#### DEUX RIVIERES WASTE DISPOSAL SITE SITE CLOSURE PLAN CORPORATION OF THE UNITED TOWNSHIPS OF HEAD, CLARA AND MARIA

Prepared by:

Jp2g Consultants Inc. 1150 Morrison Drive, Suite 410

Ottawa, Ontario

K2H 8S9

May, 2008

**Project No. 20060241** 



June 12, 2008

Ministry of the Environment EAAB Floor 12A 2 St. Clair Avenue West Toronto, ON M4V 1L5

Attention:

Tesfaye Gebrezghi, P. Eng.

Director, S.39 EPA

Re:

**Deux Rivieres Waste Disposal Site** 

Site Closure Plan - Certificate No. A412407

Township of Head, Clara and Maria

Our Project No. 20060241

Dear Sir:

As required under Condition 22 of the Certificate No. A412407, on behalf of the municipality, please find enclosed two (2) copies of the Site Closure Plan for the above captioned site.

The pending and actual closure of the site has been conducted in consultation with MOE, as the site has been subjected to two (2) Site Inspection Reports by the MOE Ottawa District office in 2006, and as required under Condition 19 on May 30, 2008 we filed the recent Annual Report. To facilitate Technical Support Service (TSS) review of the water quality monitoring program and post closure monitoring recommendations, two (2) copies of the report were filed with the District Manager.

I would confirm by copy of this submission, that the MOE Ottawa District office has received the Site Closure Plan, and I trust the post-closure monitoring and reporting recommendations may receive the District Manager's written approval as per Condition 21.

The Township continues their efforts to secure the CAZ as per Condition 17.

Trusting this is satisfactory.

Yours very truly, Jp2g Consultants Inc.

Engineers • Planners • Project Managers

Kevin J. Mooder Sr. Project Planner

KJM/dr

Encl.

c.c.: - Melinda Reith, Clerk

Marc Etienne Le Sieur, MOE Ottawa

#### EXECUTIVE SUMMARY

The United Townships of Head, Clara & Maria (the Township) is requesting approval to formally close the Deux Rivieres Waste Disposal Site and establish a post-closure operations and monitoring program. The Township operates the site under a Provisional Certificate of Approval No. A412407 (the "Certificate") dated March 27, 1980 amended under Notice No. 1 dated September 24, 2001 Notice dated November 27, 2003 and Notice No. 3 dated July 19, 2006.

#### Objectives of this Report

The objective of this report is to provide supporting documentation for the closure, post-closure monitoring, maintenance, inspection and reporting program, as required under Condition 22 of the Certificate.

#### Site Closure

Final closure of the waste mound involves the application of 0.6m of earth cover and 0.15m of topsoil or equivalent over an area of approximately 0.44 ha.

Prior to MOE approval of this Site Closure Plan, the final cover material has been applied as part of the closure of the site.

#### **Post Closure**

Under Guideline B-9 the municipality intends to conduct regular monitoring of the existing monitoring well network and establish a contaminant attenuation zone to address Ministry guidelines and policies.

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#### 1.0 INTRODUCTION

The United Townships of Head, Clara and Maria (the Township) operates three landfill sites. Jp2g Consultants Inc. were retained by the Township to assist in the review of alternative waste management approaches which included an evaluation of waste disposal capacity, environmental suitability and the costs to operate and maintain the 3 sites. The results of this assessment identified the Township's preferred waste management strategy which consisted of a phased implementation program in consultation with the MOE Ottawa District Office and approvals through the Environmental Assessment and Approvals Branch (EAAB).

It was concluded that the Deux Rivieres Site would be closed due to its relatively small size and limited landfilling capacity, and that the Stonecliffe and Bissett Creek sites were better suited to meet the longterm waste management needs of the municipality. The Township has a permanent population of 232 over a total land area of 80,000 ha, a total of 327 households which reflects the summer cottage development along the lakes and rivers.

The Deux Rivieres Landfill Site is located at 201 Brent Road in Part Lots 23 and 24, Concession B, geographic Township of Clara. The site is located on Crown lands and was granted Land Use Permits for its use as a 1.70 ha landfill site. Under Provisional Certificate of Approval No. A412407 dated March 27, 1980 ("The Certificate"), supported by an application dated November 10, 1975 the municipally operated a 0.4 landfilling area within a 1.4 ha site. The Certificate was amended on a number of occasions to reflect MOE approval requirements. Copies of the Certificate as amended is attached as **Appendix A** to this report.

#### 1.1 Interim Applications

On May 15, 2001 an application to amend the Certificate A412407 was submitted to the MOE accompanied by a document entitled "Application and Supporting Documentation for a Category 56 Amendment to the C of A for the Deux Rivieres Waste Disposal Site " (Jp2g, 2001a).

Under Notice No. 1 dated September 24, 2001 amending the Certificate, a theoretical maximum volumetric capacity of 12,192m³ was acknowledged in the Certificate and a requirement to submit an updated design and operations report within 6 months.

In December 2001 the Township submitted the application with the accompanying Report (Jp2g, 2001b). The EAAB acknowledged receipt of the application under MOE Reference No. 1092-56ETEP. Based on initial MOE review comments Jp2g and Gartner Lee Limited filed a response dated September 16, 2002. A draft amended Certificate was issued October 17, 2003 and Jp2g provided comments November 5, 2003. On November 27, 2003 an amendment to the Certificate was issued.

In general the amended Certificate detailed the plans and specifications to continue landfilling at the site until a total landfilled volume of 12,192m³ was achieved. In addition the Township provided records and reports on the operations and environmental monitoring for the period 2004/2005 (Jp2g 2006) and 2006/2007 (Jp2g 2008).

#### 1.2 2004 - 2007 Consultations

Under Condition 17 of the amended Certificate the Township is to purchase the landfill area and the buffer lands from the Ministry of Natural Resources (MNR) before December 31, 2006. Upon MOE approval of the required land for a contaminant attenuation zone (CAZ) through the issuance of an amended Certificate, the survey was commissioned and discussions initiated to transfer the lands from the Crown to the Township. Due to approval delays this isn't expected to occur before the end of the year. Relevant correspondence is found in Appendix B.

Under Condition 18 of the amended Certificate Gartner Lee Limited filed a surface water monitoring program with the District Manager for approval (GLL, 2005). In a letter dated March 3, 2006 the MOE acknowledged approval. Copies are found in Appendix C.

Effective Spring 2006 the Deux Rivieres Landfill Site ceased receiving municipal waste for landfilling, as domestic waste was collected in the municipal truck and hauled to the Bissett Creek Site for landfilling. Only construction and demolition waste was directed to the Deux Rivieres disposal area and the site stockpiled scrap metal, tires and brush for diversion from landfilling.

On June 15, 2007 the Township held a Public Meeting to discuss and obtain comments on the proposed closure of the Deux Rivieres Waste Disposal Site. A copy of the meeting minutes are enclosed in **Appendix D**. In the Fall of 2007 the Township applied the final cover to the site, as they obtained financial assistance from a municipal funding program to do so. Photographs of the closed site are found in **Appendix E**.

#### 1.3 Report Objectives

The purpose of this report is to describe the closure, post-closure monitoring, maintenance, inspection and reporting program proposed for the Deux Rivieres Landfill Site as per Condition 22 of the Certificate of Approval A412407.

#### 2.0 DESIGN BASIS

The following describes the location and setting of the Deux Rivieres Waste Disposal Site, and the existing waste disposal and hydrogeological conditions as they effect the design parameters for the closure and future management of the site.

#### 2.1 Location and Surrounding Land Use

The waste disposal site is on Crown lands and has operated as a landfill site under Land Use Permits issued by the Ministry of Natural Resources for over 30 years. The site is located approximately 1 km south of Highway No. 17 on Brent Road. Crown lands surround the site, although the Trans Canada Pipeline is located approximately 230 metres north of the landfilling area forming the northerly limit of the proposed 16.3 ha site and a logging camp is located along the Brent Road situated approximately 300 metres to the north. Included in this report are **Figures 1** and 2 which were presented in Jp2g (2001b).

#### 2.2 Limits of Waste Disposal

The Deux Rivieres Waste Disposal Site has been subject to a phased investigation and design modifications in response to the results of the past waste management planning and landfill site assessment studies. The following summarizes the results and operational changes incorporated at the site, Sections 2.3 and 2.4 summarize the findings and recommendations of the hydrogeological investigations.

#### 2.2.1 Historical Landfilling and Waste Diversion

It is assumed that the site has received waste since the early 1970's, serving residences and businesses within the geographic Township of Clara. Based on Ministry of Environment (MOE) records, the original method of landfilling at this site involved the trench method with the occasional burning of waste. In 2006 the Municipality developed the landfilling area using a modified area method whereby waste was deposited on the site and covered with earth material to achieve the final approved contours (Jp2g 2001b).

Residential and commercial waste deliveries to the landfill site were directed by an attendant to the active waste disposal working face, and covered on a regular basis. Materials such as scrap metal, rubber tires and clean lumber/brush were directed to designated areas on site for proper management.

#### 2.2.2 Site Capacity

Based on a capacity study completed in 2001 (Jp2g, 2001b) it was estimated that as of July 2000 that the Deux Rivieres Landfill had approximately 3,742m³ remaining in its maximum theoretical capacity (theoretical 12,192m³ - existing waste disposal 8,450m³).

A topographical survey of the waste disposal area was completed in December 2005 and compared to the July 2000 survey. An estimated 3,520m³ of landfilling space was utilized over the 5 year period (Jp2g 2006). As the site was nearing its approved capacity in 2006, domestic waste deliveries were received in the municipal collection vehicle and hauled to the Bissett Creek Waste Disposal Site for landfilling. Construction and demolition (bulky) waste deliveries were directed to the active waste disposal area.

As of August 2007 the site had virtually reached its approved capacity and it was confirmed that the closure design could be readily accommodated without an occurrence of overfill at the site. The actual limits of the landfilling area are shown on **Drawing No. 1** comprising 0.44 ha and the final contours with the application of final cover.

**Drawing No. 2 and 3** from Jp2g (2001b) are provided to compare the design contours to the actual site conditions.

#### 2.2.3 Fill Beyond Approved Limits

Based on the December 2005 survey (which tied into the OLS monumentation established to transfer ownership of the site and CAZ) it was recognized that a trench had been developed beyond the proposed westerly limits of the proposed 0.4 ha landfilling area towards Brent Road. This situation was reported in the 2004/2005 Annual Report (Jp2g 2006)

As the landfill operations maintained a 30m+ buffer from the Brent Road, and its volume was considered in the overall approved remaining site capacity calculation, the waste was covered and the area received the application of final cover. In accordance with the MOE Protocol (1993) this is an acceptable approach and there is no FBAL occurrence as the amended Certificate should reflect the actual landfilling area and total site limits.

#### 2.3 Hydrogeological Conditions

Gartner Lee Limited has conducted a detailed hydrogeological assessment and provided the results of the annual monitoring program for the site in documentation which accompanied Jp2g reporting to MOE.

- Calculation of Environmental Capacity July 26, 2001 (Jp2g 2001b)
- Hydrogeology of Deux Rivieres Landfill Site October 2001 (Jp2g 2001b)
- Deux Rivieres Landfill Site 2004-2005 Groundwater Monitoring Results (Jp2g 2006)
- Deux Rivieres Landfill Site 2006-2007 Groundwater Monitoring Results (Jp2g 2008)

The overburden materials at the site consists of thick glaciofluvial outwash and ice contact sand and gravel deposits. The closest groundwater potable water supply is for the logging camp located over 300 m to the north. A number of springs are located downgradient of the landfill and Cotnam Creek is located approximately 200m west of the site.

The monitoring program has involved sampling the logging camp well and a well at a more distant hunt camp, and various surface water locations.

