Municipality of Shelburne

STAFF REPORT

TO: Council

FROM: Marcia d'Eon, Director of Operations & Protective Services

APPROVED BY: Warren Macleod, CAO

DATE: November 13, 2024

SUBJECT: **RFP Award-Owner's Engineer Services**

BACKGROUND

The Municipality of the District of Shelburne (hereafter referred to as 'Municipality') sought proposals for owner's engineering services. Specifically, for owner's engineering services to support the Municipality to undertake a design-build contract to construct a roof canopy, safety rails, and a new drop point at its Regional Material Recovery Facility (hereafter referred to as 'RMRF').

The RFP was advertised on the Municipality's website, Facebook page and the NS Procurement website, posted on September 4, 2024.

The RFP deadline was October 15, 2024, at 7 p.m. One (1) submission was received.

The submission received from Vigilant Atlantic was reviewed amongst staff and forwarded to an engineer with the province for additional feedback.

The submission is easy to read, confirms the scope and the services they will provide and appears to grasp the outcomes needed from this project.

DISCUSSION

The RMRF site was the subject of a report completed by Fracflow Consultants Incorporated for the purpose of conducting an assessment of the facility and making recommendation for compliance with new regulations. This report has set forth guidelines for necessary upgrades to the site over the next two years. The RMRF site has received a permit to operate from Nova Scotia Environment and Climate Change (NSECC) that is contingent upon upgrades being completed. The necessary

upgrades must be completed (or an extension applied for) by April 30, 2025. We are moving forward with the recommendations made by Fracflow and the requirements of NSECC based on previous discussions and direction provided by Council. The items remaining to be completed are the separation of the stockpiles, leachate control measures (roof), safety railings and a water monitoring plan. The total cost of these items is unknown at this time but will be considerable.

The expertise of an engineer will be invaluable in crafting a Request for Proposal (RFP) that results in a well thought out solution that balances our regulatory requirements with budget limitations. The scope of work for the owner's engineer includes preparation of the RFP for a design build roof canopy, barriers between stockpiles, safety rails and a possible new drop point. Oversight of the project, advice on engineering change orders, review of final drawings and a post construction inspection.

RECOMMENDATION

THAT Council of the Municipality of the District of Shelburne award the Owner's Engineer Services Request for Proposal to Vigilant Atlantic at a cost of $43,700+hst with a 10% allowance for contingency. Funds to come from the Sustainable Services Growth Fund.

BUDGET CONSIDERATIONS

Currently we have funds from the Sustainable Services Growth Fund (SCCF)that have been designated to be spent on the C&D Site, current remaining funds $395,000+/-. The total cost of all needed improvements remains unknown but has been estimated to be in the range of $500,000. As time goes on the cost of the project increases and without actual quotes for the roof canopy and site works costs could be considerably more than anticipated.

Additional funds would need to come from the capital reserve.

ATTACHMENTS

- Owners Engineer Services RFP
- Fracflow Consultants Inc-Regional Material Recovery Facility (RMRF) Assessment and Recommendations for Compliance with New Regulation-Section 5.2 pages 34-35.
- NSECC Approval Document-Section 14 Site Specific

THE MUNICIPALITY OF THE DISTRICT OF SHELBURNE
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REGIONAL MATERIAL RECOVERY FACILITY (RMRF)

REQUEST FOR PROPOSALS

Owner's Engineer Services

Release Date: September 4, 2024
Submission Deadline: October 15, 2024

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Project Overview

Objective

The Municipality of the District of Shelburne (hereafter referred to as 'Municipality') is seeking to solicit proposals for owner's engineering services. Specifically, the selected firm will provide owner's engineering services to support the Municipality to undertake a design-build contract to construct a roof canopy, safety rails, and a new drop point at its Regional Material Recovery Facility (hereafter referred to as 'RMRF'). The completion of the design-build project aims to increase the capacity of the site, allow for environmental sustainability, enhanced safety and functionality.

The Owner Engineer is responsible to work directly with the Municipality to: provide advice; prepare and review design build procurement documents; review key milestone design-build deliverables; and, provide final construction inspection. The successful firm will thereby ensure that the design and construction of the new components to the RMRF are in full compliance with operating protocols, operating manuals, contract terms, good construction and operating practices, and applicable environmental and regulatory compliance, construction and safety practices

Background

The RMRF has been granted approval to operate under new Nova Scotia Department of Environment and Climate Change (NSECC) guidelines subject to certain conditions. The approval to operate was granted in conjunction with a consultant's report completed by Fracflow Consultants Inc. The approval to operate and consultants report have been included as Addendum A and B. The Municipality currently operates a C&D Transfer Station that hauls its construction and demolition waste to off-site landfill facilities. Benefits of a local RMRF include being able to economically transport waste to an out of area landfill from one consolidated site, increasing proper sorting efficiency in addition to providing a convenient drop off location for residents.

The Owner's Engineer will work with the Municipality to complete a roof canopy, safety rails, separation of piles and a possible new drop point. Though this represents a relatively minor construction project, the Owner's Engineer will be a key resource to allow the Municipality to successfully complete/award this project inside of funding and regulatory timelines.

Construction and demolition waste often contains bulky, heavy materials, including concrete, wood, asphalt, gypsum, metals, bricks and plastics. It also includes salvaged building components such as doors, windows and plumbing fixtures. Construction and demolition waste makes up between 30% and 40% of the total amount of solid waste that is created in Nova Scotia.

The Municipality's RMRF is located at 4571 Highway 3, West Green Harbour.

The Municipality's RMRF accepts the following items:

- Wood-under new guidelines must be separated into treated wood and clean wood.
- Shingles
- Gypsum board/drywall, plaster
- Mixed Materials - vinyl/plastic building materials, carpeting, built up roofing, ceiling tiles, vinyl flooring and linoleum, wiring, lighting fixtures, fiberglass and Styrofoam insulation.

The Municipality's RMRF also accepts other materials, including:

- Scrap Metal
- Metal Appliances
- Wire Lobster Traps
- Brush, leaf and yard waste
- Rope
- Heavy Plastics

The Municipality has available a consultant's report outlining recommendations for the RMRF Site. The conditional Nova Scotia Environment (NSECC) permit is also a necessary document. These documents will be provided to the proponents upon request and are considered necessary in order to fully understand the scope of the project.

Scope of Work

The Municipality is seeking an engineering firm with Solid Waste, Structural, and Construction expertise to serve as the Owner's Engineer for the duration of the project, to provide advice on executing the proposed plans to construct a roof canopy, safety rails, barriers between drop points and a possible new drop point. The work is proposed to meet the terms and conditions of the Approval to Operate, Provincial C&D Regulations and

engineering consulting support services in all phases of the implementation of the project. The OE's role is to ensure the implementation of the solution is completed in full compliance with project scope documents and all applicable environmental and regulatory compliance, construction and safety practices.

The scope of the Owner's Engineer work shall include but not be limited to:

a) Review all relevant documentation concerning the project.
b) Prepare a design-build contract RFP to complete the construction of a roof canopy, safety rails, barriers between drop points and a possible new drop point, and participate in reviewing/scoring the submitted bids:
    a. Prepare relevant procurement documentation for Municipal approval and issue;
    b. Create scoring criteria for review and approval by the Municipality;
    c. Review and score responses from Proponents, provide advice on selection.
c) Provide expertise and advice during contract negotiations with the successful design-build supplier if required.
d) Review and comment on any engineering change proposals submitted by the Contractor/Proponent. (Municipal staff will be responsible for the preparation of any Change Orders)
e) In addition to item (d), for bidding purposes, assume review of one set of engineering drawings at the final design stage to confirm adherence to the project plan.
f) Provide a post-construction audit, preparing if necessary a deficiency list, and advise the Municipality of work to be done in order to complete the project, to confirm adherence to the project plan.

4. Timeline

The Municipality needs to receive a construction by March 2025 for funding purposes. It is possible that an extension will be granted upon application.

Provide in your submission a detailed project timeline from the initiation of this Owner's Engineer contract, through to construction completion, demonstrating your ability to meet the Municipality's timeline. State any assumptions or key project risks.

5. Budget

Outline the budget for the Owner's Engineer project, as description in the Scope of Work. State all assumptions.

Reporting Structure

The OE will report to the Director of Operations & Protective Services for the Municipality of the District of Shelburne in relation to invoicing, contract matters and payment. The OE may receive information or direction from the Municipality's Waste Diversion Officer or the RMRF Manager in relation to day to day requirements, suggestions or inquiries.

Deliverables

Key deliverables of this contract include:

- Preparation of a Design-Build RFP for a roof canopy, safety rails, barriers between drop points and a possible new drop point.
- Scoring the received Proposals.
- Advice on any engineering change proposals submitted during the design/build contract
- One set of reviewed construction drawings
- One post-construction inspection findings
- Professional and respectful interaction with staff and representatives from regulatory bodies and shared services.

Conflict of Interest

Proponents must indicate if a conflict of interest exists and must deliver a statement providing a full and complete disclosure in writing if there is a conflict of interest.

The evaluation committee reserves the right to disqualify any proponent that in its sole opinion has an actual or potential conflict of interest, whether existing now or is likely to arise in the future, or may permit the proponent to continue and impose such terms and conditions as necessary.

Submission Requirements

Proposals shall include the following information:

- Understanding of contract requirements.
- Description of proponent and business.
- Provide an overview of contract approach/methodology.
- Provide a work plan.

- Provide a detailed contract price that identifies all anticipated costs, including hourly fees for equipment and labour (as applicable) as well as mileage costs.
- Provide a list of all equipment required and related rates, noting if you own the equipment or you have an alternate plan for rental, lease, etc.
- Provide proof of insurance with a minimum of two million dollar coverage per occurrence (if applicable).
- Provide proof of Workers Compensation coverage (if applicable).
- Provide HST number.
- Provide list of similar contract work experience and three (3) references.

Proposal Submission Procedures

Proposals must be received by 4:00 pm on Tuesday, October 15, 2024, and shall be emailed to marcia.deon@municipalityofshelburne.ca or delivered to:

Marcia d'Eon, Director of Operations & Protective Services
Municipality of the District of Shelburne
PO Box 280
Shelburne, NS
B0T 1W0

Receipt of all proposals will be acknowledged by email. Proposals received after the closing date and time will not be considered. Proposals sent by email should be in PDF. Those that do not transmit due to the size of the attachments will not be accepted after the deadline. Proponents should prepare their documents so they can be transmitted by email and send them early enough to receive a confirmation email before the deadline.

Any interpretation or change in the RFP prior to the closing date will be made by written addendum, which will be numbered, dated and posted on the Nova Scotia Procurement Services Website with the original RFP. These addenda shall become part of the RFP document. It is the responsibility of the proponent to ensure that he/she has received all addenda or other instructions issued by the Municipality during the RFP's open period.

Clarifications requested by a proponent must be submitted to the Director of Operations & Protective Services by email not less than five (5) business days prior

to the RFP closing date. Clarifications requested less than five (5) business days prior to the closing date cannot be guaranteed a response. Verbal requests for clarification will not be entertained. Significant clarifications will be made in the form of an addendum which will be sent to all known proponents.

Proponents may amend proposals submitted prior to the closing date by submitting a new proposal with "revised" written on the proposal submission. Amended proposals received after the closing date will not be considered.

Proponents may withdraw their proposal at any time throughout the RFP process prior to execution of a service agreement or contract.

All documents, including RFP responses, submitted to the Municipality, become the property of the Municipality and are potentially subject to disclosure under the Nova Scotia *Freedom of Information and Protection of Privacy Act* or otherwise. By submitting a proposal, the proponent thereby agrees to public disclosure of its content. The proponent acknowledges that any contract entered into pursuant to this RFP is a public document.

Proposal Evaluation

An evaluation committee comprised of Municipal staff, and potentially others, shall evaluate the proposals. To assist in the evaluation of the proposals, the evaluation committee may, but is not required to:

- Conduct reference checks relevant to the proposal.
- Conduct any background investigations that it considers necessary during the evaluation process and consider any relevant information resulting in the evaluation of the proposals.

All submissions shall be evaluated against the following criteria:

Proposal Evaluation Criteria	**Maximum Score**
Understanding of required services, Project Experience, Company reputation and references, Quality of Submission and any other pertinent criteria as determined by the evaluation committee.	60

Local Preference	10
Price	30
Total Score	**100**

TERMS AND CONDITIONS

Agreement

By submitting a proposal in response to this RFP, the Proponent agrees to abide by the terms and conditions outlined in this RFP. All proposals shall remain irrevocable unless withdrawn in writing prior to the designated closing time.

