

**Ministry of the  
Environment**

113 Amelia Street  
Cornwall ON K6H 3P1  
Telephone: (613) 933-7402  
Fax: (613) 933-6402

**Ministère de  
l'Environnement**

113 rue Amelia  
Cornwall ON K6H 3P1  
Téléphone: (613) 933-7402  
Télécopieur: (613) 933-6402



March 31, 2004

APR - 5 2004

4205  
257-02

Diane Thauvette, Clerk-Treasurer  
Township of Alfred and Plantagenet  
205 Old Highway 17  
P.O. Box 350  
Plantagenet, ON  
K0B 1L0

**Re: Waste Disposal Site Compliance Inspection Report  
Alfred Township Waste Disposal Site (Ward 3)**

Dear Madam:

The above-noted facility was inspected on May 8, 2003, by Gerry Murphy, Senior Environmental Officer, for this office and subsequently photos of the site were taken on March 22, 2004. Enclosed is a copy of the inspection report.

Your attention is directed to Section 5.0 (Action(s) Required) of the report.

If you have any questions or comments, please do not hesitate to contact Marc Robert, Senior Environmental Officer, at this office at extension 229.

Yours truly,

A handwritten signature in black ink, appearing to read "KHosler", with a long, wavy horizontal line extending to the right.

Kevin Hosler  
Area Supervisor  
Cornwall Area Office - Kingston District

File Storage Number: SI PC AT C3 252

GM:sp  
Enclosure

S:\GROUPS\WORDPRO\2003\Inspections\Waste\Alfred Twp Ward 3.wpd





## Solid Non-Hazardous Waste Disposal Site Inspection Report

<b>Client:</b>	The Corporation of the Township of Alfred and Plantagenet Mailing Address: PO Box 350, Plantagenet, Ontario, Canada, K0B 1L0 Physical Address: 205 Old Highway 17, Alfred and Plantagenet, Township, United Counties of Prescott and Russell, Ontario, Canada Telephone: (613)673-4797, FAX: (613)673-4812 Client #: 4866-4HEMCP, Client Type: Municipal Government		
<b>Inspection Site Address:</b>	Alfred Twp. Ward 3 Landfill A470904 Address: Lot: 35, Concession: 3, Alfred and Plantagenet, Township, United Counties of Prescott and Russell District Office: Cornwall		
<b>Contact Name:</b>	Monique Bastien	<b>Title:</b>	Deputy Clerk
<b>Contact Telephone:</b>	(613)673-4797 ext225	<b>Contact Fax:</b>	(613)673-4812
<b>Last Inspection Date:</b>	1999/10/20		
<b>Inspection Start Date:</b>	2003/05/08	<b>Inspection Finish Date:</b>	2003/05/08
<b>Region:</b>	Eastern		

### 1.0 INTRODUCTION

As of September 1999, ownership of the site has been taken over by the Township of Alfred and Plantagenet and is known as the Ward 3 site. All dry wastes (solid non-hazardous industrial) consisting mainly of wood and plastic that were located within the northern portion of the waste disposal site, have been moved onto the approved footprint.

The municipality is currently applying to amend the existing certificate of approval as explained further in this document.

### 2.0 INSPECTION OBSERVATIONS

#### Certificate of Approval Number(s):

Appendix "A"- Certificate of Approval (CofA) issued July 14, 1981.

#### 2.1 FINANCIAL ASSURANCE:

No record of Financial Assurance on Ministry files.

#### 2.2 APPROVED AREA OF THE SITE:

The approved area of the site is 37.4 hectares of which 2.51 hectares is the approved footprint as outlined in the site assessment drawing, Appendix "B".

#### 2.3 APPROVED CAPACITY:

The site does not have an approved site capacity.

**2.4 ACCESS CONTROL:**

Access is controlled by a locked chain. No evidence of fencing around the perimeter of the site.

**Note:** There is no site supervision requirement since waste pick-up and disposal is done by the municipality, with the site not being open to the public.

**2.5 COVER MATERIAL:**

The municipality ensures the site is covered with sand monthly, as per instructions on the C of A. No evidence of windblown litter leaving the site.

Please note that the site was re-visited on March 22, 2004, and at that time a considerable amount of uncovered waste was observed over a wide expanse of the waste disposal site's landfilling area. It was also apparent that this waste had remained uncovered for a long period of time. Photos of the uncovered waste are included with this report.