#### 2.4 Contaminant Attenuation Zone

Based on the results of the hydrological investigations and water quality monitoring at the site, landfilling operations have not resulted in a significant degradation of the groundwater resource or surface water quality. As detailed in the above captioned reports a contaminant attenuation zone (CAZ) as illustrated in **Figure 2** will be satisfactory.

#### 2.5 Site Description

According to available O.L.S. survey plans, to be confirmed and approved by MNR (see Appendix B) the total site area is to be 16.383 ha, which includes 0.912 ha as Brent Road, a forest access road.

#### 3.0 SITE CLOSURE

The design of a landfill site closure plan should be consistent with the overall leachate management design which is applied to ensure compliance with MOE Guidelines and/or support the planned end use of the site.

The application of a final cover is intended to isolate the landfilled waste from surface exposure for public health and aesthetic reasons. It should not prevent surface water infiltration but control it so that leachate generation and waste decomposition is consistent with the leachate and gas management controls to be applied at the site.

MOE general requirements for final cover include:

- once a fill area has reached its final grades, the final cover is to be placed over the waste (ie: phased closure);
- the final cover application typically involves a minimum of 0.6m of earth cover material and a minimum of 0.15m of topsoil or other material to sustain plant growth (alternatively a synthetic or more complex low permeable cover system with topsoil may be considered);
- final slopes should not exceed 4:1 horizontal to vertical (or 25%) or less than 20:1 (or 5%) to prevent erosion or ponding; and
- any anticipated facilities for the control or discharge of landfill gas are to be accommodated in the final cover design.

The following provides a summary of the site specific design parameters considered for the proper physical closure of the Deux Rivieres Landfill. Section 4.0 details the leachate monitoring and reporting requirements, and Section 5.0 details the planned management approach.

The following describes the pre-closure activities and final site closure requirements for the municipal waste disposal area in consideration of the intended end-use of the site.

#### 3.1 Existing Site Conditions

A survey of the landfill in December 2005 was carried out in order to develop an existing features plan for the 2004/2005 Annual Report (Jp2g 2006). This plan was then updated after a field survey in the Fall of 2007 which illustrates the application of final cover. Significant features illustrated on **Drawing 1** include the 0.44 ha waste fill area within a 0.6 ha cleared area. The limits of the 1.49 ha site as defined by the OLS are also shown.

#### 3.2 Interim Cover Applications

Import of earth material was carried out so the site was shaped for closure, thereby reducing as much as possible, the cost of grading the site with earth at the time of final closure. As noted in Section 2.2.3 final cover was applied to the assumed FBAL area in 2006, and the waste deposited included in the total landfilled capacity.

#### 3.3 Final Cover Requirements

The closure of the landfill requires the application of final cover to isolate the landfilled waste from surface exposure for public health and aesthetic reasons. The final cover also determines the infiltration rate of precipitation and thereby greatly influences the waste decomposition rate and long-term management of leachate.

The Deux Rivieres landfill is a small rural waste disposal site which had been receiving waste for over 30 years. Since results of the hydrogeological investigation to date have stated that the site is not creating an adverse affect upon the water resources, the final cover for the Site may include a permeable cover material. A permeable cover will allow some infiltration of water into the landfill, resulting in an accelerated biodegradation of waste, a reduction of the time period during which settlement is most rapid, and production of leachate.

The final cover should include a 0.15 metre deep layer of top soil or equivalent over a 0.6 metre deep layer of permeable earth material. After final cover has been placed, the Site should be vegetated in order to prevent erosion and stabilize the waste mound. A mixture of grasses of a hardy variety should be applied to help ensure quick growth so that the final cover will remain in place. The photographs in **Appendix E** reflect the condition of the final cover in May 2008.

#### 3.4 Visual Screening

This site is currently screened from view by both topography and vegetation.

#### 3.5 Fencing, Security and Access Control

The site will retain the locked gates at the entrance from Brent Road which prohibits vehicular access. There is no fencing around the Deux Rivieres Waste Disposal Site and none proposed in the original Site Development and Operations Plan (Jp2g 2001b) as the site is remote and surrounded by forest and rough topography.

Signage should be posted at the site entrance including a phone number and contacts in case of emergency.

#### 4.0 POST CLOSURE MONITORING AND CONTINGENCY PLAN

The following describes the proposed monitoring program which will form the basis of an environmentally sound management plan.

#### 4.1 Monitoring Program

The proposed monitoring program which is presented in the 2006/2007 monitoring report prepared by Gartner Lee Limited (Jp2g 2008) is reproduced in the following table. The basic premise of this program is to monitor the potential for any landfill leachate discharge to Cotnam Creek. The previous monitoring program and its analysis is provided in **Appendix C**.

Monitoring Location	Sampling Frequency	Analytical Parameters
Surface Water SW1, SW2, SW3, SW4	Once per year (Spring)	<ul> <li>Major and minor ions (Ca, Na, Cl, SO<sub>4</sub>, K, Mg, B)</li> <li>Trace Metals (Fe, Mn, Cd, Cu, Sr, Zn)</li> <li>Nitrogen species (NO<sub>3</sub>, NO<sub>2</sub>, NH<sub>3</sub>, TKN)</li> <li>General Parameters (alkalinity, conductivity, TDS, total phosphorus, COD, phenols, TSS)</li> <li>Field measurements of flow, pH, conductivity, water temperature, dissolved oxygen</li> </ul>

#### 4.2 Reporting Requirements

Although the monitoring as proposed will be conducted annually, a post-closure environmental monitoring report for the Deux Rivieres Waste Disposal Site would be prepared at least once every two years. The monitoring report would provide the following information:

- a statement on the condition of the final cover including vegetative cover;
- a summary of the results of site inspections conducted and maintenance completed at the site;
- a discussion of the general physical hydrogeological setting of the site;
- review of the groundwater geochemistry (including apparent trends over time) in the vicinity of the site; and
- a re-evaluation of the groundwater monitoring requirements at the Site.

This report would be compiled and submitted to the MOE District Manager by May 1<sup>st</sup> of the following two (2) years in accordance with the current Certificate.

#### 4.3 Site Closure Contingency Plan

The objectives of the contingency program for the Deux Rivieres Waste Disposal Site is to utilize the results of the ongoing monitoring program to assess site compliance and to consider implementation of additional investigation activities and/or remedial action plans when and if necessary.

The annual groundwater monitoring program will form an integral part of the operation of this natural attenuation landfill. The purpose of such a monitoring program is to enable the trends in the concentrations of various leachate related parameters to be established and compared with both the background quality and regulatory water quality standards, and from this to determine the adequacy of the leachate attenuation area and to assess the need to implement contingency measures to reduce impacts from the Site to acceptable levels.

If groundwater quality monitoring indicates a leachate plume of a greater extent than predicated, it will be necessary to consider any potential for groundwater quality interference under MOE Guideline B-9 (MOE 1994). Other contingency measures which would be subject to further hydrogeological investigating and expensive to implement, could include:

- Acquisition of land to create a larger CAZ.
- Application of a less permeable final cover. The permeability of the cover material required for this purpose will be determined based upon the nature and extent of the contamination detected.
- Installation of a leachate collection system consisting of purged wells and/or collector pipes located at the periphery of the operational area.

Other contingencies that may be employed as necessary include: works required to address surface drainage concerns, and the use of pest controls if rodents and/or insects become a problem.

#### 5.0 SUMMARY AND RECOMMENDATIONS

The Deux Rivieres Waste Disposal Site has been established for over 30 years, and its operations have been modified and adapted to satisfy the changing needs of its users. The site's final closure has been carefully considered by the Council of the Townships of Head, Clara and Maria. The financial and economic costs of obtaining approval for continued waste disposal operations at this site could not be recovered given the limited users, and the consolidation of operations at one of the other two (2) sites provides a more efficient means of servicing the municipality as a whole.

Jp2g Consultants Inc.

Engineers • Planners • Project Managers

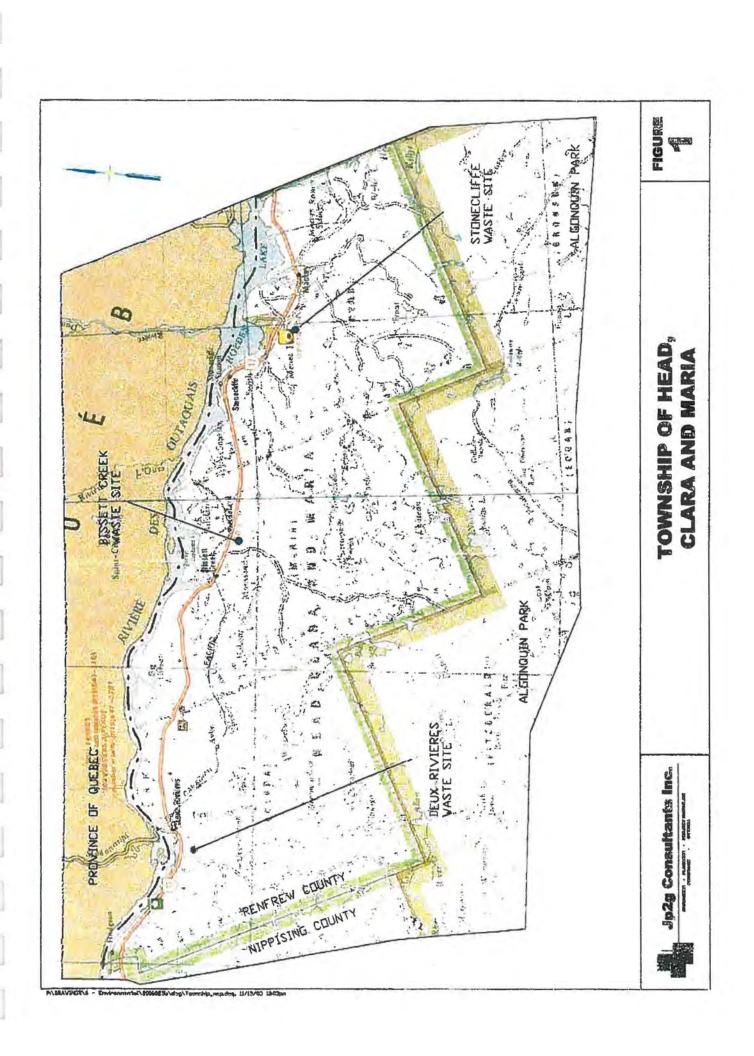
Kevin Mooder

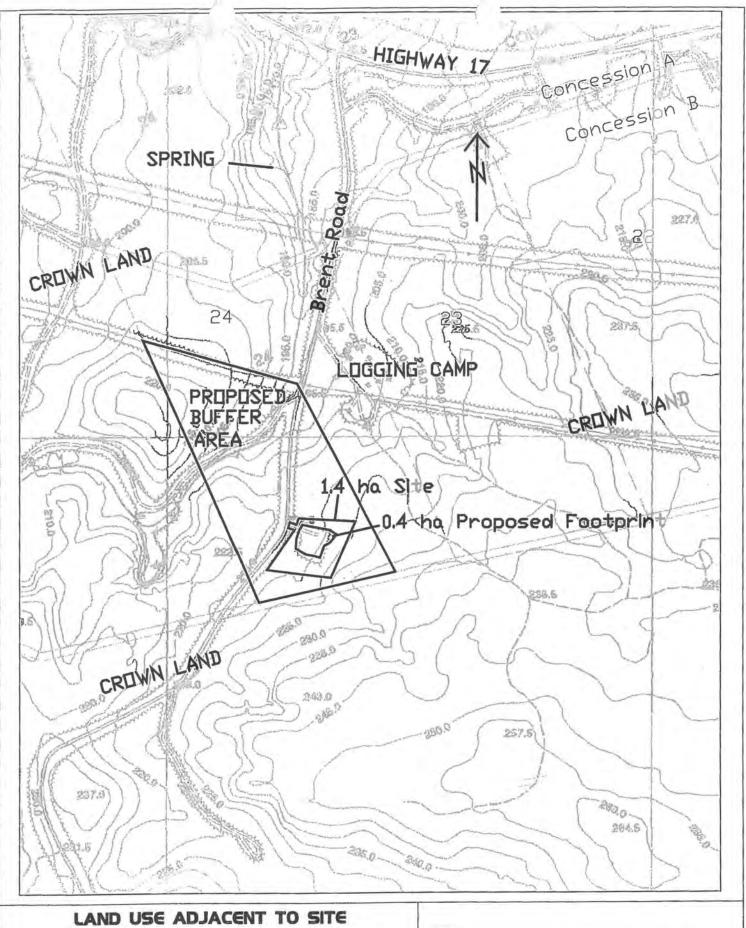
Sr. Project Planner

#### REFERENCES

- Jp2g Consultants Inc. (2001a) Application And Supporting Documentation For A Category 56 Amendment To The C of A For The Deux Rivieres Waste Disposal Site, May 2001.
- Jp2g Consultants Inc. (2001b) Deux Rivieres Waste Disposal Site Site Development and Operations Plan, December, 2001.
- Jp2g Consultants Inc. (2006) Deux Rivieres Waste Disposal Site 2004/2005 Annual Report, May 2006.
- Jp2g Consultants Inc. (2008) Deux Rivieres Waste Disposal Site 2006/2007 Annual Report, May 2008.
- MOE (1993) Protocol For Dealing With Fill Beyond Approved Limits And Overfill, December 1993.
- MOE (1994) Guideline B-9 Resolution of Groundwater Interference Problems, April 1994.