Privilege

The Municipality reserves the right to:

a) Modify the terms of this RFP at any time at its sole discretion.
b) Suspend or cancel the RFP at any time for any reason without penalty.
c) Reject any or all proposals, not necessarily accept the lowest proposal, or to accept any which it may consider being in the best interest of the Municipality.
d) The Municipality also reserves the right to waive formality, informality or technicality in any proposal.
e) In the event that a number of submissions are substantially the same amount or score, the Municipality may, at its discretion, call upon those Bidders to submit further bids or to make a presentation to the Municipality.
f) Award a contract on the basis of the initial offers received, without discussions or requests for best or final offers.
g) Disqualify bidder(s) if there is an existing or recent business or personal relationship which can be perceived as causing a conflict of interest. Proposals shall contain a declaration of conflict of interest.
h) Reject any bidder if after an investigation of the evidence submitted by the bidder fails to satisfy the Municipality that the Proponent is properly qualified to carry out the obligations of the contract and to complete the work contemplated therein.
i) No term or condition shall be implied, based upon any industry or trade practice or custom, any practice or policy of the Municipality or otherwise, which are inconsistent with the provisions contained herein.
j) The invitation implies no obligation on the Municipality to accept any proposal submitted. This Statement of Work does not constitute an offer, nor promise to offer to enter into any business agreement or relationship, nor any intent to enter into a contract, agreement or relationship be construed.

Confidentiality

This RFP document (including all attachments and appendices) may not be used for any purpose other than the submission of an offer. Proponents shall not use information obtained through the RFP process without written permission of the Municipality.

The successful proponents will be permitted access to files and reports that relate to this RFP. Information pertaining to the Municipality obtained by the successful proponents as a result of this project is confidential and must not be disclosed without written permission of Municipality.

By submitting an Offer, the Proponent agrees to public disclosure of its contents subject to the provisions of the Municipal Government Act relating to Freedom of Information and Protection of Privacy. Anything submitted in the proposal that the proponent considers to be personal information or confidential information of a proprietary nature should be marked confidential and will be subject to appropriate consideration of the Municipal Government Act as noted above.

The work described in this RFP is being conducted with public funds, and the fees and expenses proposed in the Bidder's submission will be made public.

Law

The law applicable to this RFP and any subsequent agreements shall be the law in force in the Province of Nova Scotia.

In responding to this RFP, Proponents warrant their compliance with all appropriate Municipal, Provincial and Federal regulations, laws and orders. Respondents must agree to indemnify the Municipality and its employees if they fail to comply, and the Municipality reserves the right to cancel any agreement arising from this RFP if the proponent fails to comply with the above.

The selected firm shall indemnify the Municipality, its officers and employees against any damage caused to the Municipality as a result of any negligence or unlawful acts of the successful proponent or its employees. Similarly, the successful proponents shall agree to indemnify the Municipality, its officers and employees against any claims or costs initiated by third parties as a result of any negligence or wrongful acts of the successful proponent or its employees.

Payment of Fees

As per the contract, once awarded. The Municipality shall have the right to withhold, from any sum otherwise payable to the Proponent, such amount as may be sufficient to remedy any defect or deficiency in the work, pending correction of the same. Invoices are to be forwarded to:

Marcia d'Eon, DOPS
Municipality of the District of Shelburne
414 Woodlawn Drive
P.O. Box 280
Shelburne, NS
B0T 1W0
Email: marcia.deon@municipalityofshelburne.ca

Subcontractors

Proponents are responsible for obtaining Municipality's permission prior to hiring a subcontractor. The Municipality may, for reasonable cause object to the use of a proposed subcontractor and require the Proponent to employ another subcontractor.

All subcontractors employed by the proponent will be subject to the same terms and conditions of the Contract, and will be under the supervision and control of the Proponent. Nothing contained in the Contract shall create a contractual relationship between the Municipality and subcontractor.

Contract

The successful Proponent shall enter into a contract within 30 days of award. Except as expressly and specifically permitted in these instructions to proponents, no proponent shall have any claim for any compensation of any kind whatsoever, as a result of participating in this RFP and by submitting a proposal, each proponent shall be deemed to have agreed that it has no claim.

Unless otherwise noted in previous sections, the contract will be terminated for any of the following reasons:

a) Unsatisfactory performance of work,
b) Conduct detrimental to the Municipality,
c) Lack of response to work requests,
d) Evidence of Collusion,
e) An existing or recent business or personal relationship which could be perceived as causing a conflict of interest.
f) Becoming insolvent or has filed against a Petition in Bankruptcy or makes an Assignment for the benefit or Creditors or it a Receiver is appointed for its assets.

Notice to Perspective Proponents

a) The information contained in this RFP is supplied solely as a guideline for proponents. While every reasonable attempt has been made to ensure its accuracy,

the Municipality does not guarantee or warrant its accuracy, nor is it necessarily comprehensive.

b) By submitting a response to the RFP, the Proponent represents and warrants that such bid is genuine and not false and collusive or made in the interest or in behalf of any person therein named, and that the bidder has not, directly or indirectly, induced or solicited any other bidder to put in a false bid, or any other person, firm or corporation to refrain from bidding, and that the bidder has not in any manner sought by collusion to secure to the bidder an advantage over any other bidder.
c) If at any time it shall be found that the person, firm or corporation to whom a contract has been awarded has in presenting any bid or bids, colluded with any other party or parties, then the contract so awarded shall be liable to the Municipality for all loss or damage which the Municipality may suffer thereby; and the Municipality may advertise for a new contract and for said labour, supplies, materials, equipment or service. Unauthorized conditions, limitations or provisions attached to an RFP may cause its rejection.
d) The Proponent, by submitting a bid, shall represent and warrant that he / she has sufficiently informed themselves in all matters affecting the performance of the work or the furnishing of the labour, supplies, materials, equipment, or service called for in the quotation documents; that he/she has checked their bid for errors and omissions; that the amounts stated in his/her bid are correct.
e) If a written agreement cannot be negotiated within 30 days of notification to the proponent(s) initially selected, the Municipality may, at its discretion, terminate negotiations with the proponent(s) and either negotiate a contract with the next highest qualified proponent or cancel the RFP process and not enter into a contract with anyone regarding the RFP.

Procurement of Additional Services

The Municipality may procure services from additional Proponents under the following circumstances:

a) If the project scope is outside the scope of services, as deemed by the Municipality;
b) If the project is being performed on behalf of a Village or another municipal unit, that Village or municipal unit may invite one service provider of it's choosing to bid on that project;

Proponent Responsibilities

a) The offer must be signed by the person(s) authorized to sign on behalf of the company and binds the company to the statements made in the proposal.
b) The Proponent shall confirm in their submission that the Proponent agrees to abide by the terms and conditions outlined in the RFP. Submissions which do not have this confirmation will not be considered.

c) Proposed subcontractors and or consultants must be listed with attached resumes. A joint proposal submission must indicate which Proponent has overall responsibility for the offer. If a Proponent wishes to submit alternative options, each option is to be submitted as a separate proposal.
d) The Proponent is entitled to amend its proposal at any time before the closing time. After the closing time, the consultant will not change the wording or content of its proposal and no words will be added to or deleted from the proposal, including changing the intent or content of the presentation of the proposal, unless requested by the Municipality.
e) The Proponent shall not transfer responsibility to meet the obligations of the contract to a third party without the written consent of the Municipality.
f) Proponents are solely responsible for their own expenses in preparing the proposal, presentation of the proposal, and any travel costs incurred in presentation and/or interviews and negotiating a contract.
g) It is the Proponents responsibility to ensure that their submission is complete and is delivered to the Municipality by the date and time indicated. Proposals submitted after the above noted time shall be returned unopened.
h) Except as expressly and specifically permitted in these instructions to proponents, no proponent shall have any claim for any compensation of any kind whatsoever, as a result of participating in this RFP and by submitting a proposal, each proponent shall be deemed to have agreed that it has no claim.

Data

All data materials, and information collected and work products created either directly for, or in support of the work outlined in the RFP is the property of the Municipality.

The successful Proponent is expected to submit digital copies of all work completed to the Chief Administrative Officer or their designate.

The consultant shall not be permitted to publish or in any way use said information without the expression or final approval of the Municipality of the District of Shelburne.

Quotations & Payment

Prices must be in Canadian funds, and shall include all handling, freight, duty, and any other charges, which are applicable at time quotation is awarded. It is the responsibility of the Proponent to find out from the appropriate authorities what rates and charges are applicable to this quotation.

HST

The quoted prices must clearly show the Harmonized Sales Tax as a separate item from the total price submission.

Insurance and WCB

The Proponent must provide the Municipality with a copy of a "Certificate of Professional Liability Insurance" prior to commencement of the work. The General Liability Insurance minimum will be one million dollars ($1,000,000.00) with The Municipality of Shelburne named as additional insured.

The Proponent acknowledges that he/she is an independent Contractor and shall, indemnify, protect and save harmless The Municipality of Shelburne, its agents and employees from all damages, liabilities and claims of whatsoever nature arising out of the furnishing by the Proponent, its agents or employees of the materials and/or performing of the services covered by this RFP. The Vendor remains responsible for maintaining the required insurance even if the certificates are never exchanged and/or requested.

It is also expected that bidders shall be in good standing with the Workers' Compensation Board of Nova Scotia at all times when providing the service outlined herein or, if exempt, provide written proof thereof.

Inquiries/Contact/Addenda

All inquiries about the RFP must be directed to MDS at least five (5) business days prior to the submission date, (through e-mail, which receipt shall be confirmed) to:

Marcia d'Eon, Director of Operations & Protective Services:
marcia.deon@municipalityofshelburne.ca

Copies of all questions and answers and any addenda will be uploaded to the Provincial Procurement Website no later than three (3) business days prior to the Final Submission date.

Only formal written responses to properly submitted questions will be binding on the Municipality.

All responses by the Municipality (addenda) will form part of the Request for Proposal process.

Vendors may be advised by addenda, via the website at https://novascotia.ca/tenders/tenders/ns-tenders.aspx , of required additions, deletions or alterations in the requirements of the Request for Proposal documents. It is the

responsibility of the vendor to check the website to ensure all information has been obtained. All such changes shall become an integral part of the Request for Proposal documents and shall be allowed for in arriving at the total submission price.

Notification

Submissions will be assessed, and proponents may be contacted to answer questions or to present their proposal. The unsuccessful respondents will be informed in writing.

Contract Award

The award of this RFP is conditional upon the successful respondent entering into an agreement to perform the services and other obligations as required by this RFP.

The successful proponent shall be notified by email or regular mail of the acceptance of their proposal.

The awarding of any contract as a result of this RFP shall be at the sole discretion of the Municipality. The Municipality reserves the right to either award a contract to the most effective proponent as determined by the evaluation criteria or not to make an award if none of the proposals received represents an acceptable level of value and risk in the opinion of the Municipality.

In the event that the Municipality and a successful proponent are unable to finalize and enter into a contract within ten (10) days of the evaluation committee notifying the successful proponent, the evaluation group shall have the right to revisit the proponent evaluations and enter into negotiations with the next highest scored proponent for the award of the contract. There will be no further responsibility to the original successful proponent with whom a contract could not be finalized.

The Municipality reserves the following rights:

- To reject any proposal not meeting the requirements outlined in the RFP document.
- To reject any or all proposals if deemed unsatisfactory.
- To accept or reject any or all proposals, or to accept any proposal deemed most satisfactory and in the best interests of the Municipality, which shall be determined at the sole, unfettered discretion of the Municipality.
- To waive formality, informality, or technicality in any proposal of a non-material nature.

- To enter into negotiations with another of the proponents submitting a proposal prior to a final award;
- The lowest priced proposal, or any proposal, will not necessarily be accepted.
- The right to cancel this RFP at any time.

Final Report

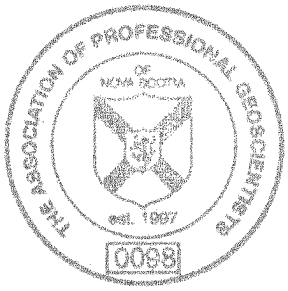
Regional Material Recovery Facility (RMRF) Assessment and Recommendations for Compliance with New Regulations

Prepared by:

Fracflow Consultants Inc.
2 Fielding Ave., Suite D
Dartmouth, NS, B3B 1E1

Submitted to:

Municipality of the District of Shelburne
414 Woodlawn Drive
P.O. Box 280
Shelburne, NS, B0T 1W0



Signature and Seal of
Professional Geoscientist

File 877

February 9, 2024

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Summary

The Municipality of the District of Shelburne (MODS) required a review of the design of its Regional Material Recovery Facility (RMRF) within view of the new Solid Waste Management Facility (SWMF) Guidelines for Construction and Demolition Debris Storage, Transfer, Process and Disposal (ECC, 2023). Fracflow Consultants Inc. (Fracflow) completed that review and has concluded that the design of the existing RMRF does not meet the requirements of the new guidelines. Key issues are listed below.

