrogen) cannot exceed 1,000 mg/L.

**Shaded Cells** – Represent results that exceed the Schedule 4 Leachate Quality Criteria.



Based on the analytical results, the soil sample meets the current Schedule 4 Leachate Quality Criteria and is **not** considered “leachate toxic waste”. Therefore, the soil is classified as a **solid non-hazardous industrial waste**, which is considered acceptable for disposal at an Ontario Ministry of Environment Conservation and Parks registered waste disposal site.

At this time, the quantity of soil to be excavated is unknown; however, it is estimated to between four to ten tri-axle loads.

TULLOCH trusts the above information is complete and satisfactory for your requirements at this time; however, should you have any questions regarding the information provided, please call the undersigned directly at (705) 257-9600

Sincerely,  
**TULLOCH Engineering Inc.**



Tyler Moody, A.Sc.T.  
Project Manager  
[tyler.moody@tulloch.ca](mailto:tyler.moody@tulloch.ca)

Enclosed: SGS Canada Inc. Analytical report CA15241-AUG22



## FINAL REPORT

CA15241-AUG22 R1

22-0880, Johnson

Prepared for

**Tulloch Engineering**

## First Page

### CLIENT DETAILS

Client Tulloch Engineering

Address 71 Black Road, Unit 8  
Sault Ste. Marie, Ontario  
P6B 0A3, Canada

Contact Rod Morrison

Telephone 705-949-1457

Facsimile

Email rod.morrison@tulloch.ca;ssmenv@tulloch.ca

Project 22-0880, Johnson

Order Number

Samples Leachate (1)

### LABORATORY DETAILS

Project Specialist Jill Campbell, B.Sc.,GISAS

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 2165

Facsimile 705-652-6365

Email jill.campbell@sgs.com

SGS Reference CA15241-AUG22

Received 08/17/2022

Approved 08/30/2022

Report Number CA15241-AUG22 R1

Date Reported 08/30/2022

### COMMENTS

Temperature of Sample upon Receipt: 20 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: n/a

TCLP metals reported at 10x DL

### SIGNATORIES

Jill Campbell, B.Sc.,GISAS



TABLE OF CONTENTS

---

First Page.....	1-2
Index.....	3
Results.....	4-6
Exceedance Summary.....	7
QC Summary.....	8-12
Legend.....	13
Annexes.....	14



# FINAL REPORT

CA15241-AUG22 R1

**Client:** Tulloch Engineering

**Project:** 22-0880, Johnson

**Project Manager:** Rod Morrison

**Samplers:** Tyler Moody

MATRIX: LEACHATE

**Sample Number** 6  
**Sample Name** TCLP-@ 8'  
**Sample Matrix** Leachate  
**Sample Date** 16/08/2022

L1 = REG558 / LEACHATE / - - SCHEDULE 4 - -

Parameter	Units	RL	L1	Result
<b>Acid rock Drainage</b>				
Final pH	no unit	0.01		4.71
<b>Metals and Inorganics</b>				
Sample weight	g	0.001		100
Ext Fluid	#1 or #2	0.01		2
Ext Volume	mL	0.01		2000
Nitrite (as N)	as N mg/L	0.3		< 0.3
Nitrate (as N)	as N mg/L	0.6		< 0.6
Nitrate + Nitrite (as N)	as N mg/L	0.6	1000	< 0.6
Fluoride	mg/L	0.06	150	0.26
Arsenic	mg/L	0.002	2.5	0.008
Silver	mg/L	0.0005	5	< 0.0005
Barium	mg/L	0.00008	100	0.823
Boron	mg/L	0.02	500	0.14
Cadmium	mg/L	0.00003	0.5	0.00137
Chromium	mg/L	0.0008	5	0.0141
Lead	mg/L	0.00009	5	0.00097
Selenium	mg/L	0.0004	1	0.0005
Uranium	mg/L	0.00002	10	0.00711
Ignitability	yes/no			No
Burn Rate	mm/S	1.6		< 1.6