### **FIGURES**





**DEUX RIVIERES WASTE DISPOSAL SITE** 

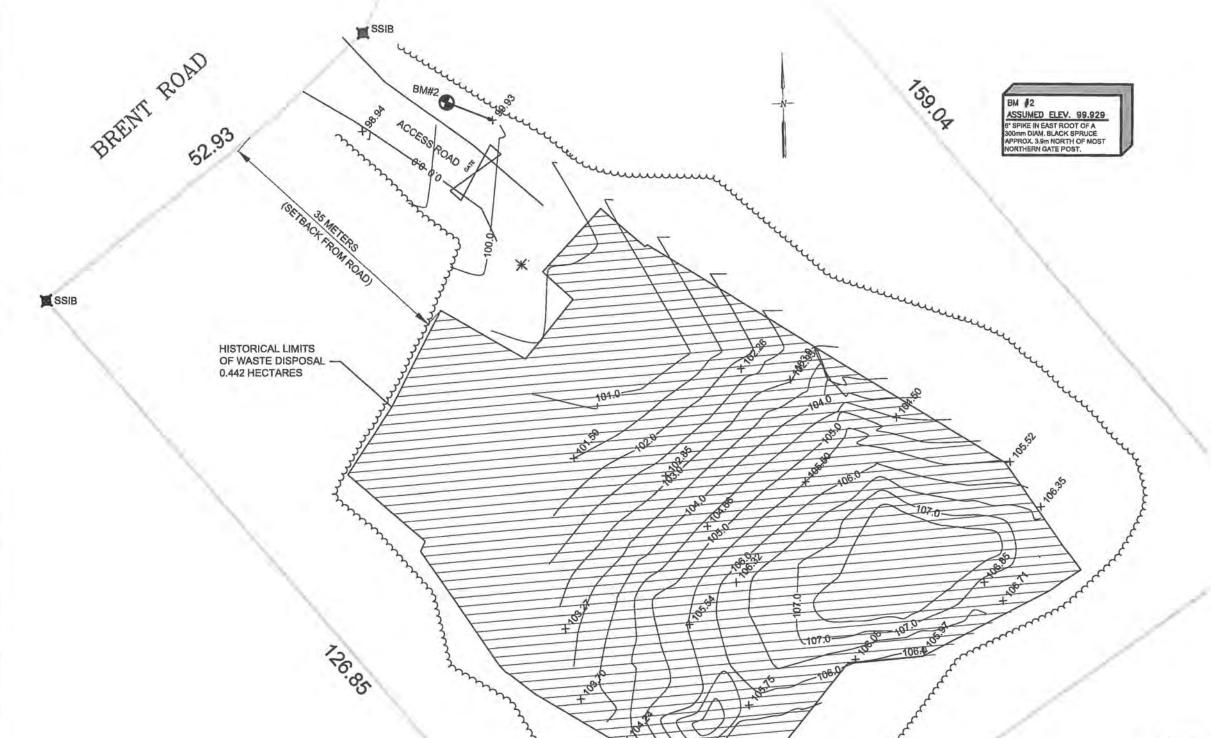
FIGURE 2

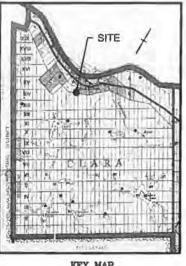


Jp2g Consultants Inc.









KEY MAP



PART LOT 24, CONCESSION B GEOGRAPHIC TOWNSHIP OF CLARA

#### NOTES:

- 1. CONTOURS BASED ON APPLICATION OF FINAL COVER MATERIAL FALL 2007.
- 2. SITE LIMITS AS PER KASPRZAK OLS SURVEY, PART 4, PLAN 49R COMPRISES 1.493 HECTARES.
- 3. THE PROPOSED BUFFER AREA ENCOMPASSES 14.89 HECTARES OF CROWN LAND.
- 4. BASED ON SURVEY BY JP2G CONSULTANTS, FALL 2007.

0 20-107-00 AND AMERICOLAL SAMEY

No. DATE BY REVISIONS

GRAPHIC SCALE



Jp2g Consultants Inc.

ENGINEERS # PLANNERS # PROJECT MANAGERS

DESIGNED	KJM
DRAWN	EA
CHECKED	KJM
APPROVED	KJM
SCALE	
(2'X3'	1:250 SHEET ONLY)

TOWNSHIP OF HEAD, CLARA & MARIA
DEUX RIVIERES WASTE DISPOSAL SITE

PROJECT 20060241
PLOTTED 21-MAY-08
REVISION No.: 0

DATE MAY. 2008

SITE CLOSURE PLAN 2007

1

#### STAGE 1

1. Tires and Metal are to be segregated with logs as shown.

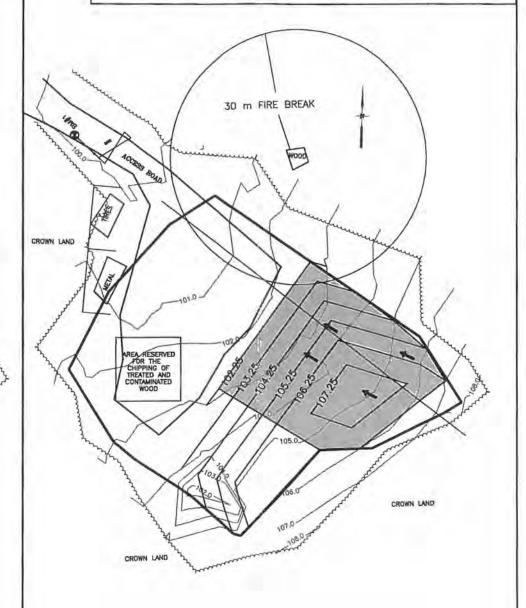
30 m FIRE BREAK

- 3. The layout of the access road will be modified as shown to facilitate landfilling operations.
- 4. Begin landfilling in trench 1 and continue as required to trench 3.

## 2. Establish a 30 metre radius fire break for burning clean brush and lumber as shown.

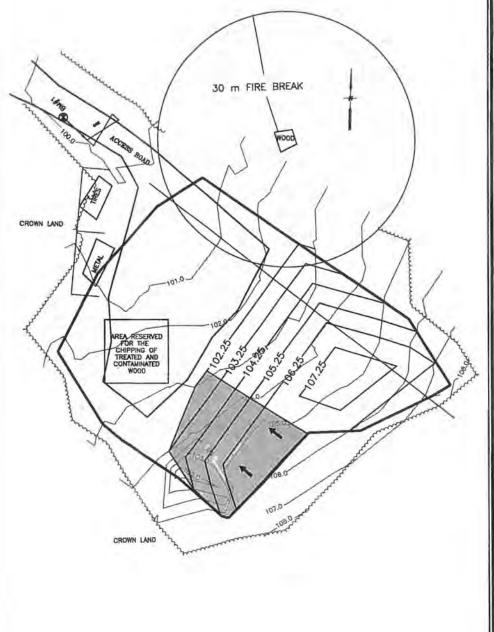
#### STAGE 2

- 1. The layout of the access road will be modified as shown to facilitate landfilling operations.
- 2. All trees and brush must be removed from within the fire break area as shown.
- 3. Waste is to be landfilled using the area method to the height as shown.
- 4. See Figure 3 and Figure 4 for an illustration showing typical filling operations.
- 5. The tipping face should not exceed 10 metres in length.
- 6. Final cover to be placed upon completion of stage as shown on Drawing 3.



#### STAGE 3

- 1. Waste is to be landfilled using the area method to the height as shown.
- 2. See Figure 3 and Figure 4 for an illustration showing typical filling operations.
- 3. The tipping face should not exceed 10 metres in length.
- 4. Final cover to be placed upon completion of stage as shown on Drawing 3.



# REVISED NOTES AND ADDITION OF WOOD CHIPPING AREA

1 SEP. 16/02 MAD



ENGINEERS . PLANNERS . PROJECT MANAGERS PEMBROKE .

OTTAWA

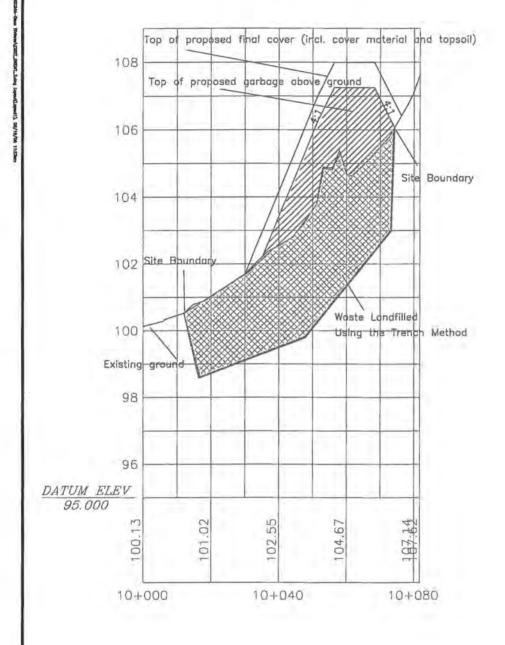
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ш	DRAWN	KJS
- 1	CHECKED	PL
- 1	APPROVED	BW
- 1	SCALE	
	HORIZ	1:400