- Watercourses and wetlands are recognized as critical features in the new SWMF guidelines and a 30 m separation distance from those features is required. The boundaries of the existing metals stockpile, at the southwest corner of the RMRF, are 6 m away from Reuben Meisner's Brook and 9 m away from an unnamed water course, and do not meet that requirement. Wetlands and/or wetlands-type vegetation may also be present near and beyond the banks of those watercourses, and may be present in other areas on and around the RMRF. Wetland boundaries at the RMRF need to be delineated.

- Most stockpiles do not maintain the necessary clearances between stockpiles or from the treeline, and some are marginally above the 3 m maximum height.

- The scrap metals stockpile and Drop Points are of primary concern for impacts to soil, surface water, and groundwater quality. The existing ash and metals disposal cell also represents an ongoing source of potential contamination.

Following a site meeting with the District Engineer from the Nova Scotia Department of Environment and Climate Change (ECC), MODS should complete and submit its application for an operating Approval. ECC intends to review the application, when received, and issue an Approval with terms, conditions and time lines to achieve compliance based upon a proposed schedule from MODS for the following list of activities.

- Identification and delineation of existing wetlands.

- Cutting of trees to create the required separation distance between stockpiled materials and the treeline.

- Relocation of existing stockpiles to make best use of the existing site layout, while observing and respecting the required setbacks from critical features such as water courses and wetlands.

- Installation of monitoring wells in and around the scale house and Drop Points, and design of a water monitoring program that incorporates the existing well network. Then, plan and execute that water monitoring program. It should be noted that baseline water

quality data are already available for the existing wells, and that may allow MODS to limit the scope of monitoring to semi-annual sampling events, rather than quarterly sampling events.

- Design and construction of a canopy over the Drop Points to limit direct contact with precipitation and help reduce the risk of leachate generation. Build flexibility into the design so that MODS can consider a transition to the use of roll-off containers over time (e.g., incorporate a concrete pad below each Drop Point for that purpose).

Given the significant capital investment for site upgrades, and the recurring costs for water quality monitoring, MODS should consider increasing the current schedule of tipping fees to help fund that work.

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1.0 INTRODUCTION

The Municipality of the District of Shelburne (MODS) required a review of the design of its Regional Material Recovery Facility (RMRF) within view of the new Solid Waste Management Facility (SWMF) Guidelines for Construction and Demolition Debris Storage, Transfer, Process and Disposal (ECC, 2023). Fracflow Consultants Inc. (Fracflow) was retained by MODS to undertake an assessment of that existing facility at West Green Harbour and to consider options for meeting the new requirements while expanding the services it offers to the public.

This report documents the findings of the assessment work and provides recommendations and guidance on how best to prepare the site, and proceed with an application for an Approval to operate the RMRF.

1.1 Report Organization

This introductory chapter, **Chapter 1**, provides the framework for the project. It identifies the site location, objectives and scope of work. Current site operations and are described in **Chapter 2**, and compared with the new requirements for an Approval in **Chapter 3**.

Chapter 4 identifies the expected changes, improvements or additional components of work that will likely need to be addressed under an Approval to operate, and considers the option to close the existing site in favour of a new site. Conclusions and recommendations are presented in **Chapter 5**, followed by a list of referenced documents in **Chapter 6**.

The reader is referred to **Appendix 1** to view the figures described in this report. All data tables are embedded in the report text.

1.2 Site Location

MODS operates a Construction and Demolition Debris (C&D) Transfer Station at 4571 Highway 3, in West Green Harbour (**Figure 1**). The existing RMRF facility was designed and opened in 2004 before there was a requirement for an Approval to operate. The footprint of the facility occupies portions of five separate properties with PIDs, ownership, and land area as follows:

- 80125529 - Town of Lockeport (38.8 hectares);
- 80125479 - Town of Lockeport (2.2 hectares);
- 80125511 - Town of Lockeport (2.3 hectares);
- 80125503 - Town of Lockeport (2.3 hectares); and
- 80125537 - Municipality of Shelburne (2.2 hectares).

The facility is located in a rural wooded area, isolated from any residential or commercial developments.

1.3 Objectives

The main objectives of this project are listed below.

- Assess RMRF operations and identify any areas of non-compliance with the new SWMF Guidelines, issued by the Nova Scotia Department of Environment and Climate Change (ECC).
- Evaluate the feasibility of keeping the existing site open and upgrading where necessary to meet the new guidelines.
- Assess the potential to expand the capacity of the site, particularly with respect to handling treated wood.
- Provide MODS with the necessary guidance to obtain an operating Approval for the RMRF from ECC.

1.4 Scope of Work

Activities completed by Fracflow are listed below.

- Participated in an initial meeting with key MODS personnel and conducted a cursory site inspection of its existing RMRF facilities and operations on November 27, 2023.

- Requested, obtained and reviewed background information on site conditions and operations from MODS.

- Summarized site observations and information from existing documents within view of the new SWMF Guidelines and documented the preliminary findings in an internal memorandum on December 12, 2023. All information in that memorandum has been incorporated into this detailed report, which is why the memorandum is not a referenced document.

- Conducted a detailed site inspection of the RMRF on December 15, 2023 to further evaluate its compliance status with the requirements stated in the SWMF Guidelines. Fracflow measured the dimensions and clearances around existing stockpiles, measured the separation distances from critical features such as water courses, private wells, and buildings, opened and inspected the existing monitoring wells and measured water levels and quality using field-portable equipment, and considered options for future expansion.

- Prepared a draft of this report and reviewed the findings with MODS and ECC during a site meeting on February 6, 2024.

- Completed and submitted this final report, and developed a proposed work schedule (submitted under separate cover) for addressing compliance issues once an Approval to operate is received from ECC.

1.5 Statement of Limitations

Information contained in this report is part of Fracflow's instruments of service, and Fracflow shall retain ownership thereof. Such information shall not be used for any purpose other than for matters related to this project. Any other use, reuse or modification of this document without Fracflow's prior written consent will be at the recipient's sole risk and without liability or legal exposure to Fracflow.

The findings and conclusions presented herein are probabilities based on professional judgement of the significance of those data gathered, and do not constitute scientific certainties. The opinions and recommendations that are expressed in this report by Fracflow may or may not be shared by ECC, and are not warranted by Fracflow.

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2.0 OVERVIEW OF SITE OPERATIONS

The West Green Harbour RMRF is a critical component of the Municipality's solid waste management strategy. It provides a convenient and necessary drop-off location for residents where C&D materials can be properly sorted and diverted to other licensed facilities for recycling or disposal. Site operations are summarized below.

2.1 Materials Received for Sorting and Temporary Storage

The RMRF accepts and temporarily stores untreated wood, shingles, gypsum board/drywall, plaster, and mixed C&D that includes vinyl/plastic building materials, carpeting, built-up roofing, ceiling tiles, vinyl and linoleum flooring, wiring, lighting fixtures, fiberglass, styrofoam insulation, and heavy plastics. Those materials are delivered to the RMRF by residents and later transferred by contractors to the Queens Municipal Landfill Facility for disposal.

Most of the C&D materials are delivered and separated in five designated Drop Points (DP), located near the Scale House as shown in **Figure 2**. DP1 is strictly for landfill materials, such as insulation and large plastic items. DP2 is for drywall, DP3 receives shingles and roofing materials, and wood is delivered to DP4 and DP5.

The RMRF also accepts and temporarily stores scrap metal, white goods, wire lobster traps, brush, leaf and yard waste, and rope. Those materials are stockpiled at the locations shown in **Figure 2**. All of these other materials are also delivered by residents and later diverted to licensed receiving facilities, as follows:

- Fridges, Freezers and Air Conditioning Units - Approximately 160 to 200 items are received annually. MODS contracts with Rhyno's Heating, Refrigeration, Plumbing and Electrical in Bridgewater to purge and remove refrigerants from those units on an annual basis, before they are crushed and recycled.

- Metal - All forms of metal that are received at the RMRF are crushed and removed from the site on an annual basis. MODS contracts this service to either Ross & Sons or American Iron and Metal (AIM).

- Rope - MODS entered into a partnership with the Fishing Gear Coalition of Atlantic Canada. That agency removes rope from the site on an annual basis.

- Brush, Leaf and Yard Waste - That material is hauled to the Barrington C&D site on an annual basis.

2.2 Mass of Materials Being Diverted, Disposed and Recycled

Table 1 below provides a breakdown of materials diverted, disposed of, and recycled at the RMRF between 2017 and 2022.

Table 1 Materials diverted, disposed of, and recycled at the RMRF between 2017 and 2022.

Fiscal Year	Diverted Materials (Metric Tonnes)	Disposed (Metric Tonnes)	Recycled Metals	
			White Goods (Metric Tonnes)	Lobster Pots (Metric Tonnes)
2017-2018	746	178	Unknown	
2018-2019	742.7	116.23	280.3	
2019-2020	924.26	218.11	228.91	
2020-2021	984.6	155.8	94.5	87.4
2021-2022	721.42	210.77	161.5	57.18

Note: The mass of materials received between 2019 and 2021 is atypical of normal operations and related to an up-tick in home renovations during Covid lockdowns.

3.0 APPROVALS AND COMPLIANCE STATUS

Under the new SWMF Guidelines, MODS will require an Approval to operate its RMRF. That requirement is based specifically on Section 8(2) of the *Activities Designation Regulations* and Section 31(2)(a) of the *Solid Waste-Resource Management Regulations* under the **Environment Act**. The current deadline for MODS to submit a completed application and supporting documentation to store, transfer and/or process C&D material at the West Green Harbour location is March 5, 2024.

Five key aspects of the SWMF Guidelines factored into the assessment of the suitability of the current RMRF site for expansion and eligibility for an Approval:

1. Siting and separation distances;

2. General C&D facility design, construction, and operation requirements;

3. Groundwater, surface water and leachate considerations;

4. C&D storage, transfer, and processing requirements; and

5. C&D Disposal Cell.

Each of the above considerations are discussed separately below. The various administrative requirements such as financial security, insurance, and records maintenance are not addressed here, but will be addressed by MODS in its Approval application.

3.1 Siting and Separation Distances

An application for an Approval to operate and expand the existing C&D Facility will need to be accompanied by a letter from the Shared Services Authority stating that the facility meets all applicable zoning, planning restrictions and municipal by-laws. In addition, the facility must meet specific separation distances from defined features. Those features and current status of separation are noted in **Table 2** below.

Table 2 Required separation distances from critical features.

Feature	Horizontal Separation Distance (m)	Compliance Status
Watercourse (top of bank) and Wetland (boundary) or marine water body	30	**Does not comply** - Reuben Meisner's Brook 6 m away from metals stockpile, unnamed water course 9 m away from metals stockpile, also possible wetlands present
Property line of C&D Facility (PIDs)	30	**Complies** if all PIDs in Section 2 included in Approval
Municipal drinking water supply	See Note	**Complies** (nearest is Hayden Lake, 5 km away)
Foundation of off-site structure (commercial, industrial, residential, institutional)	90	**Complies** (nearest dwelling 750 m away, nearest commercial site 1,650 m away)
Off-site dug or drilled drinking water supply well (other than municipal supply)	90	**Complies** (nearest off-site well 725 m away)

Note: Outside the municipal drinking water supply's Source Water Protection Area, and outside the boundary of any provincially designated Protected Water Area.

A large culvert through which Reuben Meisner's Brook flows is located 6 m west of the metals stockpile. There is also a second, smaller, unnamed water course located 9 m to the east of the metals stockpile. Those features do not meet the minimum separation distance of 30 m from the metals stockpile and, therefore, will not comply with the new guidelines. Wetlands vegetation also appears to be present along those water courses and may be present in other areas of the RMRF, but confirmation will require a determination by a qualified wetlands assessor.

3.2 General Design, Construction and Operation

C&D Facility design must be prepared and signed by a professional engineer. MODS has supplied Fracflow with a copy of the tender-for-construction document that was signed and stamped by a professional engineer (Dillon, 2004a), but a companion design report was not located. A design report would normally accompany the Approval application, but when the

existing facility was designed in 2004 the existing guidelines did not apply. It is Fracflow's understanding that submission of the drawings from that tender-for-construction document will be acceptable to ECC, in lieu of a design report.