**2.6 WASTE BURNING:**

The C of A stipulates burning of domestic waste is prohibited at this site.

**2.7 GROUNDWATER/SURFACEWATER IMPACT:**

Appendix "C" contains Ministry of the Environment (MOE) Technical Support comments and municipal responses pertaining to reports submitted to this Ministry by the municipality's consultant for years 2000 to 2002. These reports deal with the 2000 and 2001 Hydrogeological Investigation and Groundwater Monitoring Programs and the October 2002 Ward 3 Closure Design Report.

**2.8 LEACHATE CONTROL SYSTEM:**

Technical Support's assessment after review of the 2000 and the 2001 hydrogeological investigation and groundwater monitoring reports, indicate that leachate impacts are evident but the waste disposal site is currently in compliance with Reasonable Use Guideline B-7. However, the site has been monitored only recently and more data is necessary to determine groundwater quality trends. Noted, is the fact that the area of the site is long and narrow with a component of groundwater flow (leachate migration) toward the nearby eastern property boundary.

**2.9 METHANE GAS CONTROL SYSTEM:**

According to the October 2002 Ward 3 Landfill Closure Design Report, the consultant (Stantec) in Section 4.5 states that, "Due to the remote location of the site (the nearest residence is more than 300 metres to the north of the footprint and upgradient), the potential for landfill gas impact/migration was considered minimal and no specific measures are required".

**2.10 OTHER WASTES:**

No evidence of waste other than solid non-hazardous is being deposited at this site.

**3.0 REVIEW OF PREVIOUS NON-COMPLIANCE ISSUES**

Currently, the municipality is in the process relocating waste within the approved footprint. This solid non-hazardous waste is positioned in the north east corner of the site

**4.0 SUMMARY OF INSPECTION FINDINGS (HEALTH/ENVIRONMENTAL IMPACT)**

**Was there any indication of a known or anticipated human health impact during the inspection and/or review of relevant material, related to this Ministry's mandate ?**

No

**Specifics:**

**Was there any indication of a known or anticipated environmental impact during the inspection and/or review of relevant material ?**

No

**Specifics:**

**Was there any indication of a known or suspected violation of a legal requirement during the inspection**

and/or review of relevant material which could cause a human health impact or environmental impairment ?

No

Specifics:

Was there any indication of a potential for environmental impairment during the inspection and/or the review of relevant material ?

No

Specifics:

## 5.0 ACTION(S) REQUIRED

The October 2002 Ward 3 Landfill Closure Design Report contains an application from the municipality to amend the current Certificate of Approval. The proposed amendment is for:

1. the change in ownership of the site from private to a municipal, owned by the Township of Alfred and Plantagenet;
2. reduction of total site area from 37.4 ha to 21.2 ha;
3. approval for the design of final waste contours and final cover that includes incorporation of a groundwater monitoring program.

This Ministry's Environmental Assessment and Approvals Branch has provided a draft amended approval for review that incorporates the above requested proposals.

## 6.0 OTHER INSPECTION FINDINGS

Once the amended Certificate of Approval is finalized, this will provide the municipality with a more comprehensive outline of requirements this Ministry has imposed to keep the site in regulatory compliance.

## 7.0 INCIDENT REPORT

☐ Applicable ☒ Not Applicable

## 8.0 ATTACHMENTS

Required attachments:



09Carrierw3-300304.wpd Appendix "A": Certificate of Approval

Appendix "B": Site Assessment Drawing

Appendix "C": MOE Technical Support Comments and Municipal Responses to 2000 to 2002 Consultant's Reports.

Appendix "D": March 22, 2004 photos

PREPARED BY:

Environmental Officer:

Name:

Gerry Murphy

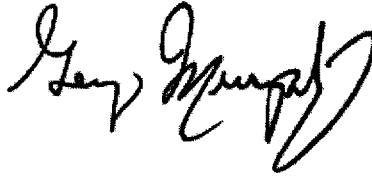
District Office:

Cornwall Area Office

Date:

2003/12/01

Signature



**REVIEWED BY:  
District Supervisor:**

**Name:**

Peter Milley

**District Office:**

IEB Kingston District

**Date:**

2003/12/04



**Signature:**

**File Storage Number:**

SI PC AT C3 252

**Note:**

"This inspection report does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they may apply to this facility. It is, and remains, the responsibility of the owner and/or the operating authority to ensure compliance with all applicable legislative and regulatory requirements"

**Appendix "A"**

**CERTIFICATE OF APPROVAL**



Ontario  
Ministry of the Environment

Provisional Certificate No.