TOWNSHIP OF HEAD, CLARA A **DEUX RIVIERES WASTE DISPOSAL** 

LANDFILL PHASING AND SEQUENC

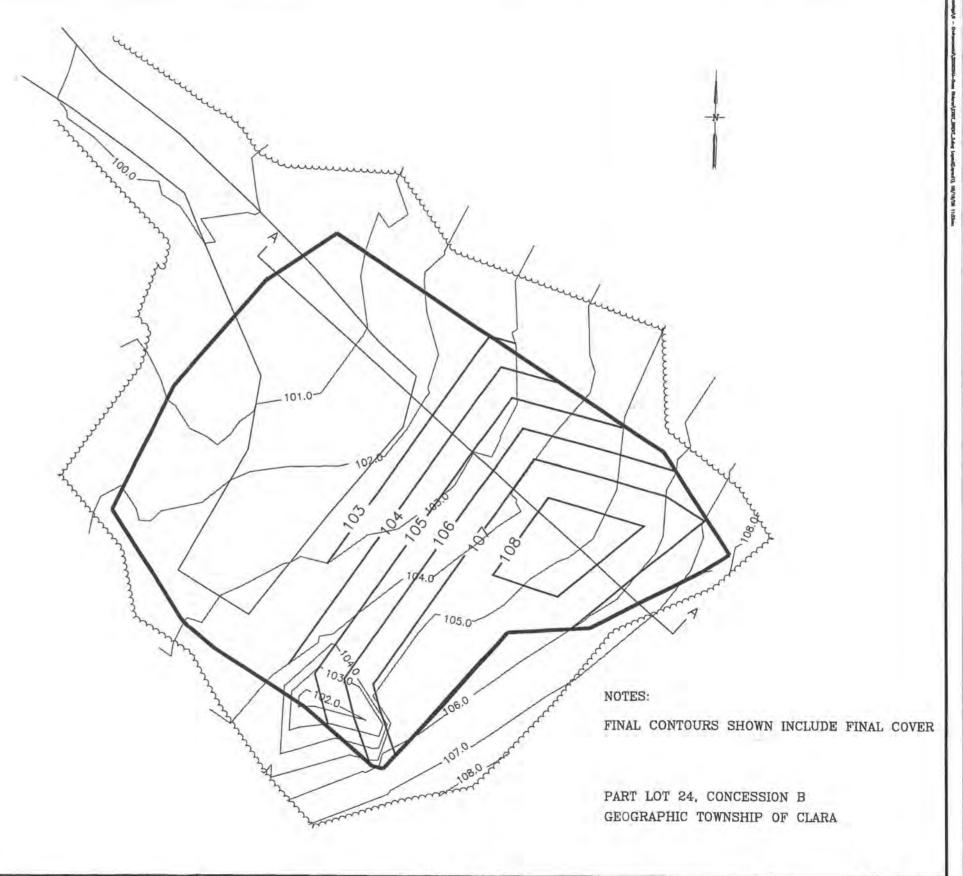
PROJECT 2005024A PLOTTED DEC 2001

#### SECTION A-A



#### VOLUMES

EXISTING BELOW GROUND 8,450 cu.m. 1,430 cu.m. REMAINING BELOW GROUND
EXISTING TO PROPOSED TOP OF GARBAGE
TOP OF GARBAGE TO PROPOSED FINAL COVER
TOTAL: 13,674 cu.m.



## Jp2g Consultants Inc.

ENGINEERS - PLANNERS - PROJECT MANAGERS PEMBROKE - OTTAWA

	DESIGNED	MOC
1	DRAWN	MOC
1	CHECKED	KJS
	APPROVED	BW
	SCALE	
П	HOR17	1:250

TOWNSHIP OF HEAD, CLARA & MARIA DEUX RIVIERES WASTE DISPOSAL SITE

FINAL CONTOURS AND SECTION

PROJECT 20080248 PLOTTED DEC 2001 3 of 3

# APPENDIX A CERTIFICATE OF APPROVAL



Ministry of the Environment

Provisional Certificate No. A 412407

## PROVISIONAL CERTIFICATE OF APPROVAL WASTE DISPOSAL SITE

Under The Environmental Protection Act, 1971 and the regulations and subject to the limitations thereof, this Provisional Certificate of Approval is issued to:

Corporation of the Township of Head, Clara and Maria Bissett Creek, Ontario KOJ 1EO

for the use and operation of a 0.4 hectare landfilling site within a total site area of 1.4 hectares

all in accordance with the following plans and specifications:

The documents listed in Schedule "A"

Located: S.1 Lot 24, Concession B Township of Clara County of Renfrew

which includes the use of the site only for the disposal of the following categories of waste (NOTE: Use of the site for additional categories of wastes requires a new application and amendments to the Provisional Certificate of Approval) domestic and commercial waste.

and subject to the following conditions:

Director, Section 39,
The Environmental Protection Act, 1971

Dated this 27th day of March 1980

#### SCHEDULE "A"

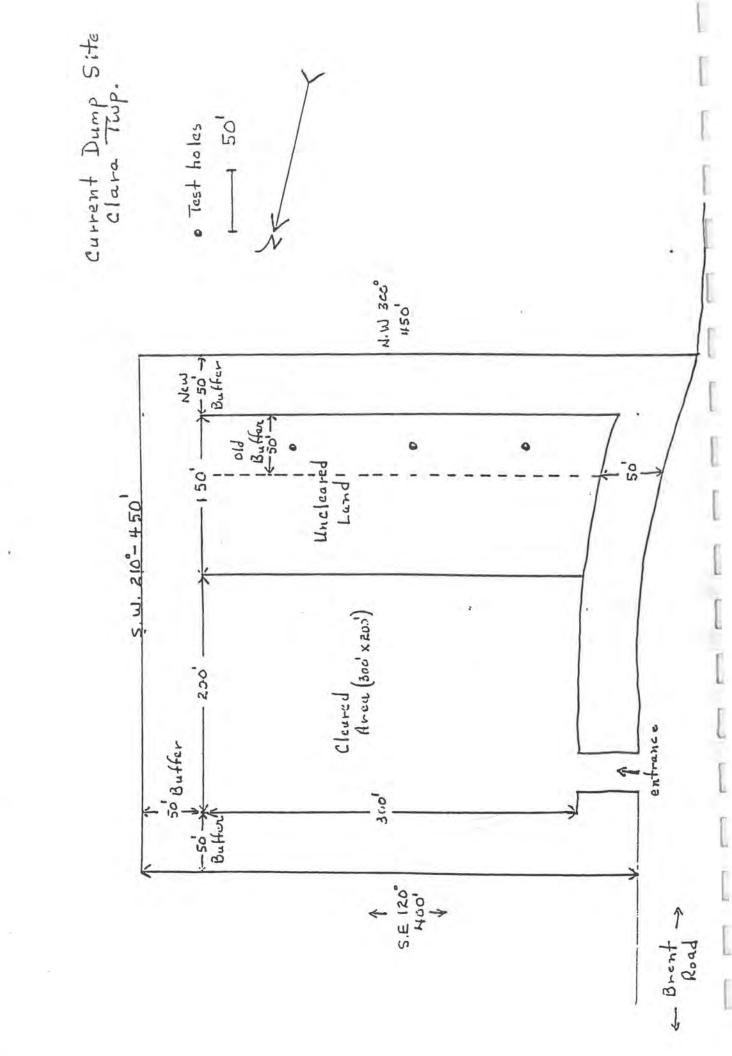
- General location map "Lot 24, Con.B, Clara Twp." dated November 23, 1976.
- Detail site plans dated November 23, 1976.
- Detail site plan "Waste Disposal Site, Twp. of Clara, Lot 24, Con. B", dated November 25, 1975.
- Operating programme submitted by S. Senack (Mrs.), Clerk-Treasurer, and dated November 24, 1975.

#### NOTE

- (1) TRENCH TO BE 20'X100' X 10' DEEP
- (2) AREA TO BE CLEARED OF TREES 200' X 400'

SCALE 1" = 100

LOT 24 CON B CLARA TWP.



E



Ministry of the

Ministère de Environment l'Environnement AMENDMENT TO PROVISIONAL CERTIFICATE OF APPROVAL WASTE DISPOSAL SITE

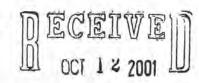
**NUMBER A412407** Notice No. 1

Corporation of the Township of Head, Clara, and Maria

15 Township Hall Road

Head, Clara and Maria, Ontario

KOJ 2LO



Site Location: Deux Rivieres Waste Disposal Site

201 Brent Road

Head, Clara and Maria Township, County of Renfrew

You are hereby notified that I have amended Provisional Certificate of Approval No. A412407 issued on March 27, 1980 for the continued use and operation of a 0.4 hectare landfilling site within a total site area of 1.4 hectares, as follows:

All in accordance with the following plans and specifications which are added to Schedule "A":

- 5. The Application for a Provisional Certificate of Approval for a Waste Disposal Site dated May 15, 2001 and signed by Mr. Brian Whitehead of Jp2g Consultants Inc. on behalf of the Township of Head, Clara & Maria.
- 6. The document entitled "Application and Supporting Documentation for a Category 56 Amendment to the C. of A. for the Deux Rivieres Waste Disposal Site, Township of Head, Clara and Maria, C. of A. No. A412407" dated May 2001 by Jp2g Consultants Inc.
- 7. The letter dated September 10, 2001 to Mr. John A. Kaasalainen, P.Eng. of the Ministry of the Environment, Environmental Assessment and Approvals Branch from Mr. Brian Whitehead, Planning Consultant of Jp2g Consultants Inc. providing additional information with respect to the proposed amendment.

The following conditions are added to the Provisional Certificate of Approval:

#### DEFINITIONS

- 1. For the purposes of this Certificate of Approval, unless the contrary intention appears, the following words and phrases shall have the following meaning.
  - "Adverse Effect" is as defined in the Environmental Protection Act, R.S.O. 1990, 1.1 as amended.
  - 1.2 "Applicant" and/or "Owner" means the Township of Head, Clara & Maria.
  - "Certificate" means the Provisional Certificate of Approval No. A412407, as 1.3

- amended from time to time, including all schedules attached to and forming part of the Certificate.
- 1.4 "Director" means the one or more persons who from time to time are so designated for the purpose of Part V of the Environmental Protection Act.
- 1.5 "District Manager" means the District Manager of the Ministry's Ottawa District Office.
- 1.6 "EPA" means the Environmental Protection Act, R.S.O. 1990, Chapter E.19, as amended.
- 1.7 "MOE" and/or "Ministry" means the Ministry of the Environment.
- 1.8 "Site" means the entire waste disposal site including the 0.4 ha landfilling area and the buffer lands.
- 1.9 "Supporting Documentation" refers to the documents listed in Schedule "A" of the Certificate.

#### GENERAL

- 2. This waste disposal site shall be designed and operated in accordance with the documents listed in Schedule "A" and with the conditions in this Certificate of Approval. Should there be any discrepancies between any of the Schedules and the conditions in this Certificate, the conditions shall take precedence. Should there be discrepancies between the documents listed in Schedule "A", the document bearing the most recent date shall take precedence.
- 3. The requirements specified in this Provisional Certificate of Approval are the requirements under the <u>Environmental Protection Act</u>, R.S.O. 1990. The issuance of this Provisional Certificate of Approval in no way abrogates the Applicant's legal obligations to take all reasonable steps to avoid violating other applicable provisions of this legislation and other legislation and regulations.
- 4. The requirements of this Provisional Certificate of Approval are severable. If any requirement of this Provisional Certificate of Approval, or the application of any requirement of this Provisional Certificate of Approval to any circumstance, is held invalid, the application of such requirement to other circumstances and the remainder of this Provisional Certificate of Approval shall not be affected in any way.
- The Applicant shall ensure compliance with all the terms and conditions of this
  Provisional Certificate of Approval. Any non-compliance constitutes a violation of the
  Environmental Protection Act, R.S.O. 1990 and is grounds for enforcement.
- 6. (a) The Applicant shall, forthwith upon request of the Director, District Manager, or Provincial Officer (as defined in the Act), furnish any information requested by such persons with respect to compliance with this Provisional Certificate of Approval, including but not limited to, any records required to be kept under this Provisional Certificate of Approval; and

- (b) In the event the Applicant provides the Ministry with information, records, documentation or notification in accordance with this Provisional Certificate of Approval (for the purposes of this condition referred to as "Information"),
  - (i) the receipt of Information by the Ministry;
  - the acceptance by the Ministry of the Information's completeness or accuracy; or
  - (iii) the failure of the Ministry to prosecute the Applicant, or to require the Applicant to take any action, under this Provisional Certificate of Approval or any statute or regulation in relation to the Information;

shall not be construed as an approval, excuse or justification by the Ministry of any act or omission of the Applicant relating to the Information, amounting to non-compliance with this Provisional Certificate of Approval or any statute or regulation.