3.3 Groundwater, Surface Water and Leachate Considerations

Water quality monitoring has not been conducted as part of RMRF operations, which began in 2004. Historical baseline data on surface water and groundwater quality, and flow conditions are available (Dillon, 2004b; Dillon, 2009) and relate specifically to the former incinerator site and existing ash and metal waste disposal cell. The location of the capped disposal cell is shown in **Figure 2**. Background data on surface water and groundwater quality are summarized below. There were no leachate monitoring stations established during previous work.

3.3.1 Surface Water (Historical Data)

Overland drainage from the ash disposal cell is diverted to on-site ditches. The controlled discharge waters gradually flow overland, eventually reaching Reuben Meisner's Brook, which flows into West Green Harbour. There are a number of water bodies, swamps and water courses around the site that were identified using the Nova Scotia Groundwater Atlas. Those features have the potential to be, or to host, wetlands (**Figure 3**).

The former monitoring network for surface water quality included three monitoring stations:

- SW-1: Reuben Meisner's Brook, upstream of the ash and metal waste disposal area (see **Figure 2**);
- SW-2: Reuben Meisner's Brook, adjacent to ash and metal waste disposal area (see **Figure 2**); and
- SW-3: Reuben Meisner's Brook, downstream of the ash and metal waste disposal area, and near civic number 1010, West Green Harbour Road.

According to Dillon (2004b), general inorganic chemistry of surface waters reportedly showed no significant changes between June 1995 and March 2024. Aluminum and pH routinely fluctuated outside of the Guidelines for the Protection of Freshwater Aquatic Life (FWAL) at both the up-gradient and down-gradient monitoring stations. Other parameters that were reported to occasionally exceed FWAL guideline values were total concentrations of iron, lead, copper,

and zinc. Petroleum hydrocarbons were not identified in any surface water samples during the monitoring period.

Fracflow measured flow rates and water quality at several locations during the December 2023 site visit. Readings were made at former monitoring stations SW-1 and SW-2, on Reuben Meisner's Brook, and in a drainage ditch (SW-4) and unnamed water course (SW-5) at the RMRF. Locations of those monitoring stations are shown in **Figure 2**. Those data are provided in **Table 3** below and compared with data recorded by Dillon (2004b) at SW-1, SW-2 and SW-3.

Table 3 Field-measured water quality at surface water stations.

Surface Water Station	Date	Temp. (°C)	pH (std. units)	Specific Cond. (µS/cm)	Flow Rate (Lpm)
SW-1 (Reuben Meisners Brook)	March 2004	---	4.5	43	---
	Dec. 2023	4.8	3.26	45	274
SW-2 (Reuben Meisners Brook)	March 2004	---	4.6	47	---
	Dec. 2023	4.9	4.75	56	713
SW-3 (Reuben Meisners Brook)	March 2004	---	4.7	68	---
	Dec. 2023	---	---	---	---
SW-4 (Drainage Ditch, East Side of Drop Points)	Dec. 2023	3.4	7.65	182	2
SW-5 (Water Course, East Side of Scrap Metal Stockpile)	Dec. 2023	5.3	4.69	52	146

Notes:
1. Data reported for March 2004 were obtained from Dillon, 2004b.
2. Fracflow's measurements were recorded on December 15, 2023. Stream velocity, width and depth were measured to calculate flow rate. Water quality was measured using calibrated, hand-held instruments.

Background quality of surface water is represented by SW-1, which had low pH and low specific conductance in 2004 and in 2023. The tea-like colour of that surface water suggests that there is a high concentration of naturally-occurring humic and fulvic acids present, which would cause

the pH to be low. The quality of surface water at stations SW-2, SW-3, and SW-5 are similar to conditions at SW-1 and appear to be indicative of background conditions. Surface water in the drainage ditch on the east side of the Drop Points (SW-4), flows eastward and has higher pH and specific conductance, suggesting impacts from solid waste materials that are temporarily placed at those Drop Points.

3.3.2 Groundwater (Historical Data)

Four monitoring wells were constructed around the ash disposal cell and monitored between 1994 and 2009:

- MW-1: Up-gradient of the former incinerator and ash disposal cell;
- MW-2: Down-gradient of the former incinerator and ash disposal cell;
- MW-3: Down-gradient of the former incinerator and ash disposal cell; and
- MW-4: Down-gradient of the former incinerator and ash disposal cell.

Well locations noted above are shown in **Figure 2**. Monitoring well MW-2 is buried below the existing metals stockpile, and may be damaged. Well logs were not found, but Fracflow located, opened and inspected MW-1, MW-3 and MW-4 and determined their respective depths to be 5.95 m, 4.10 m and 4.34 m below ground surface. Dillon (2004 b) reported that groundwater was generally within 1 to 2 m of ground surface.

Water levels in MW-1, MW3 and MW-4 were measured by Fracflow on December 15, 2023, and were 1.88 m, 0.38 m and 0.73 m below ground surface, respectively. Dillon (2004b) reported the direction of groundwater flow within both the overburden and shallow bedrock to be south-southeast, in the direction of Reuben Meisner's Brook and West Green Harbour (Dillon, 2004b). That would be is consistent with recent data recorded by Fracflow.

Fracflow purged monitoring wells MW-1, MW-3 and MW-4 using the existing Waterra sampling pumps. After removing approximately three standing-well volumes of water from each well, the temperature, pH and specific conductance of groundwater was measured using calibrated, field-portable HACH instruments. Those data are presented in **Table 4** below and compared with readings reported for the same parameters in 2004.

Table 4 Field-measured water quality of groundwater at existing monitoring wells.

Monitoring Well	Date	Temperature (°C)	pH (std. units)	Specific Conductance (µS/cm)
MW-1	March 2004	---	6.40	51
	Dec. 2023	10	4.64	40
MW-2	March 2004	---	6.90	277
	Dec. 2023	Buried and Possibly Destroyed		
MW-3	March 2004	---	5.20	417
	Dec. 2023	8.1	5.59	88
MW-4	March 2004	---	7.10	3420
	Dec. 2023	8.7	5.81	622
Dug Well	Dec. 2023	8.4	7.90	191

Notes:
1. Data reported for March 2004 were obtained from Dillon, 2004b.
2. Fracflow's measurements were recorded on December 15, 2023. Water quality was measured using calibrated, hand-held instruments.

Ambient groundwater quality for the site is represented by MW-1, which had similar conductivity values in 2004 and 2023, but much lower pH in 2023. MW-2 is buried under the scrap metal pile and could not be assessed. Groundwater at MW-3 and MW-4 had significantly lower conductivity values in 2023, compared with 2004, but the conductivity of groundwater at MW-4 remains approximately fifteen times higher than background conditions defined by MW-1.

According to Dillon (2004b), groundwater quality was assessed relative to the Canadian Environmental Quality Guidelines for drinking water (version 2002). Some observations from that report are summarized below.

- Groundwater quality at MW-1 was comparable to background levels that were established between October 1994 and March 2004. Groundwater from that well had pH values that fluctuated between 4.50 and 7.00, and total dissolved solids concentrations that varied between 29 and 49 mg/L.

- Groundwater quality at MW-2 remained consistent during the monitoring period, with the exception of iron, manganese, colour and turbidity. An elevated (and possibly anomalous) chloride concentration (23.4 mg/L) was reported in September 2001.

- Elevated manganese levels were observed at MW-3 between March 1999 and March 2004. The highest concentration was recorded in September 2000 (680 µg/L).

- Chloride and manganese were elevated at MW-4. Manganese peaked at 2,300 µg/L in March 1999. Chloride peaked at 1,720 mg/L in March 1999 and declined to 550 mg/L in March 2004. Dillon reported that the elevated chloride levels were likely due to the placement of marine-based soil on the disposal area.

Petroleum hydrocarbon odours were detected at MW-2 during the September 2003 sampling event, but were not detected by the laboratory in any sample collected in March 2004. The only occurrences of total petroleum hydrocarbons (TPH) in groundwater were as follows:

- MW-1: TPH was 0.272 mg/L in 1994;
- MW-2: TPH was 0.014 mg/L in 1994, and 0.174 mg/L in 1999;
- MW-3: TPH was 0.06 mg/L in 1994; and
- MW-4: TPH was 0.22 mg/L in 1994, and 0.11 mg/L in 1995.

3.3.3 Dug Well On-Site

The scale house is supplied with non-potable water, for hand washing and toilet flushing, from a nearby dug well. **Table 4** above presents the field-measured temperature, pH and specific conductance of a sample collected from that dug well by Fracflow on December 15, 2023. Since the well is not being monitored for quality, a **Do Not Consume** notice should be posted above faucets in that facility. The dug well is located to the northwest side of the Drop Points and could be used as monitoring point for groundwater quality.

3.4 Storage, Transfer and Processing Requirements

Storing, transferring and processing activities shall be designed, constructed and operated in accordance with the minimum requirements established in the SWMF Guidelines, unless otherwise stated in the Approval. Individual stockpiles of material must meet the minimum clearances and not exceed the maximum base and height listed in **Table 5** below.

Table 5 Required dimensions and clearances of stockpiled materials.

Stockpiled Material	**Maximum Base Area (m^2)**	**Maximum Height of Storage (m)**	**Clear Space Around Each Stockpile (m)**	**Clear Space Between Stockpiles and Buildings (m)**
Mixed C&D Debris	1000	≤ 3	6	15
Dimensional Lumber or Brush Piles		>3 ≤ 6	Twice the Height of Storage to a Maximum of 12 m	
Wood Chips	15000	18	9	15
Pallets	1000	3	15	15

Clearances between stockpiles and a building on the property is permitted to be waived where an individual stockpile area has a base area not greater than 5 m^2.

C&D debris stored on site, for the purpose of diverting for beneficial reuse, that could deteriorate due to precipitation and produce leachate, shall be managed to prevent deterioration. Materials include but are not limited to drywall, cardboard, and architectural salvage. As shown in **Table 3**, the pH and specific conductance of surface water in the drainage ditch at SW-4 has likely increased above background as a result of leaching from the Drop Points. Sampling and chemical analysis of that surface water is necessary to determine the nature of those impacts. However, based on Fracflow's monitoring experience at other C&D sites, dry wall and related materials at DP2 are probably the main source of leaching of major ions such as calcium and sulphate into surface water at that location.

The dimensions and compliance status of existing stockpiles at the RMRF are presented in **Table 6** below.

Table 6 Measured dimensions and clearances of existing stockpiles at the RMRF.

Stockpiled Material	Approx. Base Area (m^2)	Max. Height of Stockpile (m)	Clear Space Around Each Stockpile (m)	Clear Space Between Stockpiles and Buildings (m)	Compliance Status
Drop Points	850	3.2	Drop Points Adjacent to Each Other	50 m to Scale House	Solid Waste Overlapping, Does Not Comply
Wire Lobster Pots (Stockpile #1 Near Scrap Metal)	100	2.1	2.5 m from Treeline	30 m to Storage Shed	Too Close to Treeline, Does Not Comply
Wire Lobster Pots (Stockpile #2 near Fridges)	725	2.3	3 m from Treeline on the South Side	85 m to Scale House	Too Close to Treeline, Does Not Comply
Fridges, Freezer and A/C Units	300	2	20 m to Cell 1, between 4 m and 8 m from Treeline	45 m to Scale House	Too Close to Treeline, Does Not Comply
Concrete and Brick (Stockpile #1, Near Fridges)	80	1	Adjacent to Treeline	75 m to Scale House	Too Close to Treeline, Does Not Comply
Concrete and Brick (Stockpile #2, Near Drop Points)	100	0.7	Adjacent to Treeline	45 m to Scale House	Too Close to Treeline, Does Not Comply
Scrap Metal	1,200	3.5	Adjacent to Treeline	15 m to Storage Shed	Too High, Too Close to Treeline, Does Not Comply
Brush	750	3.5	Two Windrows, 3.5 m Apart	15 m to Storage Shed	Too High, Too Close Together

3.5 Disposal Cell (Incinerator Ash and Metal Waste)

C&D materials are not being disposed of at the RMRF, but historical operation of an incinerator at this site did result in the construction of a disposal cell for incinerator ash and other non-burnable metal waste. Specifications and contract documents were prepared by Porter Dillon Limited (1997) for burial and capping of those materials. The scope of work included:

- General site clean-up and regrading of the incinerator site and surrounding area;
- Excavation of buried ash and metal waste and reburial in a secure area;
- Placement and grading of impermeable cover material over the disposal cell, including a geotextile cover over metal waste;
- Construction of drainage features, ditching and erosion control; and
- Hydraulic seeding and landscaping.