# FINAL REPORT

CA15241-AUG22 R1

**Client:** Tulloch Engineering

**Project:** 22-0880, Johnson

**Project Manager:** Rod Morrison

**Samplers:** Tyler Moody

MATRIX: LEACHATE

**Sample Number** 6  
**Sample Name** TCLP-@ 8'  
**Sample Matrix** Leachate  
**Sample Date** 16/08/2022

L1 = REG558 / LEACHATE / - - SCHEDULE 4 - -

Parameter	Units	RL	L1	Result
<b>Other (ORP)</b>				
Cyanide (free)	mg/L	0.05		< 0.05
Mercury	mg/L	0.00001	0.1	< 0.00001
<b>VOCs</b>				
Methyl ethyl ketone	mg/L	0.8	200	< 0.8
Vinyl Chloride	mg/L	0.008	0.2	< 0.008
Dichloromethane	mg/L	0.02	5	< 0.02
Chloroform	mg/L	0.02	10	< 0.02
Trichloroethylene	mg/L	0.02	5	< 0.02
Tetrachloroethene	mg/L	0.02	3	< 0.02
Monochlorobenzene	mg/L	0.02	8	< 0.02
Carbon tetrachloride	mg/L	0.008	0.5	< 0.008
1,2-Dichlorobenzene	mg/L	0.02	20	< 0.02
1,4-Dichlorobenzene	mg/L	0.02	0.5	< 0.02
1,2-Dichloroethane	mg/L	0.02	0.5	< 0.02
1,1-Dichloroethylene	mg/L	0.02	1.4	< 0.02



# FINAL REPORT

CA15241-AUG22 R1

**Client:** Tulloch Engineering

**Project:** 22-0880, Johnson

**Project Manager:** Rod Morrison

**Samplers:** Tyler Moody

MATRIX: LEACHATE

**Sample Number** 6

**Sample Name** TCLP-@ 8'

**Sample Matrix** Leachate

**Sample Date** 16/08/2022

L1 = REG558 / LEACHATE / - - SCHEDULE 4 - -

Parameter	Units	RL	L1	Result
<b>VOCs - BTEX</b>				
Benzene	mg/L	0.02	0.5	< 0.02



EXCEEDANCE SUMMARY

---

No exceedances are present above the regulatory limit(s) indicated



# FINAL REPORT

CA15241-AUG22 R1

## QC SUMMARY

### Cyanide by SFA

Method: SM4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Cyanide (free)	SKA0297-AUG22	mg/L	0.05	<0.002	ND	10	91	80	120	92	75	125

### Fluoride by Specific Ion Electrode

Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-014

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Fluoride	EWL0409-AUG22	mg/L	0.06	<0.06	ND	10	104	90	110	102	75	125

### Inorganics-General

Method: EPA 7471A/SM 3112B | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EHG0036-AUG22	mg/L	0.00001	< 0.00001	ND	20	104	80	120	92	70	130

## QC SUMMARY

### Metals in aqueous samples - ICP-MS

Method: SM 3030/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0147-AUG22	mg/L	0.0005	<0.00005	ND	20	103	90	110	98	70	130
Arsenic	EMS0147-AUG22	mg/L	0.002	<0.0002	1	20	101	90	110	108	70	130
Barium	EMS0147-AUG22	mg/L	0.00008	<0.00002	2	20	99	90	110	104	70	130
Boron	EMS0147-AUG22	mg/L	0.02	<0.002	9	20	100	90	110	102	70	130
Cadmium	EMS0147-AUG22	mg/L	0.00003	<0.000003	16	20	103	90	110	108	70	130
Chromium	EMS0147-AUG22	mg/L	0.0008	<0.00008	0	20	99	90	110	115	70	130
Lead	EMS0147-AUG22	mg/L	0.00009	<0.00001	1	20	108	90	110	116	70	130
Selenium	EMS0147-AUG22	mg/L	0.0004	<0.00004	12	20	100	90	110	114	70	130
Uranium	EMS0147-AUG22	mg/L	0.00002	<0.000002	3	20	110	90	110	118	70	130
Silver	EMS0194-AUG22	mg/L	0.0005	<0.00005	ND	20	100	90	110	102	70	130
Arsenic	EMS0194-AUG22	mg/L	0.002	<0.0002	2	20	99	90	110	95	70	130
Barium	EMS0194-AUG22	mg/L	0.00008	<0.00002	2	20	102	90	110	103	70	130
Boron	EMS0194-AUG22	mg/L	0.02	<0.002	13	20	109	90	110	97	70	130
Cadmium	EMS0194-AUG22	mg/L	0.00003	<0.000003	ND	20	99	90	110	94	70	130
Chromium	EMS0194-AUG22	mg/L	0.0008	<0.00008	7	20	95	90	110	101	70	130
Lead	EMS0194-AUG22	mg/L	0.00009	<0.00001	1	20	101	90	110	99	70	130
Selenium	EMS0194-AUG22	mg/L	0.0004	<0.00004	5	20	102	90	110	95	70	130
Uranium	EMS0194-AUG22	mg/L	0.00002	<0.000002	1	20	107	90	110	105	70	130