 The Applicant shall allow Ministry personnel, or a Ministry authorized representative(s), upon presentation of credentials, to:

carry out any and all inspections authorized by Section 156, 157 or 158 of the Environmental Protection Act, R.S.O. 1990, Section 15, 16 or 17 of the Ontario Water Resources Act, R.S.O. 1990, or Section 19 or 20 of the Pesticides Act, R.S.O. 1990, as amended from time to time, of any place to which this Provisional Certificate of Approval relates; and,

without restricting the generality of the foregoing, to:

- enter upon the premises where the records required by the conditions of this Provisional Certificate of Approval are kept;
- (ii) have access to and copy, at reasonable times, any records required by the conditions of this Provisional Certificate of Approval;
- (iii) inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations required by the conditions of this Provisional Certificate of Approval; and
- (iv) sample and monitor at reasonable times for the purposes of assuring compliance with the conditions of this Provisional Certificate of Approval.
- The Applicant shall ensure that all communications/correspondence made pursuant to this Provisional Certificate of Approval includes reference to the Provisional Certificate of Approval number A412407.
- The Applicant shall notify the Director in writing of any of the following changes within thirty (30) days of the change occurring:
  - (a) change of Applicant or operator of the Site or both;

(b) change of address or address of the new Applicant;

(c) change of partners where the Applicant or operator is or at any time becomes a partnership, and a copy of the most recent declaration filed under the <u>Business</u> <u>Names Act</u>, 1991 shall be included in the notification to the Director;

- (d) any change of name of the corporation where the Applicant or operator is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" (form 1 or 2 of O. Reg. 182, Chapter C-39, R.R.O. 1990 as amended from time to time), filed under the <u>Corporations Information Act</u> shall be included in the notification to the Director; and
- (e) change in directors or officers of the corporation where the Applicant or operator is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" as referred to in 9(d), supra.
- 10. In the event of any change in ownership of the Site, the Applicant shall notify, in writing, the succeeding owner of the existence of this Provisional Certificate of Approval, and a copy of such notice shall be forwarded to the Director.
- Any information relating to this Provisional Certificate of Approval and contained in Ministry files may be made available to the public in accordance with the provisions of the <u>Freedom of Information and Protection of Privacy Act</u>, R.S.O. 1990, C. F-31.
- 12. All records and monitoring data required by the conditions of this Provisional Certificate of Approval must be kept on the Owner's premises for a minimum period of two (2) years from the date of their creation.

#### DESIGN AND OPERATION

- 13. The theoretical maximum volumetric capacity for waste disposal at this site is 12,192 cubic meters as per item 6 of Schedule "A".
- 14. Within six months of the date of this Notice, the Applicant shall submit to the Director for approval an updated design & operations report and supporting hydrogeological study outlining how the remaining capacity of the Site is to be utilized. These reports shall include the following information:
  - site plans showing the waste disposal footprint, buffer zones, and contaminant attenuation zones, if required, including the ownership of such lands;
  - site operation and development plans;
  - daily/intermediate/final cover requirements;
  - security, fencing, signage, site supervision, housekeeping and screening requirements;
  - surface drainage plans, leachate and gas control plans;
  - a proposed monitoring program for landfill gas, leachate, groundwater, and surface water including trigger mechanisms and contingency plans;
  - · reporting requirements; and
  - closure plans.

The reasons for this amendment to the Certificate of Approval are as follows:

- The reason for Condition (1) is to define the specific meaning of terms used to simplify the conditions in this Certificate.
- The reason for Condition (2) is to ensure that the Site is operated in accordance with the
  application and supporting documentation submitted by the Applicant, and not in a
  manner which the Director has not been asked to consider.
- 3. The reason for Conditions (3), (4), (5), (8), (9), (10), (11), and (12) is to clarify the legal rights and responsibilities of the Applicant.
- 4. The reason for Conditions (6) and (7) is to ensure that the appropriate Ministry staff have ready access to information and the operations of the Site which is approved under this Provisional Certificate of Approval. Condition (9) is supplementary to the powers of entry afforded a Provincial Officer pursuant to the Environmental Protection Act, the Ontario Water Resources Act, and the Pesticides Act, as amended.
- 5. The reason for Condition (13) is to establish the theoretical maximum volumetric capacity for waste disposal at this site.
- The reason for Condition (14) is to ensure that the continued use and operation of the Site is done in an environmentally acceptable manner.

This Notice shall constitute part of the approval issued under Provisional Certificate of Approval No. A412407 dated March 27, 1980 as amended.

In accordance with Section 139 of the <u>Environmental Protection Act</u>, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 142 of the <u>Environmental Protection Act</u>, provides that the Notice requiring the hearing shall state:

- The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
- The grounds on which you intend to rely at the hearing in relation to <u>each</u> portion appealed.

The Notice should also include:

- The name of the appellant;
- The address of the appellant;
- The Certificate of Approval number;
  - The date of the Certificate of Approval;
- The name of the Director;
- The municipality within which the waste disposal site is located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary\*
Environmental Appeal Board
2300 Yonge St., 12th Floor
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Director
Section 39, Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

\* Further information on the Environmental Appeal Board's requirements for an appeal can be obtained directly from the Board at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.

DATED AT TORONTO this 24th day of September, 2001

THIS NOTICE WAS MAILED	
ON Oct. 9,2001	
(Signed)	

Ian Parrott, P.Eng.

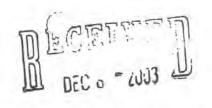
Director

Section 39, Environmental Protection Act

JK/c:

District Manager, MOE Ottawa

Brian Whitehead, JP2G Consultants Inc. ✓





Ministry of the

Ministère Environment l'Environnement AMENDMENT TO PROVISIONAL CERTIFICATE OF APPROVAL WASTE DISPOSAL SITE **NUMBER A412407** 

The Corporation of the Township of Head, Clara and Maria 15 Township Hall Road Stonecliffe, Ontario KOJ 2LO

Site Location: Deux Rivieres Waste Disposal Site

201 Brent Road

Township of Head, Clara and Maria

County of Renfrew

You are hereby notified that I have amended Provisional Certificate of Approval No. A412407 issued on March 27, 1980 for the continued use and operation of a 0.4 hectare landfilling area within a total site area of 1.4 hectares, as follows:

Condition 14 has been hereby revoked and replaced with the following Conditions.

- The Site shall be developed and operated in accordance with Item 8, Schedule "A", Deux Rivieres Waste Disposal Site, Site Development and Operations Plan prepared by Jp2g Consultants Inc. dated December 2001.
- 15. The Owner shall ensure that all wastes received at the Site are managed and disposed of in accordance with Ontario Regulation 347, R.R.O. and as amended, and that the Site is operated in a safe and secure manner which minimizes the impacts of dust, noise, litter, vector and vermin on the general public, Site personnel and the natural environment.
- 16. No burning of wastes shall be permitted at the Site with the exception of controlled burning of brush and other clean wood wastes as may be necessary from time to time and at the discretion of the Site operator. Any controlled burning of brush and other clean wood wastes shall be undertaken in accordance with MOE Guideline C-7, Burning at Landfill Sites and Section 4.21, Open Burning of Waste, excerpted from the MOE Guidance Manual for Landfill Sites Receiving Municipal Waste (C-8-1) dated November 1993. The Owner shall also refer to applicable guidelines, policies and regulations issued by the Ministry of Natural Resources and local by-laws.
- 17. By July 31, 2004, the Owner shall submit to the Director for approval:
  - a completed plan of survey for the property showing the landfill area and the Site area i)

including the buffer and lands purchased or to be purchased from the Ministry of Natural Resources;

- ii) documents showing land ownership of surveyed property; and
- iii) copy of registration of plan of survey.
- 18. By March 31, 2004, the Owner shall submit to the District Manager for approval, a surface water monitoring program that includes at least two sampling points upstream and two sampling points downstream of Cotnam Creek as well as the spring at the logging camp. The program shall specify monitoring frequency, a list of parameters to be sampled and shall include field measurements for stream flow, pH, temperature, dissolved oxygen and conductivity.
- 19. By May 31, 2006 and by May 31 every two (2) years thereafter, the Owner shall submit to the District Manager, a report detailing the analyses of the previous two (2) calendar years of monitoring results and Site operations. The scope of the report shall be as outlined in Section 10.0 of Item 8, Schedule "A".
- 20. In the event that the results of the monitoring program indicate off-site exceedences of criteria, the Owner shall notify the District Manger in writing within two (2) weeks of receipt of the monitoring results. The notification shall address reasons for the exceedences, assessment of remedial actions required, a schedule for remediation and the need to implement other contingency measures as may be appropriate to bring the Site back into compliance.
- 21. Any part of the monitoring program or the programs outlined in Section 10.0 of Item 8 and Items 10 and 11 of Schedule "A", may be revised at any time by the District Manager at his/her discretion. The Owner may, in writing to the District Manager, request revisions to the monitoring program(s) including frequency of scheduled events.
- 22. At least one (1) year prior to the anticipated closure of the Site, the Owner shall submit a closure, post-closure monitoring, maintenance, inspection and reporting program to the Director for approval.

#### Schedule "A"

- Deux Rivieres Waste Disposal Site, Site Development and Operations Plan prepared by Jp2g
   Consultants Inc. dated December 2001. This document also includes in the appendix, Hydrogeology of
   the Deux Rivieres Landfill Site, Township of Clara dated October 2001, prepared by Gartner Lee
   Limited
- Application and Supporting Documentation for a Category 56 Amendment to the C. of A. for the Deux Rivieres Waste Disposal Site, Township of Head, Clara and Maria prepared by Jp2g Consultants Inc. dated May 2001.
- Correspondence from Jp2g Consultants MOE dated September 16, 2002 responding to comments and questions from MOE.
- Correspondence from Gartner Lee Limited to Jp2g Consultants dated September 16, 2002 responding to comments and questions from MOE.

The reasons for this amendment to the Certificate of Approval are as follows:

- Condition 14 ensures that the Site will be developed and operated in accordance with the design and operations report.
- Condition 15 ensures that the Site is operated responsibly and in accordance with applicable guidelines, policies and regulations.
- 3. Condition 16 provides guidance on burning of clean wood wastes at the Site.
- 4. Condition 17 requires the Owner to re-survey the Site to include a contaminant attenuation zone that is currently owned by the Ministry of Natural Resources. Subsequent to the Owner meeting this Condition, the Certificate of Approval will be revised to recognize the larger property as the Site.
- Condition 18 requires the Owner to submit a surface water monitoring program intended to characterize the surface water quality.
- 6. Condition 19 requires the submission of a report every two years, rather than yearly, to reduce the costs to the Owner while maintaining the integrity of the monitoring program.
- Condition 20 ensures that the MOE will be promptly notified of any exceedences regardless of formal reporting schedules.
- Condition 21 allows the District Manager to modify or revise programs as deemed appropriate while allowing the Owner to request changes to the programs without requiring an amendment to the Certificate.
- 9. Condition 22 ensures that a sound closure plan is in place before the Site has reached final capacity.

This Notice shall constitute part of the approval issued under Provisional Certificate of Approval No. A412407 dated March 27, 1980 and amended September 24, 2001.

In accordance with Section 139 of the <u>Environmental Protection Act</u>, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the <u>Environmental Protection Act</u>, provides that the Notice requiring the hearing shall state:

- 1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
- 2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

- The name of the appellant;
  - The address of the appellant;
  - The Certificate of Approval number,
- The date of the Certificate of Approval;
- The name of the Director;

The municipality within which the waste disposal site is located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

Secretary\*
ironmental Review Tribunal

The Director
Section 39, Environmental Protection Act

2300 Yonge St., 12th Floor P.O. Box 2382 Toronto, Ontario M4P 1E4

AND

Ministry of Environment and Energy 2 St. Clair Avenue West, Floor 12A Toronto, Ontario M4V 1L5

\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.