Surface water and groundwater monitoring began in 1994 and continued around the disposal cell until 2013. At the request of MODS, approval to suspend monitoring was granted by ECC. Dillon (2004b) suggested that the elevated chloride at MW-4 may have been derived from the placement of marine-based soil over the disposal area.

Fracflow noted some unusual trends in groundwater quality that would suggest impacts from incinerator ash or other un-burnable waste that was buried at the RMRF. **Figure 4** compares the concentrations of chloride and boron at background well MW-1 and downgradient well at MW-4. There is no doubt that chloride at MW-4 increased after capping, but chloride was already high and above background at 583 mg/L in October 1994, and at 523 mg/L in June 1995. After capping, chloride increased to 1,720 mg/L in March 1999, but returned to 550 mg/L in 2004. Chloride at background monitoring well MW-1 varied between 6 mg/L and 15.4 mg/L (ignoring one anomalous value), averaging 8.2 mg/L.

Boron in groundwater at MW-4 showed a general increase, from 410 µg/L (October 1994) to 850 µg/L (March 2004) during the monitoring period, averaging 681 µg/L. Rising boron could be related to leaching from buried waste given that boron at background monitoring well MW-1 varied between 7 and 94 µg/L, averaging only 22.3 µg/L. Boron is a common constituent of fly ash.

The land area directly above the disposal cell was used by MODS for storage of brush received at the RMRF between 2013 and 2023. At the request of MODS, Dillon Consulting Limited visited the West Green Harbour Landfill and conducted a test pit investigation and visual assessment to determine the integrity of the landfill final cover (Dillon, 2023). Twelve test pits were excavated in the area where brush was stored. Dillon (2023) concluded that the storage of

brush on the landfill did not negatively impact the integrity of the cover materials. Excavated materials consisted of a brown clay, with final cover depths exceeding the minimum required 600 mm and 450 mm. It was recommended that the brush storage area be relocated off the landfill cap to ensure its integrity, and that any future brush growth be controlled to prevent damage to the capping materials.

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4.0 OPTIONS FOR THE RMRF

MODS identified the following scenarios to be evaluated when considering the best use of the RMRF site:

- Keep the existing site and upgrade to meet the new requirements; or
- Close and reclaim the existing site; and
- Design and open a new site at a new location to meet the new requirements.

Each of these scenarios are considered and discussed in separate sections below.

4.1 Upgrade the Existing Site

4.1.1 Areas of Primary Concern

The southwest corner of the RMRF, where scrap metals are stockpiled, is an area of primary concern for impacts to soil, surface water, and groundwater quality. Reuben Meisner's Brook is located 6 m away on the west side, and there is an unnamed water course located 9 m away from the metals stockpile on the east side. The unnamed water course flows into the Brook, which flows through the community of West Green Harbour. There are also possible wetlands or wetland-type vegetation adjacent to, and extending some distance beyond, those water courses that need to be identified and mapped.

A wide variety of materials were observed in the metals stockpile by Fracflow staff, including the following items: a number of 200 litre empty chemical drums, domestic heating oil tanks, lawn mowers, propane tanks, hot water heaters, dish washers, bicycle frames, metal siding, generators, small engine fuel tanks, tables, empty cement cans, empty paint cans, tires and minor electronics. Those metals (excluding fridges, freezers and A/C units) are stored in an area that is difficult to monitor because it is not within view of the Scale House. Visual inspections of metal materials arriving at the scale house cannot confirm that all fluids have been drained from any discarded tanks and drums. A release of petroleum hydrocarbons or chemicals would pose an immediate threat to surface water quality in Reuben Meisner's Brook and the unnamed water course. In Fracflow's opinion, the metals stockpile will have to be relocated away from those water courses to another area of the RMRF. ECC may consider wire lobster traps to be sufficiently inert to be safely stored in that area.

The Drop Points (DPs) are another area of primary concern for impacts to soil, surface water, and groundwater quality. Drywall in DP2 and shingles and roofing materials in DP3 pose a significant risk to water quality, which is suggested by the elevated conductivity of water in the nearby drainage ditch (SW-4). Plastics in DP1 and wood in DP4 and DP5 appear to be of lesser concern, but some of the separated solid waste was found to be spread beyond the Drop Points and was co-mingling, which should not happen. The SWMF guidelines clearly state that C&D debris such as drywall, cardboard and architectural salvage that could deteriorate due to precipitation and produce leachate, shall be managed to prevent deterioration.

In order to continue receiving drywall and roofing materials at the RMRF, that material will need to be covered to minimize contact with precipitation, reduce the risk of leachate generation, and meet the expected regulatory requirements of an Approval. Each Drop Point is 6.5 m wide by 12 m long. There are a number of commercial solutions available for modular, portable, fabric-covered buildings of that size. For example, TMG Industrial offers a 10 m × 12 m PVC fabric container, peak roof shelter with end wall and partial front. The shelter mounts on pony walls or steel shipping containers for maximum height. The PVC material is fire retardant, water resistant and UV protected. Other manufacturers offer Quonset-style buildings. MODS could also consider constructing a more robust steel building using steel I-beams for columns and rafters, secondary steel members for wall girts, roof purlins and framed openings, and metal panels for the roof and walls. Perhaps the most practical solution may be to erect a canopy over the Drop Points, and consider design features that would permit future use of roll-off containers.

4.1.2 Other Stockpiled Materials

With the exception of the Drop Points, all other stockpiles at the RMRF appear to represent a relatively minor risk to soil, surface water and groundwater quality and should not need to be covered. Those stockpiles can be brought into compliance by lowering the height of all stockpiles to 3 m or less, cutting trees to create a minimum 6 m buffer zone between those stockpiles and the treeline (if there are no wetlands or wetlands vegetation present), and increasing the separation distance between windrows of brush, leaf and yard waste.

A portion of the brush, leaf and yard waste remains stockpiled on top of the ash disposal cell. That material should be moved and windrowed with proper spacing. As recommended by Dillon (2023), large rocks or concrete median barriers need to demark the edge of the disposal cell, along the access road, to prevent site operations from expanding south onto the disposal cell. Signage should also be placed around the footprint of the ash disposal cell to denote its boundaries.

4.1.3 Opportunity for Expansion

MODS does have access to a large and vacant land area. The existing RMRF only occupies a small portion of the five municipal properties that host that facility. An expansion of the RMRF to include storage and transfer of treated wood is possible. According to ECC, treated wood will have to be placed in dedicated and covered containers. Any treated wood found to be mixed with normal wood waste may be tolerated, under an Approval, up to a possible maximum of 20 percent during any given inspection.

Tree clearing, grubbing and preparation of roads and gravel pads is considered expensive relative to the current funding available to MODS. It is Fracflow's understanding that ECC has previously suggested to MODS that municipal property with an open field could be used to store brush, which would free up space at the RMRF. MODS is concerned that materials other than brush may be dumped at a site that is not monitored and controlled. Clearing a small area on adjacent municipality property (away from any wetlands), and installing gated access and security cameras monitored at the scale house, may be a viable alternative.

4.2 Close and Reclaim the Existing Site

There is insufficient information available at this time to develop a scope of work and budget to evaluate the other scenarios identified by MODS, which would involve site closure and rehabilitation, and site selection and opening of a new site. If it becomes necessary to close and rehabilitate the RMRF, one cannot develop a reliable cost estimate for that work until an Environmental Site Assessment (ESA) has been completed to identify the nature and extent of any soil, sediment, surface water, and groundwater impacts. Knowing that a former incinerator operated at the RMRF would be a significant factor in planning, costing, and executing an ESA.

An ESA at the RMRF would be conducted in phases. A Phase 1 ESA pursuant to the *Contaminated Sites Regulations* and the Phase 1 Environmental Site Assessment Protocol, PRO-300 (ECC, 2013a), must evaluate the full property for all potential sources or substances that have, or may have caused, contamination of soil, groundwater, sediment, or surface water. Phase 1 is essentially a desktop study. A Phase 2 ESA would involve site-specific investigations to be conducted in accordance with the *Contaminated Site Regulations* and the Phase 2 Environmental Site Assessment Protocol, PRO-400 (ECC, 2013b). The objectives of a Phase 2 ESA are listed below.

- Confirm the presence of contamination as may be inferred or identified during the Phase 1 ESA, performed in accordance with protocol PRO-300.

- Conduct intrusive site investigations to delineate the extent of contamination vertically, horizontally, and laterally in soil, groundwater, surface water, and sediment to applicable Tier 1 Environmental Quality Standards (EQS) as determined using protocol PRO-100, Notification of Contamination Protocol (ECC, 2021a). Those investigations would likely involve excavation of test pits and soil sampling, as well as borehole drilling and soil sampling, monitoring well installations and groundwater sampling;

- Provide the required information to the Minister of ECC within the time frames specified in the *Contaminated Sites Regulations* for conducting a Phase 2 ESA;

- Acquire sufficient site information to develop a Remedial Action Plan (RAP), if necessary; and

- Report information in a Phase 2 ESA report, including a summary checklist submission, CHK-400: Phase 2 Environmental Site Assessment Checklist.

If contamination is identified, a Site Professional will need to determine the appropriate numerical remediation levels, or long-term exposure management measures, applicable to the contaminated site under the *Contaminated Sites Regulations* and protocol PRO-500 (ECC, 2021b). MODS will then need to proceed with site remediation or risk management as per protocol the Remedial Action Plan Protocol, PRO-600 (ECC, 2013c) and the Confirmation of Remediation Protocol, PRO-700 (ECC, 2013d).

In Fracflow's opinion, the most likely outcome would be a long-term commitment by MODS to risk manage the existing contamination at the site (i.e., area around the ash and metals disposal cell).

4.3 Design and Open a New Site

Selecting a suitable site for a new facility would also be a major undertaking, and it would require provincial regulatory approval under the *Nova Scotia Environment Act*. It is understood from ECC that an Environmental Assessment (EA) Registration document would not be required for construction of a C&D transfer facility, but the environmental effects of such an undertaking would still need to be predicted and evaluated. Potential adverse effects would need to be monitored, and mitigated if detected.

4.4 Preferred Approach

MODS has a strong desire to continue providing the public with a convenient and secure location for receiving, sorting and diverting municipal solid waste. There are concerns with the existing RMRF that need to be addressed, starting with a wetlands assessment, but it is Fracflow's current opinion that the existing site will be eligible to receive an operating Approval, provided that there is a stated commitment and proposed schedule to address site deficiencies and comply with the new regulatory requirements. The cost to upgrade remains uncertain, but it will likely take less time and money to make the necessary improvements to the existing site, versus closing and rehabilitating that site, and designing and opening a new facility at a different location.

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5.0 CONCLUSIONS AND RECOMMENDATIONS

The Municipality of the District of Shelburne (MODS) required a review of the design of its Regional Material Recovery Facility (RMRF) within view of the new Solid Waste Management Facility (SWMF) Guidelines for Construction and Demolition Debris Storage, Transfer, Process and Disposal (ECC, 2023). Fracflow Consultants Inc. (Fracflow) completed a limited assessment of that existing facility and has documented its findings in this report. The main conclusions and recommendations arising from that work are summarized below.

5.1 Conclusions

The design of the existing RMRF does not meet the requirements of the new SWMF guidelines for reasons described below.

- Watercourses and wetlands are recognized as critical features in the new SWMF guidelines and a 30 m separation distance from those features is required. The boundaries of the existing metals stockpile, at the southwest corner of the RMRF, are 6 m away from Reuben Meisner's Brook and 9 m away from an unnamed water course, and do not meet that requirement. The scrap metals stockpile is an area of primary concern for impacts to soil, surface water, and groundwater quality. In Fracflow's opinion, the metals stockpile will have to be relocated away from those water courses to another area of the RMRF.

- Wetlands and/or wetlands-type vegetation may also be present near and beyond the banks of those watercourses, and may be present in other areas on and around the RMRF. Wetland boundaries at the RMRF need to be confirmed and delineated before MODS can consider changing the site configuration and waste management practices to meet the regulatory requirements.

- Most stockpiles do not maintain the necessary clearances between stockpiles or from the treeline, and some are marginally above the 3 m maximum height. It is not possible to determine how best to sort, relocate and temporarily stockpile solid waste materials at the RMRF to meet new compliance requirements until a wetlands mapping program is completed.