A 470904

# PROVISIONAL CERTIFICATE OF APPROVAL

FOR A

## WASTE DISPOSAL SITE

MINISTRY OF THE ENVIRONMENT

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

Arthur N. Carriere

R. R. # 1

Alfred, Ontario

CORNWALL

For the use, operation and establishment of a landfilling site all in accordance with Schedule "A".

Located on Part of W $\frac{1}{2}$  Lot 35, Concession 3  
Alfred Township  
Prescott County

THIS IS A TRUE COPY OF THE  
ORIGINAL CERTIFICATE MAILED

ON AUG 12 1977

(Signed)

*D. P. Caplice*

This Provisional Certificate expires on the 15th day of August, 1982.

Dated this 11th day of August, 1987.

DIRECTOR, SECTION 3 (a) E.P.A.

SCHEDULE "A"

Provisional Certificate of Approval No. A 470904

1. Application and Supporting Information forms for the Waste Disposal Site dated November 24, 1976.
2. Document entitled "Description of Proposed Waste Disposal Site".
3. Aerial photography showing the proposed site and surrounding area.
4. Plan dated November 26, 1976 showing the proposed waste disposal site and adjacent property owners.
5. "Operative Plan of Mr. Arthur Carrier's Proposed Dump Site in the Township of Alfred" dated January 6, 1977 prepared by Andre F. Desjardins, P. Eng., Consulting Engineer.



## 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:

Arthur N. Carriere,  
R.R. #1,  
Alfred, Ontario.

for the use and operation of a 2.51 hectare landfilling site within a total site area of 37.4 hectares.

all in accordance with the following plans and specifications:  
as per Schedule "A" (see attached)

Located: Part of West 1/2 of Lot 35, Concession 3,  
Township of Alfred,  
County of Prescott

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) 65% commercial, 30% domestic and 5% non-hazardous solid industrial waste.

and subject to the following conditions:

Registered  
ON TITLE as  
Instrument  
48131

1. No waste shall be disposed of at the site until this Certificate including the reasons for this condition has been registered by the applicant as an instrument in the appropriate Land Registry Office against title to the site and a duplicate registered copy thereof has been returned by the applicant to the Director.
2. Wastes are to be deposited in an orderly manner in the fill area, compacted and adequately covered by 15 cm (6") of cover material once a month between April 15 and November 15, or as directed by the Director of the Southeastern Region of the Ministry of the Environment.
3. Burning of domestic waste is prohibited at the site.

THIS IS A TRUE COPY OF THE  
ORIGINAL CERTIFICATE MAILED

ON 23.7.81

Dated this 14th day of July 1981

Director, Section 39,  
The Environmental Protection Act, 1971

Jan / 6, 1977.

Mr G.J. McKenna, P.Eng.,  
District Officer,  
Municipal and Private Abatement,  
4 Montréal Road,  
Second Floor,  
Cornwall, Ontario.

MINISTRY OF THE ENVIRONMENT

JAN 11 1976

RECEIVED

Subject: Operational Plan of Mr Arthur N. Carrière's  
Proposed Dump Site in the Township of Alfred.

Dear Sir:

Mr Arthur N. Carrière, if his dump site is approved  
intends to operate in the following manner:

- According to Mr. Carrière  
used using the trench  
in approx 1980 present  
method of landfill*
1. The trenches will be dug to a maximum depth of 6' <sup>1.82m</sup> feet, starting at the northeast end of the dump site, excavating the trench parallel to the east property line and progressing gradually with the other trenches toward the west side of the dump with all trenches being parallel to one another.
  2. Compaction of the garbage and coverage with 6 inches of fill material will be done at least once a month and more frequently if required.
  3. The access gate to the dump will be locked when the dump is not being used and signs will be erected near the gate. The signs erected will indicate the following:
    - a) No trespassing.
    - b) Hours for dump opening (as per Village requirements)
    - c) Materials accepted in the dump site.
  4. A buffer zone of 150 feet will be observed from all neighboring properties. This 150 feet buffer zone will include 50 feet of screening from adjacent properties.
  5. The garbage will be compacted and covered using a D-6 dozer. The gravel road to the dump site is private and will be maintained by Mr Carrière.