DATED AT TORONTO this 27th day of November, 2003

Ian Parrott, P.Eng.

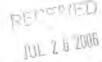
Director

Section 39, Environmental Protection Act

ЛН/ c:

District Manager, MOE Ottawa
Lauree Armstrong, Jp2g Consultants Inc.

20060248





Ministry of the

Ministère de Environment l'Environnement AMENDMENT TO PROVISIONAL CERTIFICATE OF APPROVAL WASTE DISPOSAL SITE

**NUMBER A412407** Notice No. 3

Issue Date: July 19, 2006

The Corporation of the Township of Head, Clara and Maria

15 Township Hall Road Stonecliffe, Ontario

K0J 2L0

Site Location: Deux Rivieres Waste Disposal Site

201 Brent Road

Head, Clara and Maria Township, County of Renfrew

You are hereby notified that I have amended Provisional Certificate of Approval No. A412407 issued on March 27, 1980 and amended on September 24, 2001 and November 27, 2003 for the use and operation of a 0.4 hectare landfilling area within a total site area of 1.4 hectares, as follows:

- I. Condition (17) is hereby revoked and replaced with:
  - By December 31, 2006, the Owner shall submit to the Director for approval: (17)
    - i) a completed plan of survey for the property showing the landfill area and the Site area including the buffer and lands purchased or to be purchased from the Ministry of Natural Resources:
    - ii) documents showing land ownerships of surveyed property; and
    - a copy of registration of plan of survey. iii)

The reason for this amendment to the Certificate of Approval is as follows:

To approve the Township's request to extend the deadline for acquiring buffer lands from the Ministry of Natural Resources.

This Notice shall constitute part of the approval issued under Provisional Certificate of Approval No. A412407 dated March 27, 1980, as amended.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

- 1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
- 2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

- The name of the appellant;
- 4. The address of the appellant;
- The Certificate of Approval number;
- 6. The date of the Certificate of Approval;
- The name of the Director;
- The municipality within which the waste disposal site is located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary\*
Environmental Review Tribunal
2300 Yonge St., Suite 1700
P.O. Box 2382
Toronto, Ontario

M4P 1E4

AND

The Director
Section 39, Environmental Protection Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.

DATED AT TORONTO this 19th day of July, 2006

ON July 21 2006

(Signed)

Tesfaye Gebrezghi, P.Eng.

Director

Section 39, Environmental Protection Act

DL/

c: District Manager, MOE Ottawa Kevin Mooder, Jp2g Consultants Inc.

# **APPENDIX B**

# CORRESPONDENCE CONDITION 17

ENGINEERS # FLANNERS # PROJECT MANAGERS

September 5, 2006

Ministry of Environment EA and Approvals Branch 2 St. Clair Avenue West Floor 12A Toronto, ON M4V 1L5

Attention:

Mr. David Lee

Re:

Deux Rivieres Waste Disposal Site Township of Head, Clara and Maria

Certificate No. A412407 Our Project No. 2006024F

Dear Sir:

We acknowledge receipt of the Amended Certificate under Notice No. 4 dated July 19, 2006 for the above captioned site. Since receiving the Amended Certificate dated November 27, 2003 the Township has initiated works related to satisfying Condition No. 17.

- instructed an Ontario Land Surveyor to complete the plan of survey for the entire site area including buffer
- liaison with MOE Ottawa District Office and Nafiseh Pourhassani, P. Eng. August 2004 to obtain approval for an extension to condition deadline
- received preliminary survey plans from OLS and circulated to MNR (and TCPL)
- obtained instruction from MNR September 13, 2004
- May 26, 2006 Jp2g field survey and comparison to OLS plans
- circulated to MNR for comment and clarification June 14, 2006 and July 11, 2006

Recently we have been advised by the MNR that the Surveyor's General Office does not wish to have the landfill area shown on the plan of survey. I would confirm that the area which has landfilled waste was shown on the 2004/2005 Annual Report and was tied into the O.L.S. monumentation, so a record of the waste disposal location is available. Trusting this is satisfactory, and we can advise the O.L.S. to finalize the survey plan without showing the landfilling area which will satisfy Condition No. 17 accompanied by the other documents.

Yours truly,

Jp2g Consultants Inc.

Engineers · Planners · Project Managers

Kevin J. Mooder Sr. Project Planner

KJM/dr

c.c.: - Melinda Reith, Clerk



December 12, 2006

Ministry of Environment
Environmental Assessment and Approvals Branch
2 St. Clair Avenue West, Floor 12A
Toronto, ON M4V 1L5

Attention:

Tesfaye Gebrezghi, P.Eng.

Director S.39 EPA

Re:

Deux Rivieres (Clara) Waste Disposal Site

Township of Head Clara & Maria

Certificate No. A412407 Our Project No. 2006024G

Dear Sir:

Under Condition 17 Notice No. 3 dated July 19, 2006 the Township is to acquire buffer lands from the Ministry of Natural Resources.

At this writing the Ontario Land Surveyor has completed a draft plan of survey for pre-approval of the Ministry. As the final documentation will not be completed by December 31, 2006 (as required by Condition 17), this submission is to advise accordingly.

Trusting an amendment to the Certificate is deemed unnecessary as the condition is to be satisfied early in the new year.

Yours very truly, Jp2g Consultants Inc.

Engineers · Planners · Project Managers

**Kevin Mooder** 

Senior Project Planner

KJM/jlp

c.c.: - Melinda Reith, Clerk

- Marc- Etienne Lesieur



ENGINEERS | PLANNERS | PROJECT MANAGERS

January 16, 2007

Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, ON K1H 1E1

Attention:

Marc-Etienne Lesieur

Sr. Environmental Officer

Re:

Deux Rivieres Landfill Site Gertificate No. A412407 Our Project No. 2006024H

Dear Sir:

This submission is provided as a response to the Site Inspection Report dated December 8, 2006 issued to the Townships of Head, Clara and Maria under your letter dated December 8, 2006. In consultation with Council, the following describes the status of the actions for the item identified in your report Section 5.0 (Action Required) and 6.0 (Other Instead of Section Findings).

## Burning of brush and clean wood

As described in the Site Development and Operations Plan dated December, 2001 (Jp2g, 2001) there are approved procedures for the burning of brush and clean wood. As noted during your December 4, 2006 site inspection there was no evidence of painted, pressure treated or stained wood, or plywood in the segregated burn pile. The Township will continue their efforts in this regard.

# 2. Fill Beyond Approved Limits (FBAL)

As reported in the 2004/2005 Annual Report a trench was developed and operational beyond the northwest limits of the proposed 0.4 ha landfilling area. This 0.4 ha area was defined in the Site Development and Operations Plan (Jp2g, 2001) based on a backhoe test pit program and to generally reflect the landfilling limits described in the Provisional Certificate of Approval No. A412407 dated March 27, 1980 (which was amended September 24, 2001 and November 27, 2003 to include Jp2g, 2001).

As you can appreciate, the methods and location of waste disposal on this site, since the 1975 site plans, have not been well recorded. Similarly the limits of the landfilling area, approved under the Certificate were not well defined in the field until recently.

As part of the application for site closure (see item 3) the Township will accurately describe the landfill site limits, including the landfilling area (based on existing field survey) and the total site area including the CAZ (based on O.L.S. survey plans). The FBAL will be addressed as per MOE Guidelines, and the area will be closed and then included in the site description as part of the landfilling area.

# Site Closure

As required under Condition 22 the Township will be filing an application for site closure in 2007. As the regular household and commercial solid waste is being diverted to the Bissett Creek site, it is expected that the Deux Rivieres site can continue to receive C & D waste for landfilling into late 2007 before reaching the theoretical maximum volumetric capacity of 12,192m³ as per Gondition 13, or 12,175m³ as per Condition 14 (Item 8 Schedule "A").

The Site Closure application will include an amended site description, details on the application of final cover, a post-closure monitoring maintenance, inspection and reporting program, and a description of the end use of the site.

# 4. Condition 17 CAZ

On December 12, 2006 a letter was filed with the Director copied to your attention, acknowledging that the December 31, 2006 compliance deadline under Notice No. 4 dated July 19, 2006 would not be met. Based on recent discussions with the O.L.S. the legal survey plan should be available by the end of January 2007 for circulation and pre-approval of MNR. Please advise if you wish to receive a copy of the plan before it is finalized, registered and the landownership documents are filed with the Director.

#### Other Inspection Findings

The 2004/2005 Annual Report represents the first operations and environmental quality monitoring report issued to satisfy Condition 19 under the amended Gertificate. The Township's record keeping and recording procedures and the consultant team's reporting protocol will be improved to address the requirements which will accurately reflect the site's development over the 2006/2007 period. The Township will implement a segregated storage area for white goods containing refrigerants, and manage them according to regulation.

Trusting this is satisfactory.

Yours very truly, Jp2g Consultants Inc.

Engineers · Planners · Project Managers

Kevin Mooder

Senior Project Planner

KJM/dr

c.c.: - Melinda Reith, Clerk

Perry Larochelle, Jp2g



engineers - Planners - Project Managers

April 2, 2007

Ministry of the Environment Ottawa District Office 2430 Don Reid Drive Ottawa, ON K1H 1E1

Attention:

Mr. Marc-Etienne Lesieur, P.Geo

Sr. Environmental Officer

Re:

Deux Rivieres Landfill Site Certificate No. A412407

Township of Head, Clara and Maria

Our Project No. 2006024H

Dear Sir:

Further to your letter of January 26, 2007 I would confirm that the Ontario Land Surveyor has filed the proposed Plan of Survey with Mr. Terry McLeish at MNR Pembroke a reduced draft copy is attached for your file. According to the O.L.S. calculations the total site area will be 16.383 ha save and except Brent Road as Part 2 (0.912 ha).

Under Condition 17 Notice No. 3 dated July 19, 2006 the Township was to acquire the buffer lands involving plan preparation, ownership documentation and registration. As noted a letter dated December 12, 2006 was filed with the Director advising that the December 31, 2006 deadline would not be met.

As per your request we will advise when this Condition has been complied with.