- The Drop Points, located on the north side of the RMRF, are an another area of concern for impacts to soil, surface water, and groundwater quality. The SWMF guidelines clearly state that C&D debris such as drywall, cardboard and architectural salvage that could

deteriorate due to precipitation and produce leachate, shall be managed to prevent deterioration. In order to continue receiving drywall and roofing materials at the RMRF, that material will need to be covered to minimize contact with precipitation, reduce the risk of leachate generation, and meet the regulatory requirements for an Approval to be issued.

- The existing ash and metals disposal cell also represents an ongoing source of potential contamination to soil, surface water and groundwater quality and it should be monitored.

Surface water and groundwater quality monitoring will likely become a requirement of a new operating Approval for the existing RMRF. The only way to avoid a long-term commitment to water quality monitoring at the RMRF is to transition the site from its current operating model, involving placement and temporary storage of solid waste materials on the ground surface, to placement and temporary storage in roll-off containers only. If that transition can take place, it would likely take a few years due to cost and funding limitations. Until then, additional monitoring wells and sampling stations will probably need to be installed around the Drop Points, and the former surface water and monitoring well network will need to be reactivated.

Even if the transition to roll-off containers occurs, it is Fracflow's opinion that the ash and metals disposal cell will remain a long-term source of potential contamination to soil, surface water and groundwater quality and should continue to be monitored for the public good.

5.2 Recommendations

Following a site meeting with the District Engineer from the Nova Scotia Department of Environment and Climate Change (ECC), MODS should complete and submit its application for an operating Approval. ECC intends to review the application, when received, and issue an Approval with terms, conditions and time lines to achieve compliance based upon a proposed schedule from MODS for the following list of activities.

- Identification and delineation of existing wetlands.

- Cutting of trees to create the required separation distance between stockpiled materials and the treeline.

- Relocation of existing stockpiles to make best use of the existing site layout, while observing and respecting the required setbacks from critical features such as water courses and wetlands.

- Installation of monitoring wells in and around the scale house and Drop Points, and design of a water monitoring program that incorporates the existing well network. Then, plan and execute that water monitoring program. It should be noted that baseline water quality data are already available for the existing wells, and that may allow MODS to limit the scope of monitoring to semi-annual sampling events, rather than quarterly sampling events.

- Design and construction of a canopy over the Drop Points to limit direct contact with precipitation and help reduce the risk of leachate generation. Build flexibility into the design so that MODS can consider a transition to the use of roll-off containers over time (e.g., incorporate a concrete pad below each Drop Point for that purpose).

C&D Facility design must be prepared and signed by a professional engineer. There was no design report found in the MODS records archive, and no as-built drawings for existing infrastructure. Submission of the drawings from the tender specifications document, *in lieu* of a design report, is expected to be acceptable to ECC.

The application for an Approval to operate and expand the existing C&D Facility will need to be accompanied by a letter from the Shared Services Authority stating that the facility meets all applicable zoning, planning restrictions and municipal by-laws, and be accompanied by this report.

It is in the best interests of the public to resume monitoring the quality of surface water in Reuben Meisner's Brook. Quarterly monitoring was conducted historically, but now that the disposal cell is capped, semi-annual monitoring (one dry-season and one wet-season event) is likely to be adequate. If MODS agrees, Fracflow would need to review copies of all past monitoring reports, with copies of all tabulated monitoring data in Excel form, in order to examine past trends and identify chemical parameters for monitoring. Historical data in Excel form should be readily available to MODS by way of a request to Dillon Consulting, which is the firm that conducted the previous monitoring.

Given the significant capital investment for site upgrades, and the recurring costs for water quality monitoring, MODS should consider increasing the current schedule of tipping fees to help fund that work.

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6.0 REFERENCES

Dillon, 2004a. Joint Services Board, Regional Material Recovery Facility Specifications. Tender document prepared by Dillon Consulting Limited, November, 60 p.

Dillon, 2004b. Surface Water and Groundwater Monitoring, 2003/2004 Annual Report, West Green Harbour Incinerator Site, May, 91 p.

Dillon, 2009. Hydraulic Head Elevations and Groundwater Flow, West Green Harbour Incinerator. Map only (Figure 1) from a report prepared by Dillon Consulting Limited, January.

Dillon, 2023. West Green Harbour Landfill, Final Cover Investigation. Report prepared by Dillon Consulting Limited, February, 16 p.

ECC, 2013a. Phase 1 Environmental Site Assessment Protocol. Document PRO-300, adopted by the Minister of Environment Pursuant to the Contaminated Sites Regulations, 10 p.

ECC, 2013b. Phase 2 Environmental Site Assessment Protocol. Document PRO-400, adopted by the Minister of Environment Pursuant to the Contaminated Sites Regulations, 11 p.

ECC, 2013c. Remedial Action Plan Protocol. Document PRO-600, adopted by the Minister of Environment Pursuant to the Contaminated Sites Regulations, 11 p.

ECC, 2013d. Confirmation of Remediation Protocol. Document PRO-700, adopted by the Minister of Environment Pursuant to the Contaminated Sites Regulations, 14 p.

ECC, 2017. A Proponent's Guide to Environmental Assessment. Issued by the Policy Division, Environmental Assessment Branch, Nova Scotia Environment, 40 p.

ECC, 2021a. Notification of Contamination Protocol. Document PRO-100, adopted by the Minister of Environment Pursuant to the Contaminated Sites Regulations, 22 p.

ECC, 2021b. Remediation Levels Protocol. Document PRO-500, adopted by the Minister of Environment Pursuant to the Contaminated Sites Regulations, 18 p.

ECC, 2023. Solid Waste Management Facility Guidelines for Construction and Demolition Debris Storage, Transfer, Process and Disposal. Prepared by Nova Scotia Environment and Climate Change, July, 30 p.

Porter Dillon, 1997. The Municipality of the District of Shelburne, Incinerator Site Closure, West Green Harbour, Specifications and Contract Documents. Document prepared by Dillon Consulting Limited, March, 166 p.

APPENDIX 1

Figures

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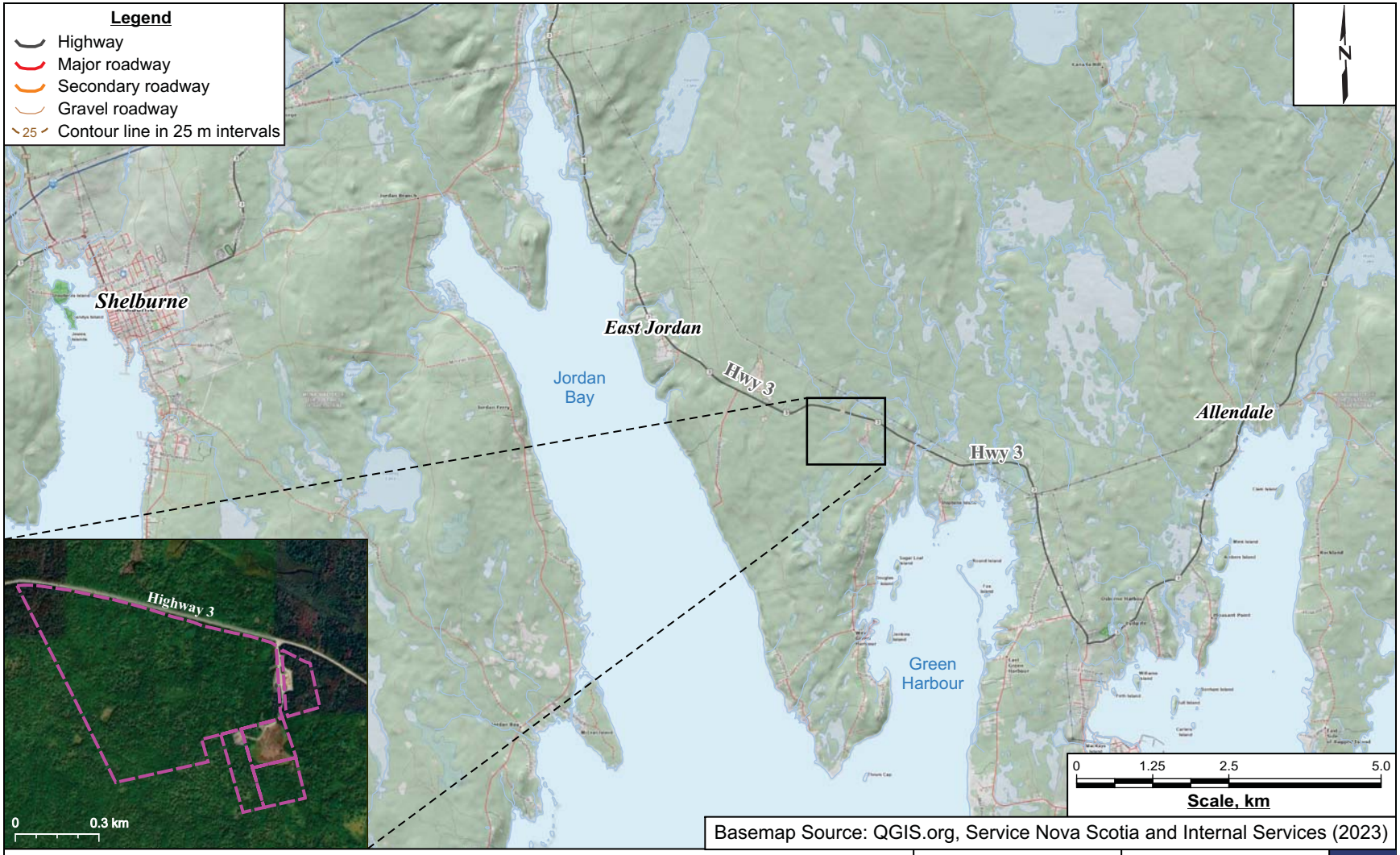

Figure 1 General location map.

Project No. 877	Scale As Shown
Location West Green Harbour	Date February 2024

FFC

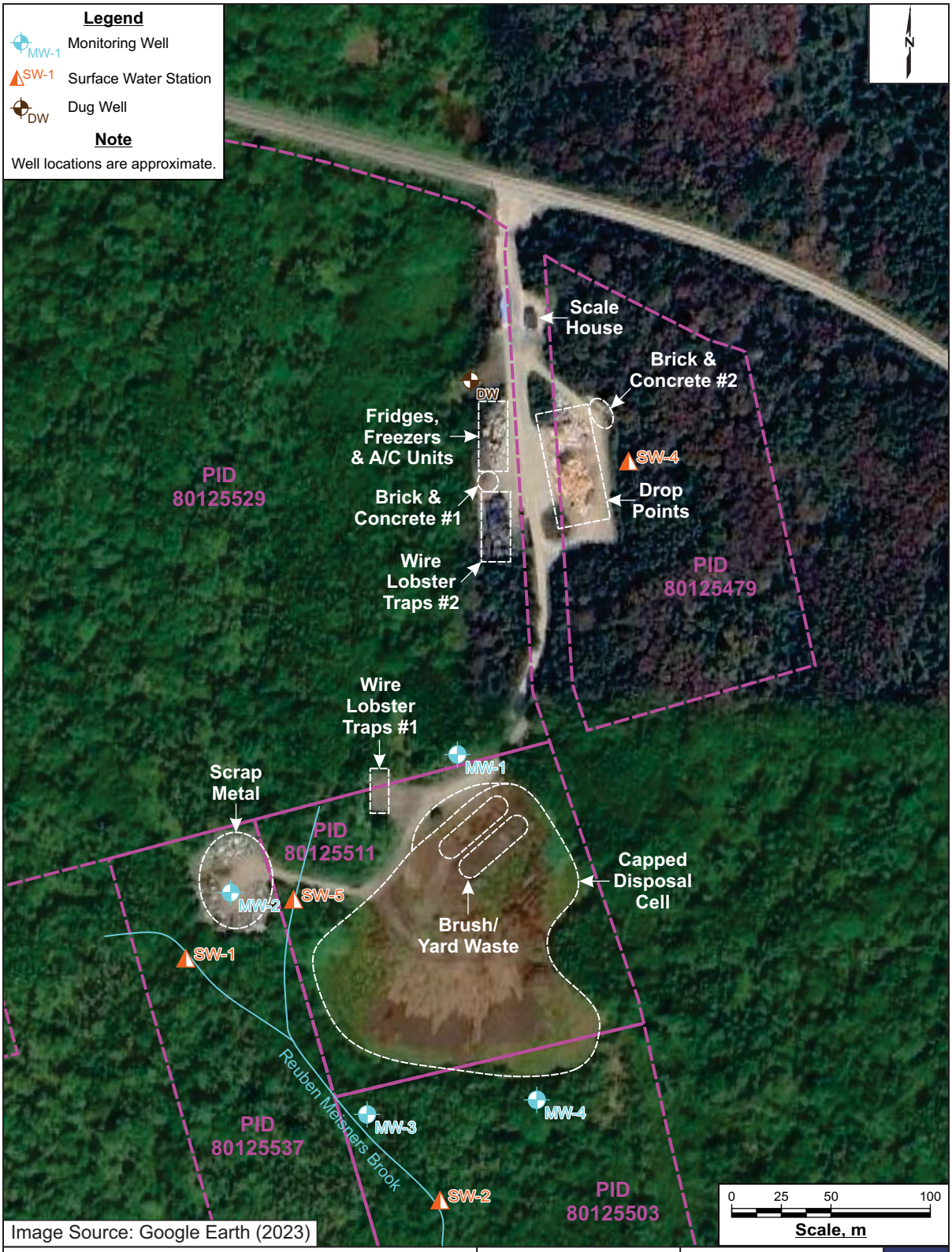

Figure 2 Site plan for the Regional Material Recovery Facility.

