

SUMMARY OF COMMENTS/RECOMMENDATIONS

PROPONENT: Town of Rapid City
PROPOSAL NAME: Town of Rapid City Removal of Biosolids
from Wastewater Treatment Lagoon
CLASS OF DEVELOPMENT: 2
TYPE OF DEVELOPMENT: Waste/Scrap
CLIENT FILE NO.: 4475.00

OVERVIEW:

On August 27, 1999, the Department received a Proposal from the Town of Rapid City for the removal of biosolids from its wastewater treatment lagoon located on the northeast quarter of Section 19-13-19 WPM in the Municipality of Saskatchewan. The biosolids will be removed from the lagoon, transported in enclosed tanks to farm land and injected into the soil. The 53 hectares of land on which the biosolids will be applied by injection are located within 75 hectares of Section 20 in Township 13 and Range 19 WPM owned by M. and J. Bos and 57 hectares of Section 20 in Township 13 and Range 19 WPM owned by W. Denton.

The Department, on September 20, 1999, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Centennial Public Library, and the Town of Rapid City Office. As well, copies of the Proposal were provided to the Interdepartmental Planning Board and TAC members. The Department placed a public notification of the Proposal in the Minnedosa Tribune on Monday, September 27, 1999. The newspaper and TAC notification invited responses until October 13, 1999.

COMMENTS FROM THE PUBLIC:

No comments were received from the Public.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Highways

- *No concerns.*

Natural Resources

- *The area on which the sludge is to be spread is the only sensitive groundwater pollution area for some distance around. There is no explanation in the proposal as to why this site was selected over less susceptible sites in the area. It would seem prudent to investigate some of the nearby less sensitive farmland before proceeding on the proposed site.*
- *Consideration should be given to a minimum set-back distance from the river and reservoir for farmlands on which the sludge will be applied.*

Disposition:

- A nearby less sensitive parcel of land was chosen to replace the proposed lands for the application of biosolids. A revised proposal was submitted.

Historic Resources

- *No concerns.*

Rural Development

- *No concerns.*

Health

- *How far is the nearest well from the proposed irrigation fields? Is there any risk of contamination in the event of flooding or surface runoff?*
- *The proposal indicates that the proposed irrigation fields are located in a groundwater pollution hazard area. Ensure that groundwater is not at risk by monitoring of coliforms and heavy metals.*
- *How far is the nearest residence from the proposed irrigation fields?*
- *Ensure (1) prevention of pollutants or contaminated wastewaters from entering sewage disposal and municipal ditch systems; (2) odor control and monitoring; and (3) gasoline and diesel regulations if applicable.*
- *The license should specify that irrigation cannot occur onto vegetable or fruit crops.*

Disposition:

- There are no groundwater wells within 100 metres of the proposed receiving land (p. 6 of proposal). Subsurface injection of biosolids minimizes potential for surface runoff of the biosolids.
- Heavy metal concentrations in the applied biosolids and the soil will be addressed in the monitoring program of the Licence.
- From the Letters of Agreement between the Town of Rapid City and the owners of the receiving land, it is agreed that:
 - a) sludge application will not be closer than 300 metres to a dwelling not belonging to the owner of the land on which sludge is to be applied;
 - b) sludge application will not occur on land within 15 metres of a ditch draining less than one section or within 30 metres of drains serving larger watersheds;
 - c) only cereal, oilseed, forage, field pea or lentil will be grown for three seasons following the sludge application; and
 - d) no fruit or vegetable will be grown and no livestock will graze on the land for three growing seasons after the sludge application.
- The injection of biosolids directly from airtight tankers into the sub-surface should prevent excessive odour problems.
- Gasoline and associated products must be transported, stored and handled appropriately.
- These concerns will be addressed in the Licence.

Environment-Operations Division

- *No comment.*

Environment-Water Quality Management

- *No comment.*

Canadian Environmental Assessment Agency

- *The application of the Canadian Environmental Assessment Act with respect to this project will not be required.*

REVISED PROPOSAL: APPLICATION OF BIOSOLIDS TO FARMLAND

On October 25, 1999, the Department received notification via e-mail that the Proponent intended to change to a more suitable farm field for biosolids injection, due to the groundwater concerns identified by the TAC. The revised proposal, dated November 8, 1999, identifies the receiving land as 64 hectares of Section 4-13-19 WPM owned by Donald Waldon and family. Twenty-six copies of the revised proposal were received on November 30, 1999.