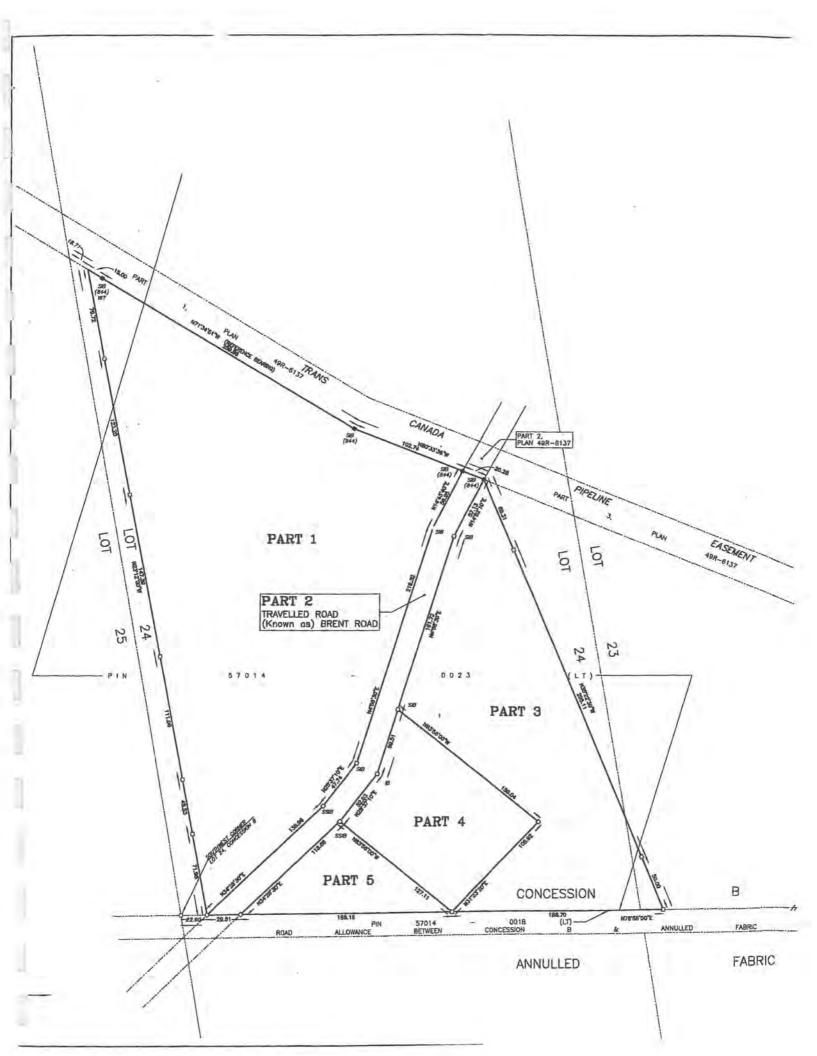
Yours very truly, Jp2g Consultants Inc. Engineers • Planners • Project Managers

Kevin J. Mooder

KJM/jlp

Encl.

c.c. Melinda Reith - Clerk



# **APPENDIX C**

# CORRESPONDENCE CONDITION 18

# Gartner Lee Limited

December 14, 2005

Mr. Steve Burns
District Manager, Eastern Region
Ministry of the Environment
Ottawa District Office
2430 Don Reid Drive
Ottawa, ON K1H 1E1

Dear Mr. Burns:

Re: GLL 21-430 – Deux Rivieres Waste Disposal Site, 201 Brent Road, Township of Head, Clara and Maria, County of Renfrew, Certificate of Approval Waste Disposal No. A412407

The Township met with Mr. Andrew Polley (MOE) on November 23, 2005 to discuss the status of the Townships waste disposal sites. Mr. Polley raised a concern that Condition 18 of the Certificate of Approval for the Deux Rivieres site was not being met and requested a proposed monitoring plan be submitted before year end. The Deux Rivieres site has a 0.4 ha landfill footprint on a 1.4 ha parcel of property. Note that our historic sampling of Cotnam Creek has indicated that there are no landfill impacts to the creek, which is indeed intermittent upstream of the landfill. Condition 18 does not reflect these conditions nor the earlier correspondence. However, we provide this program to meet the intent of the Condition, and once the actual conditions are documented, the Township could request an amendment at that future time.

#### Condition 18 states:

By March 31, 2004, the Owner shall submit to the District Manager for approval, a surface water monitoring program that includes at least two sampling points upstream and two sampling points downstream of Cotnam Creek as well as the spring at the logging camp. The program shall specify monitoring frequency, a list of parameters to be sampled and shall include field measurements for stream flow, pH, temperature, dissolved oxygen and conductivity.

This letter describes our proposed surface water monitoring plan.



# Discussion

The current ground and surface water monitoring program for the site includes annual springtime sampling of Spring #1, Cotnam Creek adjacent to Spring #1, Spring #2, the artesian well at the Hunt Camp and the well at the Clouthier Logging Camp, as shown on Figure 1.

The proposed surface water sampling locations on Cotnam Creek are shown as SW1, SW2, SW3 and SW4 on Figure 1. It is anticipated that during most of the year, the creek will not be flowing as a flow of only 0.06 L/s was estimated at Cotnam Creek adjacent to Spring #1 in the spring season (May 2003). Nevertheless, these surface water stations will be included in the monitoring program and samples collected, if possible. SW4, located about 480 west of the site, and SW3, located at the eastern site boundary, are upstream of the site. SW2, located at the northern site boundary, and SW1, located about 300 m north of the site, are downstream of the site. We will ensure that the sampling proceeds from downstream to upstream to avoid disturbance of the water prior to sampling. The spring (Spring #2) at the logging camp will continue to be monitored as well.

The sampling program for the site is summarized on the table below.

Monitoring Location	Sampling Frequency	Analytical Parameters
Groundwater Ipring #1, Spring #2, Iunt Camp well, Ilouthier Logging Camp well	Once per year (spring)	<ul> <li>Major and minor ions (Ca, Na, Cl, SO<sub>4</sub>, K, Mg, B)</li> <li>Trace Metals (Fe, Mn, Cd, Cu, Sr, Zn)</li> <li>Nitrogen species (NO<sub>3</sub>, NO<sub>2</sub>, NH<sub>3</sub>, TKN)</li> <li>General Parameters (alkalinity, conductivity, TDS, total phosphorus, COD, phenols)</li> <li>Field measurements of pH, conductivity, water temperature</li> </ul>
Surface Water SWI, SW2, SW3, SW4	Once per year (spring)	<ul> <li>Major and minor ions (Ca, Na, Cl, SO<sub>4</sub>, K, Mg, B)</li> <li>Trace Metals (Fe, Mn, Cd, Cu, Sr, Zn)</li> <li>Nitrogen species (NO<sub>3</sub>, NO<sub>2</sub>, NH<sub>3</sub>, TKN)</li> <li>General Parameters (alkalinity, conductivity, TDS, total phosphorus, COD, phenols)</li> <li>Field measurements of flow, pH, conductivity, water temperature, dissolved oxygen</li> </ul>

Note that with the addition of the sampling points specified in Condition 18 of the Certificate of Approval, sampling of the creek adjacent to Spring #1 will be discontinued. Spring #1 has never shown any landfill influence. The water quality at SW3, at the downgradient compliance point,

Page 3 Ministry of the Environment December 14, 2005



will provide information on the quality of the surface water leaving the site. This program will commence in 2006 with the results reported in the 2006-2007 Monitoring report for the site. The validity of the surface water monitoring program will be re-assessed in the 2008-2009 Monitoring report.

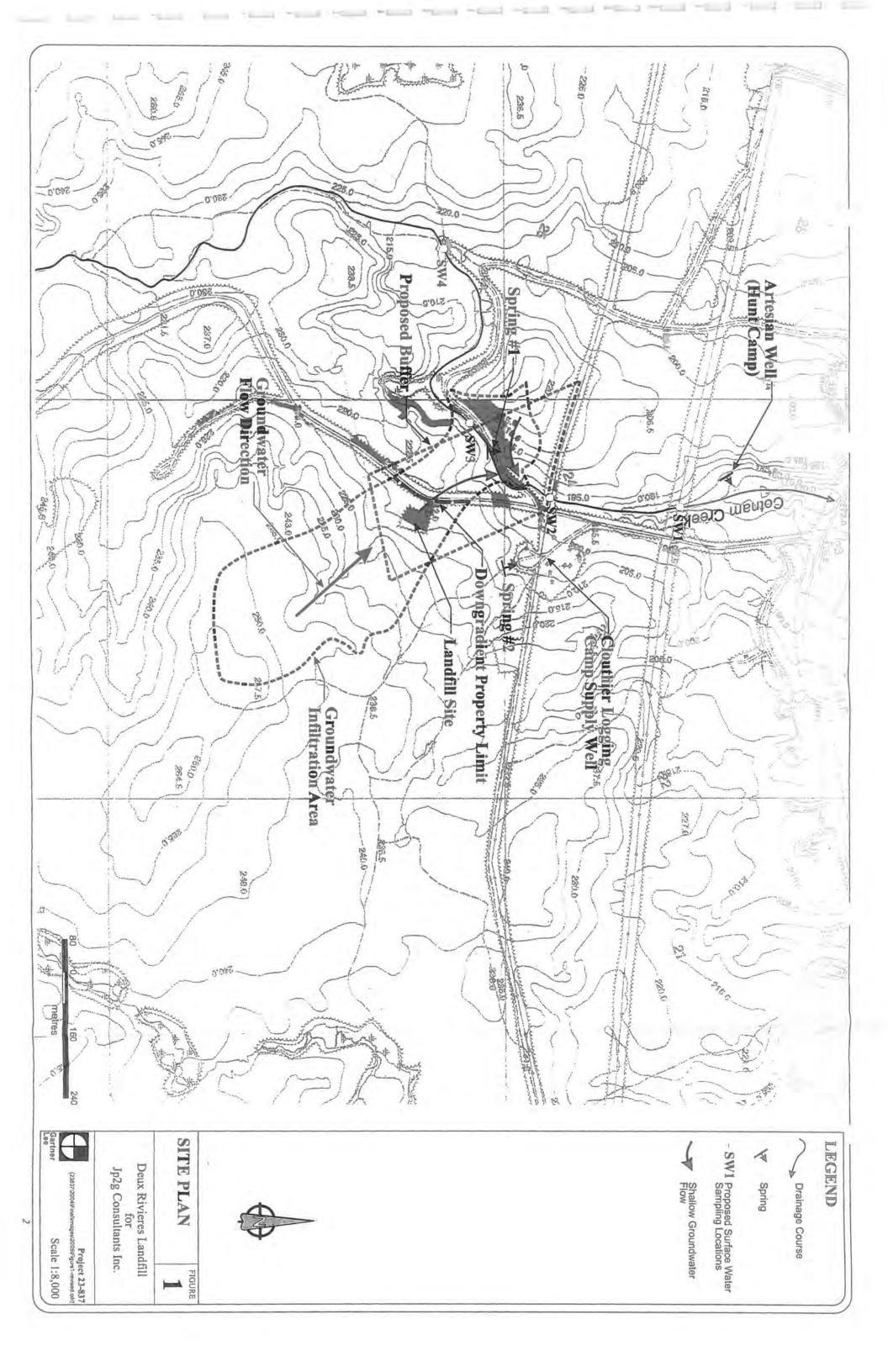
We trust that this letter meets with your needs at this time. Should you have any questions or comments, please contact me at our offices (extension 219).

Yours very truly, GARTNER LEE LIMITED

Steven J. Usher, M.Sc., P.Eng., P.Geo. Consulting Engineer, Senior Hydrogeologist

Principal

PW / SJU:tmc cc: Andew Polley, MOE



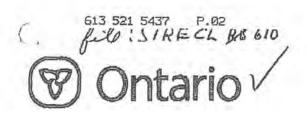
JAN-04-2007 17:27

MIN OF THE ENVIRONMENT

Ministry of the Environment

2430 Don Reid Drive Ottawa ON K1H 1E1 ...inistère de l'Environnement

2430. promenade Don Reid Ottawa ON K1H 1E1



March 3, 2006

Township of Head, Clara and Maria 15 Township Hall Road Stonecliffe, Ontario KOJ 2KO

Attention:

Melinda Reith

Clerk-Treasurer

Reference:

Deux Rivieres Waste Disposal Site Certificate of Approval No. A412407

Condition 18, Surface Water Monitoring Program

Dear Ms. Reith:

In response to the requirements of Condition 18 of the Certificate of Approval No. A412407 we have received correspondence from Gartner Lee Limited dated December 14, 2005, on your behalf.

Please be advised that the submission is acceptable to the District Manager and we look forward to a revised monitoring program once the actual field conditions have been documented further.

Thank you for your response in this matter and if any additional information is required please do not hesitate to contact our Office.

