

Terms of Reference for Engineering Services to Evaluate a Proposed Waste Disposal Ground



Waste disposal grounds must be designed for groundwater and surface water protection minimizing impact from site construction and operation and facilitating site closure and post-closure care. Proponents should assess several sites, have a good public involvement plan and hire an Engineering Consultant to:

- undertake a hydrogeotechnical and engineering evaluation of any proposed waste disposal ground;
- determine the suitability of establishing and operating a solid waste disposal ground in accordance with requirements of The Municipal Refuse Management Regulations; and
- provide sufficient information to complete an Application for a Permit to Establish a Waste Disposal Ground.

**For more information contact
Saskatchewan
Environment at
(306) 787-6169.**

There are a number of factors to consider when selecting a solid waste disposal site. The following outline can be used as a guide for developing terms of reference for evaluating a proposed site.

Scope of Work

- Characterize the stratigraphy and groundwater regime (including, but not limited to, groundwater gradient and direction) at the proposed waste disposal ground and, if necessary, establish the baseline groundwater chemistry in the vicinity. Unless the hydrogeological conditions have or can be easily established from available information, drilling of test holes at the site will be required. Sufficient test holes are necessary to establish soil and groundwater conditions. At least two of the test holes should be drilled to a depth of ten metres and other test holes, if necessary, should be drilled to a depth of at least four metres below the base of the proposed site.
- Determine the location, depth and water quality of water wells within two kilometres of the proposed site. Water quality from wells greater than thirty metres deep will generally not be required.
- Topographical information needed to delineate on-site and off-site drainage patterns.
- Identify surface drainage features within one kilometre of proposed site including lakes, rivers, creeks, drainage or irrigation channels, drainage courses, reservoirs, dugouts and major slough areas.
- Determine the location and use of any permanent buildings within one kilometre of the site.
- Establish the location and identify any highways, railways and municipal roads within 500 metres of the site.
- Establish the location of any utilities or pipelines through, or adjacent to, the proposed site.
- Determine the existing and proposed land uses within one kilometre of the site.
- Provide a general site plan of the waste disposal ground including roadways, drainage, location and type of refuse disposal cells or pits proposed and areas

proposed for storage or disposal of specialty materials (e.g., rubble area, large metal objects area, pesticide container area, hazardous waste disposal area, etc.).

- Identify needed perimeter and litter control fencing and site-line management techniques.
- Estimate cost for establishing and operating the site, including an evaluation of waste management demand growth for a 25-year projected time frame and consideration of conceptual waste management costs through a new or nearby existing regional waste management authority.
- Establish monitoring program, if needed, of potential impact to adjacent ground and/or surface water quality.
- Recommend minimum daily waste disposal ground operation requirements, including equipment needs.
- Determine site closure and post-closure requirements for proposed waste disposal ground, including long-term groundwater monitoring.
- Determine measures and cost estimates for closure of existing waste disposal ground, including long-term groundwater monitoring requirements.

Duties of the Consultant

The consultant should:

- meet with owner at least once prior to completion of the report to review progress and once following completion to review the report contents; and
- perform the work outlined in the scope of work and provide four copies of the report.

Duties of the Owner

The owner should:

- make arrangements for right-of-entry onto privately owned lands;
- provide any readily available non-confidential information requested by the consultant;
- determine conformance with any zoning bylaws for a proposed site; and
- be available to meet with the consultant without delay.



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