Yours truly,

*André Desjardins*

André E. Desjardins, P.ENG.

c.c. Mr Carrière.

SCHEDULE "A"

Provisional Certificate of Approval No. A 470904

1. Application and Supporting Information forms for the Waste Disposal Site dated November 24, 1976.
2. Document entitled "Description of Proposed Waste Disposal Site".
3. Aerial photography showing the proposed site and surrounding area.
4. Plan dated November 26, 1976 showing the proposed waste disposal site and adjacent property owners.
5. "Operative Plan of Mr. Arthur Carrier's Proposed Dump Site in the Township of Alfred" dated January 6, 1977 prepared by Andre F. Desjardins, P. Eng., Consulting Engineer.

MINISTRY OF THE ENVIRONMENT

# NOTICE

TO: Arthur N. Carriere,  
R.R. #1,  
Alfred, Ontario.

You are hereby notified that Provisional Certificate of Approval No. A 470904 has been issued to you subject to the conditions outlined therein.

The reasons for the imposition of these conditions are as follows:

1. A reason for the condition requiring registration of the Certificate is that Section 46 of The Environmental Protection Act, 1971 prohibits any use being made of the lands after they cease to be used for waste disposal purposes within a period of twenty-five years from the year in which such land ceased to be used unless the approval of the Minister for the proposed use has been given. The purpose of this prohibition is to protect future occupants of the site and the environment from any hazards which might occur as a result of waste being disposed of on the site. This prohibition and potential hazard should be drawn to the attention of future owners and occupants by the Certificate being registered on title.
2. The reason for the imposition of condition 2 is to ensure that the development of this landfilling site will be in an orderly and systematic manner and the landfilling operations will be in accordance with the provisions of The Environmental Protection Act, 1971 and Regulation 824 pursuant to that Act and the use and operation of the site without such a condition may create a nuisance.
3. A reason for condition 3 is to ensure the health and safety of any person and the operations of the site without such a condition may create a nuisance.

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.

This Notice should be served upon:

The Secretary  
Environmental Appeal Board  
1 St. Clair Avenue West  
5th Floor  
Toronto, Ontario  
M4V 1X7

The Director  
Section 39, E.P.A.  
AND Ministry of the Environment  
133 Dalton Street, Box 820,  
Kingston, Ontario  
K7L 4X6

Dated at Toronto this 14th day of July, 1981.



**Appendix "B"**

**SITE ASSESSMENT DRAWING**


# Appendix "B"




Note: 2002 Municipality applied to amend CofA - Application - Original land owner A. Carriere to retain 16.2 Ha's reducing total site size applied for to 21.2 ha's

MEVZ (100 A.)  
MATERIAL ELEMENT  
1987 11/26/87 TO  
2002 11/26/02 (68)