Yours truly,

Andrew Polley

Senior Environmental Officer

Ottawa District

# APPENDIX D PUBLIC MEETING





# THE CORPORATION OF THE UNITED TOWNSHIPS OF HEAD, CLARA & MARIA

15 Township Hall Road STONECLIFFE, ONTARIO KOJ 2KO

Phone: (613) 586-2526 | Fax: (613) 586-2596 | E-mail: <a href="mailto:twpshcm@xplomet.com">twpshcm@xplomet.com</a>

Tuesday, June 19, 2007

Jp2g Consultants Inc. 1150 Morrison Drive Suite 410 Ottawa, Ontario K2H 8S9

Attention:

Mr. Kevin Mooder

Re:

Deux Rivieres Landfill Site Certificate Number A412407

## Kevin

Enclosed please find a copy of minutes of our Council meeting of Friday, June 15, 2007 noting specifically the section on page one concerning the "Closure of Deux Rivieres Disposal Site Public Forum". As discussed and outlined in previous correspondence received from you, we advertised and held a public meeting to discuss our options and plans for closure of this site. There was limited attendance – three residents.

Although disheartened, the residents that attended conceded that closing the site was inevitable. Transfer stations were requested but not seriously considered by Council due to expense of operations. Focus turned to assistance with recycling.

Please proceed with the requirement under condition # 22 of our current CofA requesting submission of a closure and post-closure plan and maintenance program to MOE as required.

Should you need anything further, please call.

Sincerely

Melinda Reith

Clerk

Enclosure: Minutes of Council Meeting, June 15, 2007



# THE CORPORATION OF THE UNITED TOWNSHIPS OF HEAD, CLARA & MARIA

15 Township Hall Road STONECLIFFE, ONTARIO KOJ 2KO

Phone: (613) 586-2526 | Fax: (613) 586-2596 | E-mail: <u>twpshcm@xplomet.com</u>

# General Information - Public Meeting Closure of Deux Rivieres Landfill Site June 15, 2007

 Condition 22 of our Certificate of Approval (CoA) includes a condition for the submission of a closure, post-closure monitoring, maintenance, inspection and reporting program to the Director for approval at least one year prior to reaching final capacity – as it is a condition in the current CoA, there will be a minimal fee of approximately \$200 (aside from costs of preparation from engineering firm).

 In 2001 an amendment was submitted to the Ministry to establish the theoretical capacity of the site and develop a work plan to demonstrate how the site would be

utilized.

In 2001 estimated volume of waste was 8,450 m<sup>3</sup>

The theoretical maximum capacity of the landfill site is 12,175 m<sup>3</sup>

Remaining theoretical maximum capacity of the landfill site is 3,731 m<sup>3</sup>

 Estimate (based on continued practises) of 450m³/year over 6 years (2000-2006) = 2,700m³

 The decision to close Deux Rivieres Waste Disposal Site to all types of waste is based on the fact that the site is nearing capacity and a closure plan must be put in place. A letter from Marc-Etienne Lesieur, Senior Environmental Officer of Ministry of the Environment, dated December 8, 2006 states that:

 The 2004/2005 Annual report from Jp2g, May 2006 noted that a fill beyond approved limit occurs along the northwestern part of the site. (This reduces the total amount of remaining capacity and must be addressed by Council.)

Condition 13 of our CofA states capacity of 12, 192m³, total landfilled capacity at 2005 was 11,971m³ – leaving only 221m³ remaining.

Annual fill rate of 650m<sup>3</sup>/year - requires attention by Council.

o 2006 - site closed to household waste

2007 – site has reached capacity and need to close completely.

 "Actions Required" section #3 states that: "The landfill is near capacity and may require closure in accordance with PCofA A412407 Condition 22.
 As such, please indicate in the letter...the Township intentions with respect to the site closure."

# CORPORATION OF THE UNITED TOWNSHIPS OF HEAD, CLARA & MARIA

### June 15, 2007

Minutes of a regular meeting of Council held on Friday, June 15, 2007 at 14:00 h. in the Township Hall.

The following were present:

Reeve

Tammy Lea Sonnenburg

Councillor Councillor Councillor Councillor Dave Foote Jim Gibson Ed Aiston Robert Reid

Attendees for Public Meeting:

Doug Antier Felix Beauchamp Gaetan Lebianc

# **PECUNIARY INTEREST**

None

# APPROVAL OF AGENDA

#### Additions

- Emergency Management Reports to Reports of Committees
- Tipping Fees Agreement with Leveque to New Business
- Bylaw # 2007-13 to By-Laws

Approved by general consent.

### MINUTES

Resolution #1

Moved by Councillor Foote and seconded by Councillor Aiston BE IT RESOLVED THAT the minutes of the regular meeting of May 18, 2007 be accepted as presented.

Carried

# CLOSURE OF DEUX RIVIERES DISPOSAL SITE PUBLIC FORUM

Handout

General Information - Public Meeting Closure of Deux Rivieres Landfill Site June 15, 2007

- Condition 22 of our Certificate of Approval (CofA) includes a condition for the submission of a closure, post-closure monitoring, maintenance, inspection and reporting program to the Director for approval at least one year prior to reaching final capacity – as it is a condition in the current CofA, there will be a minimal fee of approximately \$200 (aside from costs of preparation from engineering firm).
- In 2001 an amendment was submitted to the Ministry to establish the theoretical capacity of the site and develop a work plan to demonstrate how the site would be utilized.
- In 2001 estimated volume of waste was 8,450 m<sup>3</sup>
- The theoretical maximum capacity of the landfill site is 12,175 m<sup>3</sup>
- Remaining theoretical maximum capacity of the landfill site is 3,731 m<sup>3</sup>

- Estimate (based on continued practices) of 450m3/year over 6 years  $(2000-2006) = 2,700m^3$
- The decision to close Deux Rivieres Waste Disposal Site to all types of waste is based on the fact that the site is nearing capacity and a closure plan must be put in place. A letter from Marc-Etienne Lesieur, Senior Environmental Officer of Ministry of the Environment, dated December 8, 2006 states that:
  - The 2004/2005 Annual report from Jp2g, May 2006 noted that a fill beyond approved limit occurs along the northwestern part of the site. (This reduces the total amount of remaining capacity and must be addressed by Council.)

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remaining.

Annual fill rate of 650m<sup>3</sup>/year - requires attention by Council.

o 2006 - site closed to household waste

2007 – site has reached capacity and need to close completely.

o "Actions Required" section #3 states that: "The landfill is near capacity and may require closure in accordance with PCofA A412407 Condition 22. As such, please Indicate in the letter...the Township Intentions with respect to the site closure."

Councillor Gibson spoke to the above information explaining the following:

Closure is going to happen.

- Explanation of plan to close DR and fill remaining capacity with material from Stonecliffe and Bissett - outlining the "fill beyond capacity" area located recently.
- Past request for expansion for Stonecliffe site refused by MOE, it is not likely that an expansion for Deux Rivieres would be accepted

Availability of grant money in 2007 to complete closure process.

- The original request for Certificates of Approval in 2000 by Council of the day and the subsequent certificates, limits and provisions.
- Live in fear of MOE forcing us to do things when we are not financially able to do them. Choose to be pro-active and meet requirements as we have finances available.

Mr. Beauchamp - What does that do for us? A - Nothing

Mr. Beauchamp - What about our request to transfer material from Deux Rivieres site to Bissett back 6 years or so ago; changes made then would have increased the life of our site?

A - Cannot speak to decisions made in the past by previous Councils

Further explanation of CofA - process, expense. CofA details how we have to operate our sites.

Mr. Antler - expressed concerns with material collecting at his business site because he can't meet the available hours (challenge with available hours being too restrictive-and needing a larger "window of opportunity" to take waste to the site)

- material collecting along roadsides in Deux Rivieres as a whole because people do not want to drive to Bissett.
- "one-man operation" am not always available to go at designated times
- · challenges are in summer, not other times of the year
- MOE checks for water but won't address garbage problem
- Garage used to store garbage because missed going to the dump the last 4 days.

- What do I do with construction waste? Either we need something that
  people can put it in or keep it open. It's turning into a dump it's not nice
  to look at.
- Boards, shingles where does it go? Place (Deux Rivieres) is looking like a dump.
- Made suggestions to options that might solve his particular problems, but can't speak to others
  - Sites open on two different days for 3 or 4 hours instead of 1 hour each day – no time for 2 trips in one hour in effect reduce # of days – increase # of hours.
  - o Put a bin up there (at site for transfer).

A - We've been taken to task for having the dumps open every day, a number of people find this excessive

- Sites are open every day so you won't have to wait four days to bring your waste to the sites
- Hours determined to be most accessible to most people including commercial operators who did not want waste on site over night
- Dates and hours were determined to satisfy commercial operators sometimes attendant sits there and no one shows up. Haven't seen enough evidence to change this.
- Current policy is that there is no charge for tires, fridges, freezers we
  won't charge so that people will use the landfills. If they choose to use
  the roadways, that is not our fault. We are making sites available, so far
  free of charge.
- The landfill in DR is full. We have limited choices. Do you have any constructive suggestions?

Mr. Antier - We can't get anything up there as a transfer station?

A - Would need to apply for a waste transfer station - doubt we would get approval. Explained that in order to do that the site would still be "open" and that annual costs of maintenance would continue.

Mr. Beauchamp - Campers/cottagers - throw it out or have to pack it home A - Most people (campers/cottagers) take it home - it's happening more and more

Reeve - Transfer stations - not an option. Days that work for one person do not provide access for others. Which brings us back to Deux Rivieres as a dump. We've initiated recycling. We're trying.

### Discussion on recycling ensued.

Mr. Beauchamp - Recycling is a good thing - makes a huge difference.

Councillor Gibson - \$20,000 venture to see if it works - will extend the life of our landfill. Explanation of recycling and OVWRC. Market etc. Explanation of operation at Driftwood - prepared to bag their recycling. Area inside the bear fence for recycling material at Stonecliffe site.

Councillor Foote – after 2 years – potential subsidy from WDO possibly up to 70%. Doug - If we please you, we take away from others.

Councillor Gibson - Would it help if the municipality supplied a recycling bin at your place?

Mr. Antler - we've entertained that but others didn't like that idea.

Councillor Gibson – explanation of comments of recyclers of the cleanliness of our recyclable materials. Need to continue to separate material to keep clean and dry.

Mr. Antler -would three bins work?

A – Explanation of vehicle our recycler uses for collection - must be in clear plastic bags. Combine options.

Discussion of Issues – separation of materials – if you (everyone) can, keep doing it – will reduce price next time contract comes up. Will consider assistance with recycling efforts – possible bin at location.

Councillor Gibson asked if there were any other suggestions that might help to alleviate negative feelings of people in DR?

Mr. Beauchamp - NO

Discussion concerning the frequency of power outages and campers at roadside parks ensued.

Suggestion from Councillor Gibson – Council to send letter to HydroOne – requesting maintenance of lines/clearing of trees in our area.

Mr. Antler – further complaints of campers in public access road-side parks and Municipal Park in Deux Rivieres.

A - Informed that he should call the by-law enforcement officer for our parks - OPP/MTO for roadside parks - they are not our responsibility

Public information session concluded at 15:09 h.

Guests left meeting.

# REPORTS OF MUNICIPAL OFFICERS

Reports of Municipal Officers - June 15, 2007

- KO Lodge clients and parking along Mackey Creek Road calls from local residents complaining about road being narrowed and fishing out-ofseason,
- Road Super has concerns about run off from road people are using slope as a boat launch and have road and bank all ripped up
  - Road super to place corner/danger markers along area where people are accessing the creek
  - Do we follow up with contact to KO? Reeve Croshaw did not speak with them as far as I know

Decided – place signs along roadway as a safety precaution – monitor situation, if further incidents then follow up

- Grounds-keeping Contract spoke with Lawrence Desjardins -\$100/month additional for DR Cemetery and no charge for Memorial Area
- Perry Larochelle has marked locations of final contours at Deux Rivieres, has contacted Pat Stewart
- Grading in front of office water build up contact Pat and ask him to correct the problem as soon as possible.

### **FINANCIAL REPORTS**

Resolution #2

# APPENDIX E PHOTOGRAPHS