# FINAL REPORT

CA15241-AUG22 R1

## QC SUMMARY

### Nitrate by Ion Chromatography

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-IENVIIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nitrate (as N)	DIO0437-AUG22	mg/L	0.6	<0.6	ND	20	97	90	110	98	75	125

### Nitrite by Ion Chromatography

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-IENVIIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nitrite (as N)	DIO0437-AUG22	mg/L	0.3	<0.3	ND	20	96	90	110	100	75	125

### Total Nitrate/Nitrite by Ion Chromatography

Method: EPA300/MA300-Ions1.3 | Internal ref.: ME-CA-IENVIIC-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Nitrate + Nitrite (as N)	DIO0437-AUG22	mg/L	0.6	<0.6	NA	20	NA	80	120	NA	75	125

QC SUMMARY

Volatile Organics

Method: EPA 5030B/8260C | Internal ref.: ME-CA-ENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1-Dichloroethylene	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	98	60	130	97	50	140
1,2-Dichlorobenzene	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	99	60	130	97	50	140
1,2-Dichloroethane	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	96	60	130	96	50	140
1,4-Dichlorobenzene	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	99	60	130	98	50	140
Benzene	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	96	60	130	96	50	140
Carbon tetrachloride	GCM0328-AUG22	mg/L	0.008	<0.008	ND	30	96	60	130	95	50	140
Chloroform	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	97	60	130	96	50	140
Dichloromethane	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	96	60	130	94	50	140
Methyl ethyl ketone	GCM0328-AUG22	mg/L	0.8	<0.8	ND	30	94	50	140	94	50	140
Monochlorobenzene	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	98	60	130	98	50	140
Tetrachloroethene	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	98	60	130	98	50	140
Trichloroethylene	GCM0328-AUG22	mg/L	0.02	<0.02	ND	30	97	60	130	96	50	140
Vinyl Chloride	GCM0328-AUG22	mg/L	0.008	<0.008	ND	30	102	50	140	99	50	140

## QC SUMMARY

---

**Method Blank:** a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

**Duplicate:** Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

**LCS/Spike Blank:** Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

**Matrix Spike:** A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

**Reference Material:** a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

**RL:** Reporting limit

**RPD:** Relative percent difference

**AC:** Acceptance criteria

**Multielement Scan Qualifier:** as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

**Duplicate Qualifier:** for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

**Matrix Spike Qualifier:** for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

## LEGEND

---

### FOOTNOTES

- NSS** Insufficient sample for analysis.
- RL** Reporting Limit.
  - ↑ Reporting limit raised.
  - ↓ Reporting limit lowered.
- NA** The sample was not analysed for this analyte
- ND** Non Detect

Results relate only to the sample tested.

Data reported represent the sample as submitted to SGS. Solid samples expressed on a dry weight basis.

"Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated.

SGS Canada Inc. statement of conformity decision rule does not consider uncertainty when analytical results are compared to a specified standard or regulation.

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm).

The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Reproduction of this analytical report in full or in part is prohibited.