Project No.	Scale
877	As Shown
Location	**Date**
West Green Harbour	February 2024

FFC

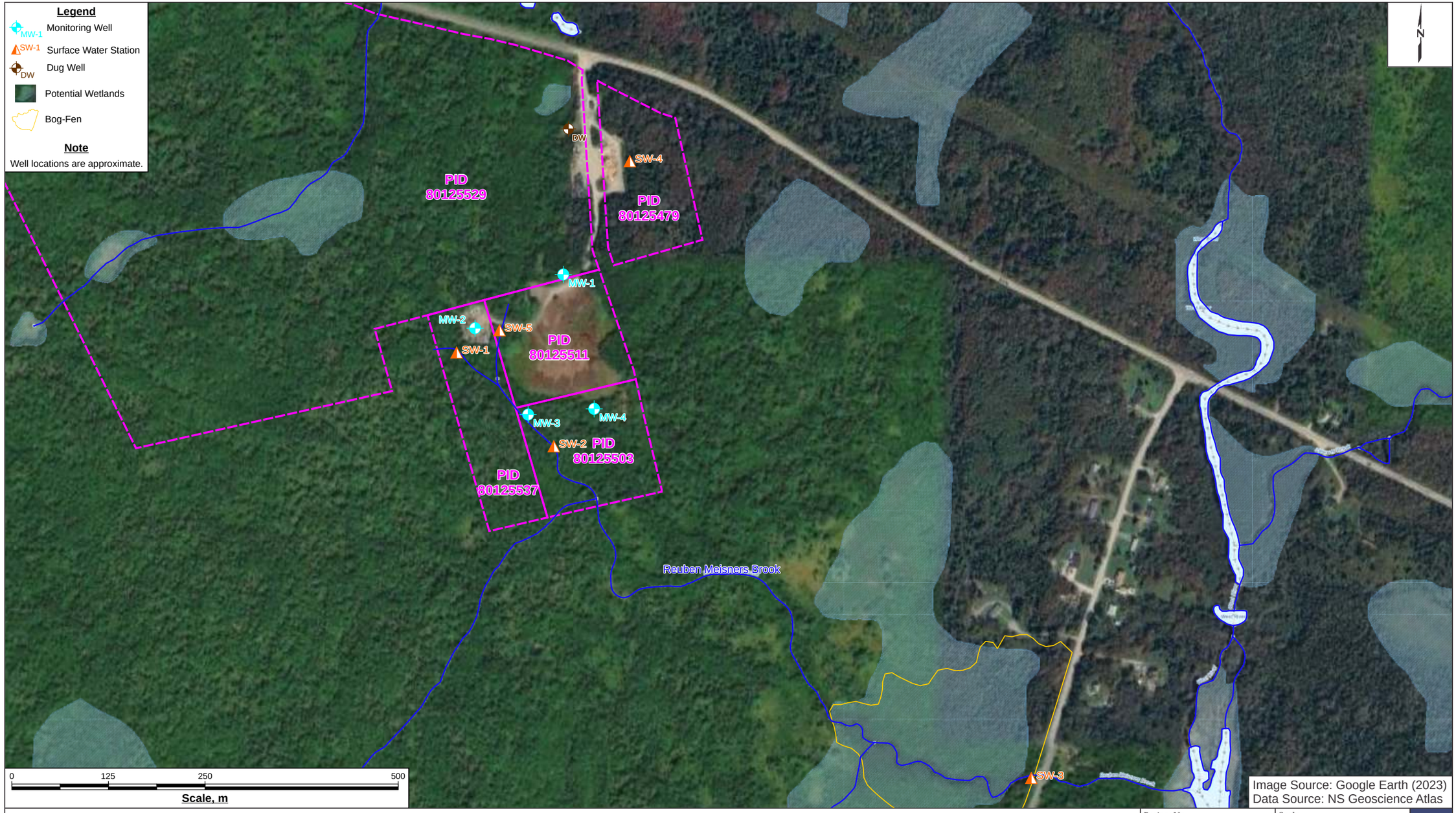

Figure 3 Mapped water courses and potential wetlands around the Regional Material Recovery Facility.

Project No.	Scale
877	As Shown
Location	Date
West Green Harbour	February 2024

FFC

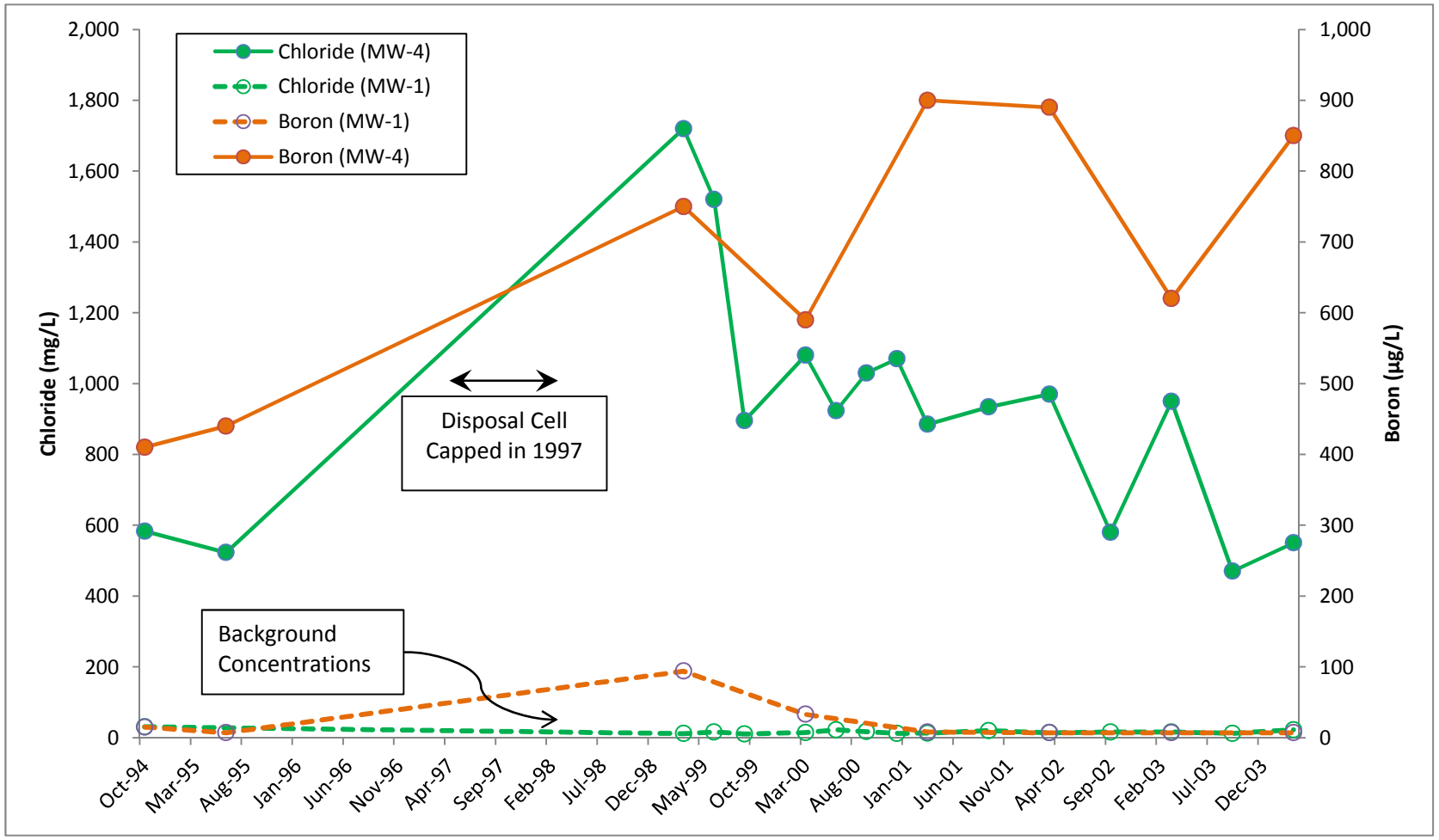

Figure 4 Concencentrations of chloride and boron in groundwater at background monitoring well MW-1, and downgradient monitoring well MW-4.

Project No.	Scale
877	As Shown
Location	**Date**
West Green Hbr.	February 2024

FFC

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APPROVAL

Province of Nova Scotia
Environment Act, S.N.S. 1994-95, c.1 s.1

APPROVAL HOLDER: MUNICIPALITY OF THE DISTRICT OF SHELBURNE - JOINT

SITE PID: 80125495, 80125529, 80125537, 80151582

APPROVAL NO: 2024-3511055-00

EXPIRY DATE: April 9, 2034

Pursuant to Part V of the Environment Act, S.N.S. 1994-95, c.1 s.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:

Municipal - Solid Waste - Construction and Demolition Debris Facility

Administrator: Paul Jones

Effective Date: April 9, 2024

The Minister's powers and responsibilities under the Act with respect to this Approval have been delegated to the Administrator named above. Therefore, any information or notifications required to be provided to the Minister under this Approval can be provided to the Administrator unless otherwise advised in writing.

TERMS AND CONDITIONS OF APPROVAL

Nova Scotia Department of Environment and Climate Change

Approval Holder: MUNICIPALITY OF THE DISTRICT OF SHELBURNE - JOINT

Project: Regional Materials Recovery facility

Site:

PID	Civic #	Street Name	Street Type	Community	County
80125495				WEST GREEN HARBOUR	SHELBURNE COUNTY
80125529	4571	HIGHWAY 3	HWY.	WEST GREEN HARBOUR	SHELBURNE COUNTY
80125537				WEST GREEN HARBOUR	SHELBURNE COUNTY
80151582				WEST GREEN HARBOUR	SHELBURNE COUNTY

Approval No: 2024-3511055-00

File No: 94400-30-YAR-2024-3511055

Reference Documents

- Application submitted February 15, 2024 and attachments.
- Contingency Plan Regional Material Recovery Facility , 4571 West Green Harbour 2024- prepared by the Municipality of Shelburne
- Final Report Regional Material Recovery Facility Assessment and Recommendation for Compliance with New Regulations sealed by Glen Bursey P.Geo

1. Definitions

a. Act means Environment Act. 1994-95, c.1, s.1, and includes, unless the context otherwise requires, the regulations made pursuant to the Act, as amended from time to time.

b. C&D Guidelines means Solid Waste Management Facility Guidelines for Construction and Demolition Debris Storage, Transfer, Process and Disposal, as amended from time to time.

c. Department means the Nova Scotia Department of Environment and Climate Change, and the contact for the Department for this approval is:

Nova Scotia Department of Environment and Climate Change
Western Region, Yarmouth Office
55 Starrs Rd. Unit 9
Yarmouth, Nova Scotia B5A 2T2

Phone: (902) 742-8985
Fax: (902) 742-7796

d. Disturbed Area means an area in an unnatural state, affected by human activity associated with the Construction and Demolition Debris Facility.

e. Grab sample means an individual sample collected in less than thirty (30) minutes and which is representative of the substance sampled.

f. Minister means the Minister of Environment and Climate Change and includes any person delegated the authority of the Minister.

g. Qualified Person as it relates to noise, means one who has certified post-secondary education and/or professional training in acoustics, and a minimum of 5 years of experience in the field of environmental noise, or as otherwise authorized by the Department.

h. Qualified Person as it relates to air quality, means one who has certified post-secondary education and/or professional training related to ambient (outdoor) air quality, and a minimum of 5 years of experience in the field of ambient (outdoor) air quality, or as otherwise authorized by the Department.

i. Site means a place where a designated activity and/or undertaking is occurring or may occur.

j. Surface Watercourse means a watercourse as defined in the Environment Act, excluding groundwater.

