

Additional Information Requirements for Wastewater Treatment Projects

Pursuant to Section 5(2) of the *Environmental Impact Assessment Regulation* of the Clean Environment Act, this document is intended to assist proponents in preparing a registration submission for projects involving the above-mentioned sector. It should be read in conjunction with the General Information Requirements as outlined in the latest version of the Registration Guide. Note that the following items are requirements **in addition to** those outlined in the Registration Guide. The information requested in the Registration Guide must also be provided. For further assistance, please contact the Project Assessment and Approvals Branch, Department of Environment at (506)-444-5382.

After reviewing a registration submission, the Technical Review Committee may require other information beyond the items listed below and in the Registration Guide.

Definition

This guideline is applicable to all municipal and industrial wastewater disposal or treatment facilities, other than domestic, on-site sewage disposal systems.

A complete list of potential triggers for project registration is provided in Schedule "A" of the Regulation. To determine if registration is required for a specific project, please contact the Project Assessment and Approvals Branch at the number listed above.

1.0 THE PROPONENT

See Registration Guide

2.0 THE UNDERTAKING

(iii) Purpose/Rationale/Need for the Undertaking:

- How are the current wastewater treatment demands being met?

(v) Siting Considerations:

- Discuss the location with respect to existing sensitive land uses (e.g. residential properties, schools, recreational facilities, tourist areas, etc.)
- If the facility is intended for municipal use, does the community have communal potable water supply and where is it compared to the proposed waste water treatment plant (WWTP) location?

- Have the locations of existing or proposed *Wellfield Protected Areas* and *Watershed Protected Areas* been taken into consideration in the siting of the facility?
- Note that the proponents of new wastewater treatment facilities for municipal use should examine and fully exhaust potential locations within the municipal boundaries prior to looking outside the municipal limits.
- The current New Brunswick siting standards for wastewater treatment facilities state that these facilities cannot be located within a 1:20 year floodplain. If applicable, delineate the floodplain on the proposed site. Should a floodplain exist, its extent must be determined and clearly delineated using mapping using a scale of 1:10,000. Should floodplains exist within the proposed facility footprint or on the property of the proposed facility, the proponent is required to provide rationale for the facility location and to describe what mitigation the proponent is intending to implement. Specific attention in the registration document must be given to the location and design of the facility with respect to known flood levels, ice movement, freshet discharges and hydraulic upheavals.

(vi) Physical Components and Dimensions of the Project:

Provide a detailed description of the proposed project, addressing the requirements contained in the Registration Guide. For this class of project the required information includes but is not limited to the following:

- The proponent is required to identify in general terms all infrastructures related to the collection and release of wastewater. Detailed engineering drawings are not required however the proponent should identify the following information on an appropriate scale map: location of all collection piping; number and location of all lift stations; location of outfall piping; proposed lagoon design features if applicable (type of liner, size, retention time, etc.).
- A design brief should be provided for the proposed facility, describing the type of treatment system that is planned (facultative lagoon, surface aeration lagoon, subsurface aeration lagoon, constructed wetland, rotating biological contactor, other mechanical system, etc.) and describing various design features (size, design capacity, detention time, effluent treatment criteria, etc.).
- If subsurface disposal of waste water is being proposed, please provide: a) a survey plan of the property to identify exact lot dimensions for an on-site waste disposal assessment, b) a contour plan should also be submitted if slopes on the lot are greater than 5%, and c) a description of the permeability (hydraulic conductivity) of the disposal area. (For soils with low permeability, indicate the source and estimated volume of imported material that will be required.)

(vii) Construction Details:

Provide a detailed description of the proposed construction activities and methods, addressing the requirements contained in the Registration Guide. For this class of project the required information includes but is not limited to the following:

- If a subsurface wastewater disposal system is proposed, confirm that the area for the disposal field will be marked off or flagged off to prevent soil compaction by heavy equipment.