ALL  
2001 11  
2002 11/26/02  
1987 11/26/87

 AREA Purchased by Municipality in Sept./99-21.2 Ha

 Approved Total Area of Site - 37.4 Ha as per 1981 CofA

Note: A. CARRIERE Retained 16.2 Ha For personal use

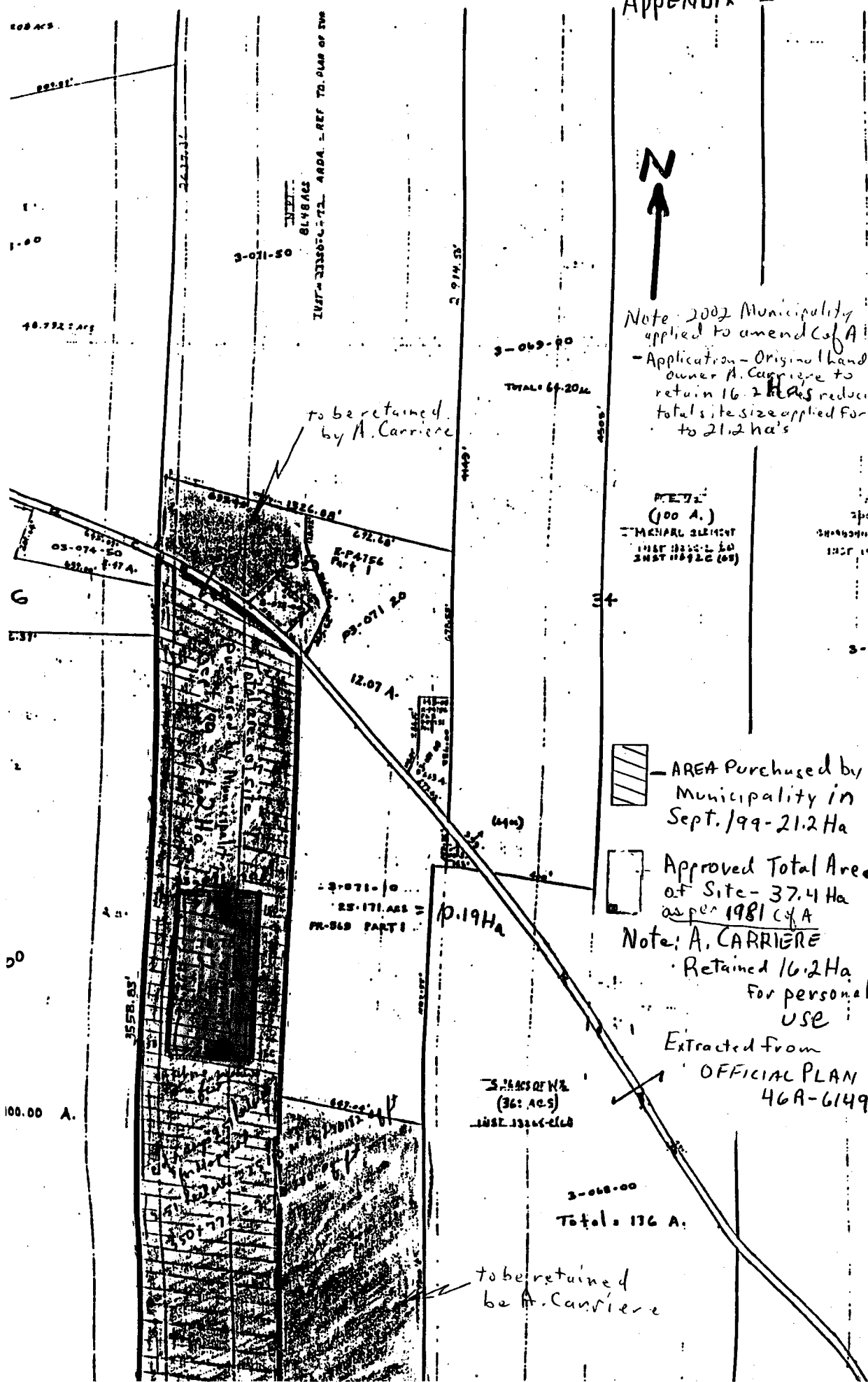
Extracted from OFFICIAL PLAN 46A-6149

3.26 ACRES (36 ACES)  
100% 33245-4149

3-068-00  
Total: 176 A.

to be retained by A. Carriere

to be retained by A. Carriere



**Appendix "C"**

**MOE TECHNICAL SUPPORT COMMENTS  
AND  
MUNICIPAL RESPONSES TO 2000 TO 2002  
CONSULTANT'S REPORTS**

Ministry of the  
Environment

133 Dalton Avenue  
P O Box 820  
Kingston ON K7L 4X6

Ministère de  
l'Environnement

133 avenue Dalton  
C P 820  
Kingston ON K7L 4X6



Ontario

1-613/549-4000 1-800/267-0974 Fax: 613/548-6908

## MEMORANDUM

TO: Gerald Murphy  
Senior Environmental Officer  
Cornwall Office  
Eastern Region

FROM: Bob Putzlocher  
Hydrogeologist  
Technical Support Section  
Eastern Region

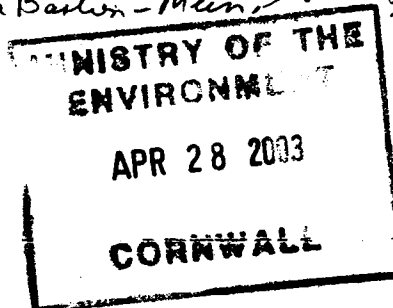
RE: Ward 3 Waste Disposal Site  
Closure Design Report

**FAXED**  
April 29/03

Chris Marentette - (Golden) - Nov 20/03  
Vesna Guzina - EAAB

25 April 2003

To: Gerry Kalench - Stantec  
Monique Bastien - Menn. → for review response



I have completed a review of the report entitled "Ward 3 Landfill Closure Design Report", prepared by Stantec Consulting Limited and dated October, 2002. The following comments are provided with respect to groundwater issues.