The Department, on December 1, 1999, placed copies of the Proposal in the Public Registries located at 123 Main St. (Union Station), the Centennial Public Library, and the Town of Rapid City Office. As well, copies of the Proposal were provided to the Interdepartmental Planning Board and TAC members. The Department placed a public notification of the Proposal in the Minnedosa Tribune on Monday, December 6, 1999. The newspaper and TAC notification invited responses until January 3, 2000.

COMMENTS FROM THE PUBLIC:

No comments were received from the Public.

COMMENTS FROM THE TECHNICAL ADVISORY COMMITTEE:

Agriculture and Food

- *What volume (gal) of biosolids will be applied?*
- *Why is the reporting of application rates based on a mass basis when the applicator and other manure management tools are set up to handle liquid manures on a volume basis?*

Disposition:

- The volume of biosolids in the lagoon is estimated at 4000 m³, although the proponent intends on removing only approximately 3000 m³. At an estimated moisture content of 10%, 300 – 400 dry tonnes of biosolids will be removed from the lagoon and applied to the land. Under this Licence, at an application rate of 15 dry

tonnes per hectare over 64 hectares, a maximum of 960 dry tonnes of biosolids can be applied to the specified lands.

- The regulation of biosolids application rate is based on mass to control the application of heavy metals and macro-nutrients to the soil without regard to the moisture content of the biosolids. The applicator must determine the appropriate mass to volume conversion based on actual characteristics of the biosolids at the time of application.

Highways and Government Services

- *No comment.*

Natural Resources

- *No concerns.*

Historic Resources

- *No concerns.*

Rural Development

- *No comment.*

Health

- *Resubmitted letter of October 12, 1999. Items 1,2,3 and 4a have not been addressed:*
- *Item 1: How far is the nearest well from the proposed irrigation fields? Is there any risk of contamination in the event of flooding or surface runoff?*
- *Item 2: The proposal indicates that the proposed irrigation fields are located in a groundwater pollution hazard area. Ensure that groundwater is not at risk by monitoring of coliforms and heavy metals.*
- *Item 3: How far is the nearest residence from the proposed irrigation fields?*
- *Item 4a: Ensure prevention of pollutants or contaminated wastewaters from entering sewage disposal and municipal ditch systems.*

Disposition:

- The Licence prohibits the application of biosolids less than 50 metres from any groundwater well. Subsurface injection of biosolids minimizes potential for surface runoff of the biosolids.
- A nearby less sensitive parcel of land was chosen to replace the proposed lands, which were in a groundwater pollution hazard area. Heavy metal concentrations in the applied biosolids and in the soil will be addressed in the monitoring program of the Licence.
- From the Letter of Agreement between the Town of Rapid City and the owner of the receiving land, it is agreed that
 - a) sludge application will not be closer than 300 metres to a dwelling not belonging to the owner of the land on which sludge is to be applied; and
 - b) sludge application will not occur on land within 15 metres of a ditch draining less than one section or within 30 metres of a drain serving a larger watershed.

Environment-Operations Division

- *Injection of the biosolids on the land identified should not have an adverse environmental impact. Licence conditions routinely applied to this type of development should adequately address parameters of concern to Environmental Operations.*

Disposition:

- The Licence will contain standard clauses that will address concerns regarding land application of biosolids.

Environment-Water Quality Management

- *No comment.*

Canadian Environmental Assessment Agency

- *The application of the Canadian Environmental Assessment Act with respect to this project will not be required.*

PUBLIC HEARING:

A public hearing is not recommended.

RECOMMENDATION:

The Proponent should be issued a Licence to remove biosolids from its wastewater lagoon for sub-surface injection on the new location of lands, which are less susceptible to groundwater impairment, subject to the specifications, limits, terms and conditions of the Licence. The Licence should be assigned to the Park West Region.

PREPARED BY:

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