(viii) Operation and Maintenance Details:

Provide a detailed description of the proposed project's operation and maintenance characteristics, addressing the requirements contained in the Registration Guide. For this class of project the required information includes but is not limited to the following:

- Describe the point of discharge into the receiving environment. This description should also identify the diffusion/dispersion method for the discharge.
- For river or marine discharge locations, provide information regarding the flow volume and an anticipated dilution factor to be achieved from the facility. Include a description of the mixing zone. Will the receiving stream always have at least eight times more volume of water than effluent?
- Will disinfection be used prior to effluent discharge? If so, please identify the technology and operating procedures. The proponent should note that if chlorination of the treated effluent is the preferred option, it must be accompanied with a de-chlorination process.
- To what level of its nominal capacity will the facility be functioning at the beginning of its operation?
- For municipal systems provide a prediction of probable loading growth and future extension of municipal services. How many years of additional capacity does the design provide? The submission must also include a detailed listing of the number of residential, institutional, commercial and industrial users to be serviced with the system.
- If the system is an expansion of an existing municipal wastewater treatment lagoon with a combined (storm and sanitary) sewer system, how does the system operate during storm events? Please note that NBDELG does not approve any new combined sewer systems.
- Will the system discharge to the receiving environment be batch or continuous? If the discharge will be on a batch basis, when or how often are discharges likely to occur?
- For municipal systems, will any special industries or significant users be using the treatment facilities? Assess the possibility of either hazardous chemicals in the system or significant changes in the system loading as a result of such users.

- Will the facility be designed to allow it to receive hauled septage from septic service companies or other industrial facilities?
- Are pump or lift stations required? If so, please locate them on a map. Will they have emergency power? If the pumping station does not have back-up power, what mitigation measures are proposed to minimize environmental impacts from by-pass events?
- Describe the projected characteristics of the treated effluent (e.g., BOD, TSS, TKN, TP, etc.) and provide information on projected effluent flow volumes.
- Please note that NBDELG's effluent quality objectives for municipal wastewater systems are 20 mg/l for BOD and 20 mg/l for TSS. If the proposed municipal project does not meet these objectives, a thorough justification must be provided.
- Characteristics of the raw influent wastewater loadings to the wastewater treatment facility (chemical and physical) should be provided so that the adequacy of the design can be verified by reviewers.
- Operation and Maintenance (O&M) targets or criteria should be established for the proposed facility. This information is usually known relatively early in the planning process as the facility owner may have physical or budgetary considerations which limit options for long term O&M. This information can be used in the EIA registration document, in conjunction with other material, to inform TRC members of the rationale used by the proponent for decision-making.
- Will there be disposal of sludge in the future? How much will be produced and how and where will it be treated or disposed of?
- Who will be responsible for the maintenance of the system? Note that for residential subdivisions with communal water and wastewater systems outside incorporated areas, the department will require that a public entity (municipality, commission) own and maintain the infrastructure associated with the development.

3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

Include all relevant environmental features as noted in the Registration Guide. Examples of issues that may be of particular relevance to this class of project include but are not limited to the following:

- Current uses of the receiving stream downstream of the outfall; (e. g. swimming, drinking water, shellfish harvesting)
- The presence of other effluent discharges upstream or downstream of the proposed discharge location.

- For systems discharging to surface water, the fish habitat in the zone of influence of the proposed discharge.
- If subsurface disposal of waste water is being proposed, the distances to wells and septic fields on neighbouring properties.

4.0 SUMMARY OF ENVIRONMENTAL IMPACTS

All anticipated impacts should be described and discussed. These will depend on the scope and complexity of the project as well as the project location. See the Registration Guide for further information. Examples of impacts resulting from this class of project may include but are not limited to the following:

- Odour impact - Provide an odour impact analysis for any existing sensitive land uses within 500m of the boundary of the subject property.

5.0 SUMMARY OF PROPOSED MITIGATION

Describe all mitigative measures that will be employed to minimize the potential environmental impacts identified above. These may include but are not limited to the following:

- Describe any proposed pollution control equipment and discharge monitoring programs.
- What contingency plans are in place for power failures and other malfunctions?
- What monitoring of nearby wells, receiving stream and/or of effluent is proposed?
- If surface aeration is the preferred option, how will potential concerns about aerosols impacting health of neighbours be addressed?
- In the case of municipal systems, will the consulting engineer be providing the municipality with sample bylaws concerning wastewater collection, such as allowable volumes or contaminants by users into the collection system?

Other mitigative measures will vary depending on the size, scope and complexity of the project and depending on its location with respect to environmental features. See the Registration Guide for additional guidance.

6.0 PUBLIC INVOLVMENT

See Registration Guide.

7.0 APPROVAL OF THE UNDERTAKING



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See Registration Guide.

8.0 FUNDING

See Registration Guide.

9.0 SIGNATURE

See Registration Guide.

10.0 SUBMISSION INSTRUCTIONS

See Registration Guide.