### Background

The Ward 3 WDS was formerly known as the Carriere landfill site and is located on Part of West ½ of Lot 35, Concession III in the Township of Alfred and Plantagenet, Ontario. The landfill operates under Certificate of Approval # A470904 first issued in 1977. The total approved property area was 37.4 hectares with a licensed waste footprint of 2.5 hectares. In September, 1999 the municipality purchased 21.2 hectares with the former owner retaining 16.2 hectares for personal use. The closure report is submitted along with an application for amendments to the C of A to recognize the following items:

1. change in operating method;
2. approval of final waste contours;
3. approval for placement of final cover once capacity is reached;
4. post-closure groundwater monitoring program;
5. site area reduction;
6. change in ownership.

### Groundwater Monitoring and Regulatory Compliance

The closure support is submitted before the results of the year 2002 monitoring program. I previously reviewed and commented on the years 2000 and 2001 hydrogeological investigations and groundwater monitoring reports. The assessments provided in those reports indicated that leachate impacts are evident but the WDS is currently in compliance with Reasonable Use Guideline B-7.





## Fax Transmittal

400 1505 Laperriere Avenue  
Ottawa, ON, K1Z 7T1  
Ph: 613-722-4420 fax: 722-2799  
Email: name@stantec.com

**FAXED**  
May 8/03

To: Bob Pützlocher



**Stantec**

To: Ministry of the Environment

From: Gerry Lalonde

Attention: Mr. Gerald Murphy

Tel. No: 613-724-4389

Fax No: 613-933-6402

Fax No: 613-722-2799

Date: 13 May 2003

3 pages total includes cover sheet

File: 63400212

Original will NOT follow by mail.

THE CONTENT OF THIS FAX IS CONFIDENTIAL. IF THE READER IS NOT THE INTENDED RECIPIENT OR HIS AGENT, BE ADVISED THAT ANY DISSEMINATION, DISTRIBUTION OR COPYING OF THE CONTENT OR OF THIS FAX IS PROHIBITED. IF YOU HAVE RECEIVED THIS FAX IN ERROR, PLEASE NOTIFY US IMMEDIATELY AND RETURN THE ORIGINAL FAX TO US BY MAIL AT OUR EXPENSE. THANK YOU.

*Convincer Site*

Reference: RESPONSE TO WARD 3 COMMENTS - ALFRED PLANTAGENET

Stantec has been authorized by the Township of Alfred Plantagenet to send you the attached letter which responds to your Ministry's review comments on the Ward 3 landfill. Please give me a call at the above telephone number if you wish to discuss the matter further or need clarification.

Regards.

Yours truly,

w:\active\634 00212\_ep\_ward\_3\_landfill\fax\fax\_g\030513\_moe\_responsoto comment.doc

*Gerry Lalonde*

Gerry Lalonde, P. Eng.

cc: Alfred Plantagenet - 673 - 7812

#1738 P.001/003

STANTEC CONSULTING

MAY.13.2003 17:45 722-2799



**Stantec**

13 May 2003  
File: 63400212

Tel: 724-4389  
Fax: 722-2799

Ministry of the environment  
113 Amelia Street  
Cornwall ON  
K6H 3P1

**Attention: Mr. Gerald Murphy, Sr. Env. Officer**

Dear: Mr. Murphy

**Reference: WARD 3 WASTE DISPOSAL SITE**

We acknowledge receipt of your 29 April 2003 fax to the Township of Alfred Plantagenet containing the Memorandum from Mr. Bob Putzlocher on the review comments for the "Ward 3 Landfill Closure Design Report". Your fax requested that the municipality review the comments and provide a response. The memo contained three conclusions/recommendations which we respond to as follows;

**Comment 1 – Adequate monitoring of groundwater quality will be necessary. The Township has authorized Golder Associates to undertake a groundwater monitoring event in the fall of 2003.**