This report supersedes all previous versions.

-- End of Analytical Report --

## Request for Laboratory Services and CHAIN OF CUSTODY

Received By (signature): MM Laboratory Information Section - Lab use only

Received By: Hillary N  
 Received Date: 09, 17, 22 (mm/dd/yy)  
 Received Time: 10:00 (hr : min)

Received By (signature):  
 Custody Seal Present: Yes  No   
 Custody Seal Intact: Yes  No

Cooling Agent Present: Yes  No   
 Temperature Upon Receipt (°C): 20.20 Type: 20

P.O. #: \_\_\_\_\_  
 Site Location/ID: Johnson  
 LAB LIMS #: CA15241-AN022

### REPORT INFORMATION

Company: Tullach  
 Contact: Bob Morrison  
 Address: 71 Black Rd  
Sault Ste. Marie ON  
 Phone: \_\_\_\_\_  
 Fax: \_\_\_\_\_  
 Email: smmenv@tullach.ca

### INVOICE INFORMATION

(same as Report Information)  
 Company: \_\_\_\_\_  
 Contact: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Email: \_\_\_\_\_

Quotation #: \_\_\_\_\_  
 Project #: 22-0880

### TURNAROUND TIME (TAT) REQUIRED

Regular TAT (5-7 days)  
 RUSH TAT (Additional Charges May Apply):  1 Day  2 Days  3 Days  4 Days  
 PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION  
 Specify Due Date: \_\_\_\_\_  
 NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

### REGULATIONS

O.Reg 153/04  O.Reg 406/19  
 Table 1  Res/Park  Soil Texture:  
 Table 2  Ind/Com  Coarse  
 Table 3  Agr/Other  Medium/Fine  
 Table \_\_\_\_\_  MISA  
 Soil Volume  <350m3  >350m3  
 ODWS Not Reportable \*See note

### ANALYSIS REQUESTED

M & I	SVOC	PCB	PHC	VOC	Pest	Other (please specify)	SPLP tests	TCLP tests
Field Filtered (Y/N)								
Metals & Inorganics <small>(incl CrVI, CN, Hg, pH, (B)HWS, EC, SAR-soil) (Cl, Na-water)</small>								
Full Metals Suite <small>(ICP metals plus B(HWS-soil only) Hg, CrVI)</small>								
ICP Metals only <small>(Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Pb, Mo, Ni, Se, Ag, Ti, U, V, Zn)</small>								
PAHs only								
SVOCs <small>(all incl PAHs, ABNs, CPs)</small>								
PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>								
F1-F4 + BTEX								
F1-F4 only <small>(no BTEX)</small>								
VOCs <small>(all incl BTEX)</small>								
BTEX only								
Pesticides <small>(Organochlorine or specify other)</small>								
						<u>VOCs</u>		
						<u>Metals</u>		
						<u>Anions</u>		
						<u>Free CN</u>		
						<u>Water Use:</u>		
						<u>Ignitability</u>		
Water Characterization Pkg <small>(General <input type="checkbox"/> Extended <input type="checkbox"/>)</small>							<input type="checkbox"/> Metals	<input type="checkbox"/> Metals
							<input type="checkbox"/> VOC	<input type="checkbox"/> VOC
							<input type="checkbox"/> 1,4-Dioxane	<input type="checkbox"/> PCB
							<input type="checkbox"/> DCP	<input type="checkbox"/> BlalP
							<input type="checkbox"/> AHN	<input type="checkbox"/> AHN
							<input type="checkbox"/> Ignit	<input type="checkbox"/> Ignit

### COMMENTS:

SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX
1 TELP-081	Aug 16/22	11am	3	S
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

### Observations/Comments/Special Instructions

Sampled By (NAME): Michelle Morrison Signature: \_\_\_\_\_ Date: Aug 16, 22 (mm/dd/yy)  
 Relinquished by (NAME): Bob Morrison Signature: \_\_\_\_\_ Date: \_\_\_\_\_ (mm/dd/yy)

Note: Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

333089229470 25m 10:00 AM