2. Scope

a. This Approval (the "Approval") relates to the Approval Holder(s) and their application and all documentation submitted to the Department prior to the issuance of this approval for the Construction and Demolition Debris Facility situated at or near Regional Materials Recovery facility.

b. The Approval Holder(s) shall ensure the designated activity is carried out in accordance with this Approval and reference documents, including the application and supporting documentation.

3. General

a. Unless otherwise specified in this approval, the Approval Holder(s) shall conduct the Designated Activity in accordance with the following provisions:

i. The Act, as amended from time to time;

ii. Any standard adopted by the Department, as amended from time to time, which includes but is not limited to the following:

(a) Solid Waste Management Facility Guidelines for Construction and Demolition Debris Storage, Transfer, Process and Disposal, as amended from time to time.

(b) Guidelines for Environmental Noise Measurement and Assessment, 2023, as amended from time to time

(c) Nova Scotia Environment Contingency Planning Guidelines, October 7, 2019, as amended from time to time.

b. Nothing in this Approval relieves the Approval Holder(s) of the responsibility for obtaining and paying for all licenses, permits, approvals or authorizations necessary for carrying out the work authorized to be performed by this Approval which may be required by municipal by-laws, provincial or federal legislation, or other organizations. The Minister does not warrant that such licenses, permits, approvals or other authorizations will be issued.

c. No authority is granted by this Approval to enable the Approval Holder(s) to commence or continue the designated activity on lands which are not in the control or ownership of the Approval Holder(s). It is the responsibility of the Approval Holder(s) to ensure that such a contravention does not occur. The Approval Holder(s) shall provide, to the Department, proof of such control or ownership upon expiry of any relevant lease or agreement. Failure to retain said authorization may result in this Approval being cancelled or suspended.

d. If there is a discrepancy between the reference documents and the terms and conditions of this Approval, the terms and conditions of this Approval shall apply.

e. Any request for renewal or amendment of this Approval is to be made in writing, to the Department, at least ninety (90) days prior to the Approval expiry.

f. If the Minister cancels or suspends this Approval, the Approval Holder(s) remains subject to the penalty provisions of the Act.

g. The Approval Holder(s) shall advise the Department in writing prior to any proposed extensions or modifications to the Activity and/or the Site. An amendment to this Approval may be required before implementing any extension or modification.

h. The Approval Holder(s) shall bear all expenses incurred in carrying out the environmental monitoring required under the terms and conditions of this Approval.

i. Unless specified otherwise in this Approval, all samples required to be collected by this Approval shall be collected, preserved and analysed, by qualified personnel, in accordance with recognized industry standards and procedures that are all deemed acceptable to the Department.

j. Unless written authorization is received otherwise from the Minister, all samples required by this Approval shall be analyzed by a laboratory that meets the requirements of the Department's "Policy on Acceptable Certification of Laboratories" as amended from time to time.

k. The Approval Holder(s) shall ensure that this Approval, or a copy, is present on Site while personnel are on Site.

l. The Approval Holder(s) shall ensure that personnel directly involved in the designated activity are made fully aware of the terms and conditions of this Approval.

m. Upon any changes to the Registry of Joint Stock Companies information, the Approval Holder(s) shall provide a copy to the Department within five (5) business days.

4. Air Quality

a. At the request of the Department, the Approval Holder(s) shall retain a qualified person to develop a plan for conducting an air assessment in accordance with the Department's "Air Assessment Guidance Document, 2023", as amended from time to time. The assessment can include, but is not limited to, ambient monitoring, dispersion modelling and source testing. The plan shall be submitted to the Department and implemented upon request.

b. The Approval Holder(s) shall provide any additional information and/or make any amendment to the plan for conducting an air assessment that is required by the Department.

5. Noise

a. The Approval Holder(s) shall ensure that noise generated from the designated activity complies with the criteria identified in the Department's "Guidelines for Environmental Noise Measurement and Assessment, 2023", as amended from time to time.

b. At the request of the Department, the Approval Holder(s) shall retain a qualified person to develop a plan to monitor noise in accordance with the Department's "Guidelines for Environmental Noise Measurement and Assessment, 2023",as amended from time to time. The plan shall be submitted to the Department and implemented upon request.

c. The Approval Holder(s) shall provide any additional information and/or make any amendment to the plan to monitor noise that is required by the Department.

6. Surface Water

a. The Approval Holder(s) shall ensure the Site is developed and maintained to prevent contaminants from being discharged into a water resource or beyond the property boundary.

b. The Approval Holder(s) shall ensure that the following water quality limits are met in the water resource downstream of the site or active area:

   i. Total Suspended Solids, Clear Flows (Normal Background Conditions):

      (a) Maximum increase of 25 mg/l from background levels for any short term exposure (24 hour or less);

      (b) Maximum average increase of 5 mg/l from background levels for longer term exposure (inputs lasting between 24 hours and 30 days);

   ii. Total Suspended Solids, High Flow (Spring Freshets and Storm Events):

      (a) Maximum increase of 25 mg/l from background levels at any time when background levels are between 25 mg/l and 250 mg/l;

      (b) Maximum increase of 10% over background levels when background is >250 mg/l;

c. Additional surface water monitoring may be required at the request of the Department.

d. The Approval Holder(s) shall develop and implement an Erosion and Sediment Control Plan.

e. No authority is granted by this Approval to enable the Approval Holder(s) to discharge surface water onto adjoining lands without the authorization of the affected landowner(s).

f. The Approval Holder(s) shall install and maintain erosion and sediment controls in line with industry best practices (e.g., Nova Scotia Environment Erosion and Sediment Control Handbook for Construction Sites) with the following considerations:

   i. The controls shall be installed prior to the commencement of the construction activities;

   ii. The controls shall remain in place until areas disturbed by construction activities are stabilized so that the risk of release of sediment to a water resource has been mitigated;

   iii. Control features shall be installed as per applicable product specifications or manufacturer's directions; and

   iv. Control materials shall be clean, non-erodible, non-ore-bearing, non-watercourse derived and non-toxic.

g. The Approval Holder(s) shall ensure that surface water runoff that may be impacted by petroleum hydrocarbons from the Site is collected and directed for necessary treatment prior to discharge from Site.

h. Work at the site shall only take place when erosion and sediment controls are functional. Contingency erosion and sediment control materials shall be kept on Site in case of failure.

i. The Approval Holder(s) shall ensure that the following activities take place at a distance of a minimum of thirty (30) metres from a surface watercourse or wetland in an area such that a release will not enter a surface watercourse or wetland:

i. Fuel storage, refueling, and/or lubrication of equipment

ii. Washing of machinery or equipment

iii. Storage of equipment, excavated/stockpiled materials, and potential contaminants

7. Surface Water Monitoring

a. At the request of the Department the Approval Holder(s) shall establish a surface water monitoring program to the satisfaction of the Department.

b. At the request of the Department the Approval Holder(s) shall monitor surface water to the satisfaction of the Department.

c. Revisions to the surface water and leachate monitoring program shall receive prior written approval of the Department prior to being implemented.

8. Groundwater Monitoring

a. At the request of the Department the Approval Holder(s) shall establish a groundwater monitoring program to the satisfaction of the Department.

b. At the request of the Department the Approval Holder(s) shall monitor groundwater to the satisfaction of the Department.

c. Revisions to the groundwater monitoring program shall receive prior written approval of the Department prior to being implemented.

9. Releases

a. Releases shall be reported in accordance with the Act.

b. Spills or releases shall be cleaned up in accordance with the Act.

10. Operation

a. The Approval Holder(s) shall establish procedures for receiving and responding to complaints including a reporting system that records and documents what steps were taken to determine the cause of complaint and the corrective measures taken to alleviate the cause and prevent its recurrence.

b. The waste materials approved for transfer to a Construction and Demolition Debris Disposal Site are limited to the following:

i. laminated wood;

ii. plywood;

iii. built-up glued wood sections;

iv. particle/chip board;

v. painted wood;

vi. sawdust/wood chips;

vii. gypsum board;

viii. structural materials;

ix. plastic/vinyl building materials;

x. insulation - fibreglass, Styrofoam;

xi. shingles - asphalt;

xii. built-up roofing;

xiii. carpeting;

xiv. vinyl flooring and linoleum;

xv. ceiling tiles;

xvi. wiring;

xvii. nails;

xviii. metal joiners, frames, and structural components;

xix. lighting fixtures (no PCB ballasts);

xx. piping; and

xxi. inert debris.

c. The waste materials approved for transfer to an MSW Transfer Station or Landfill are limited to the following:

i. Treated wood and
ii. any other material approved by the Department .

d. No other waste is to be accepted at the site unless otherwise authorized in writing by the Department.

e. The burning of material on the site is prohibited.

f. All materials stored on the site shall be stored to minimize the potential for leachate generation.

g. The Approval Holder(s) shall ensure that a maintenance program is in place to ensure that the site condition remains as designed. The maintenance program shall include regular site inspections, a regular wash down of all equipment and surfaces to control odours, and maintenance of signs and fencing.

11. Reporting

a. The Approval Holder(s) shall prepare the Annual Report by April 15 for the previous calendar year for groundwater, surface water and leachate in accordance with the requirements contained within the C&D Guideline. The annual report shall, at a minimum, be:

   i. Signed by an officer of the company or someone with the legal signing authority for the Approval Holder

   ii. Completed in C&D Annual Reporting Template, as available

   iii. Submitted with digital format spreadsheet files (e.g., Microsoft Excel files).

b. Where the Annual Report for groundwater, surface water and leachate as prepared includes the identification of any adverse impacts to groundwater or surface water as a result of site activities and associated recommendations, the Approval Holder(s) shall:

   i. Immediately notify the Department of the identification of adverse impacts and associated recommendations.

c. Where the Annual Report for groundwater, surface water and leachate as prepared includes recommendations for modifications, the Approval Holder(s) shall:

   i. Immediately notify the Department of the recommendations for modifications.

d. Where the Approval Holder(s) becomes aware of any new and relevant information respecting non-compliance with the terms and conditions of this approval or an adverse effect that results or may potentially result from the activity is required to:

   i. Immediately notify the department of the non-compliance or adverse effect.

e. The Approval Holder(s) shall ensure that all employees are trained in accordance with the Operation and Maintenance Manual. Training records shall be kept at the Facility for a period of 5 years and made available to the Department, if requested.

12. Records

a. Records specified in the C&D Guidelines are required to be maintained for a period of five (5) years and made available to the Department upon request.

b. If required by the Department the Approval Holder(s) are required to use a reporting template approved by the Department.

13. Rehabilitation and Closure

a. The Approval Holder(s) shall have completed rehabilitation of the designated activity within twelve (12) months of abandonment and in accordance with the final rehabilitation plan unless an alternate time frame has been provided or accepted by the Department.

b. In addition to the requirements specified in the C&D Guidelines, the rehabilitation plan shall include but not be limited to the following:

i. removal of material stored on the site

ii. the removal and disposal of remaining soil or waste material stored on Site

14. Site Specific Conditions

a. The Approval Holder(s) shall provide an application for amendment on or before April 30. 2025 to the Department which shall include:

i. confirmation that the hydrogeological assessment report meets the minimum requirements of the C&D Guidelines as those for the establishment or expansion of a C&D facility

(a) the hydrogeological assessment report is to be provided with the application

ii. confirmation that the surface water assessment report meets the minimum requirements of the C&D Guidelines as those for the establishment or expansion of a C&D facility

(a) the surface water assessment report is to be provided with the application

iii. a new or updated groundwater monitoring plan that meets the minimum requirements of the C&D Guidelines as those for the establishment or expansion of a C&D facility, and measures potential vertical and horizontal impacts

iv. a new or updated surface water and leachate monitoring plan that meets the minimum requirements of the C&D Guidelines as those for the establishment or expansion of a C&D facility

v. confirmation that a procedure for receiving and responding to complaints including a reporting system has been established

vi. any other proposed extension or modifications necessary to comply with the C&D Guidelines

b. The Approval Holder(s) is permitted to store and transfer end of life fishing gear provided the following conditions are met:

i. stockpiles of end of life fishing gear adhere to the pallet stockpile size limits stipulated in the C&D Guidelines ;

ii. the end of life fishing gear material is part of a funded diversion program or is actively being salvaged; and

iii. the facility maintains records of all end of life fishing gear stored and transferred in accordance with the C&D Guidelines.

c. Existing stockpiles of material must meet the requirements of the C&D Guidelines by April 30, 2025.