**Comment 2 – The consultant has proposed a groundwater monitoring program that includes all available 17 monitoring points. The frequency of sampling and analytical parameter list is acceptable. As indicated previously, the Township has authorized Golder Associates (GA) to conduct a groundwater monitoring program during 2003.**

**Comment 3 – Neither the previous site reports nor the closure report have presented a contingency plan to deal with the potential for future non compliance at the property boundaries. The Township only acquired the landfill property in 1999 and conducted its first hydrogeological investigation in the fall of 2000. Including the year 2002, there have been only five sampling events completed to date. The 2001 GA monitoring report concluded that a discussion on site compliance along the east and west landfill boundaries would be deferred until additional groundwater quality data could be collected at monitoring wells in boreholes BH01-8, BH01-9 and BH01-10. Since the 2001 GA monitoring data indicated that the horizontal gradients ranged between 0.001 and 0.005 and the linear horizontal groundwater velocity within the sand unit below the landfill is less than 1 to 4 metres per year towards the south/southeast, the slow advancement of a plume off site would be identified by the monitoring program now in place before it posed any significant concerns. With the issuance of an amended Certificate of Approval for the site, it is assumed that a condition specifying annual reporting would be incorporated into the CoFA. Any discussion on a contingency plan and trigger mechanisms should form part of the annual report. We propose that the 2003 annual monitoring report contain a discussion on**

Buildings

Environment

Industrial

Management Systems

Transportation

Urban Land

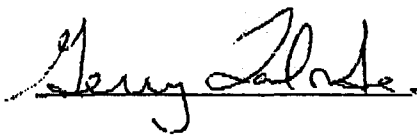
13 May 2003  
Mr. Gerald Murphy  
Page 2

Reference: WARD 3 LANDFILL

*potential contingency measures. Development of a trigger mechanism can also be considered if sufficient monitoring data has been collected.*

Trusting that the above responds to your concerns.

Sincerely,  
STANTEC CONSULTING LTD.



Gerry Lalonde, P. Eng.  
Associate  
glalonde@stantec.com

- c. Township of Alfred Plantagenet – fax 673-4812
- d.

w:\active\634\_00212\_ap ward 3\_landfill\Netcr\tr\_gi030512\_responsetomrue.doc

**Stantec**

Ministry of the  
Environment

133 Dalton Avenue  
P O Box 820  
Kingston ON K7L 4X6

Ministère de  
l'Environnement

133 avenue Dalton  
C P 820  
Kingston ON K7L 4X6

*Appendix C*  
*SI PC AT C 3 610*  
*(37308)*  
*Aug 28/02*  
**Ontario**  
1-613/549-4000 1-800/267-0974 Fax: 613/548-6908

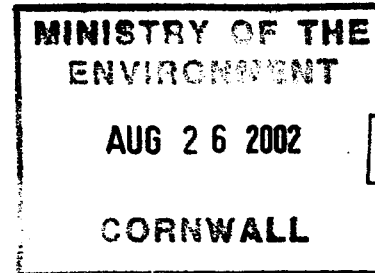
## MEMORANDUM

22 August 2002

TO: Gerald Murphy  
Senior Environmental Officer  
Cornwall Area Office  
Eastern Region

FROM: Bob Putzlocher  
Hydrogeologist  
Technical Support Section  
Eastern Region

RE: 2001 Hydrogeological Investigation and Monitoring Program  
Ward 3 WDS (Carrier Site)



**FAXED**  
*Aug 28/02*  
*Tok. K. Marentette*  
*(Golder)*  
*-Twp.*

I have completed a review of the report prepared by Golder Associates Ltd. entitled "2001 Hydrogeological Investigation and Monitoring Program and Landfill Operations Review, Ward 3 Landfill Site, Township of Alfred and Plantagenet, Ontario" dated March 2002. The following comments are provided with regard to groundwater issues.

### Background

The site of interest was formerly known as the Carriere landfill site and is located on Part of West ½ of Lot 35, Concession III in the Township of Alfred and Plantagenet, Ontario. The landfill operates under Certificate of Approval # A470904 first issued in 1977. The total property area is 37.4 hectares with a licensed waste footprint of 2.5 hectares. The present report was prepared to provide results of the second phase of the hydrogeological assessment as required by MOE Compliance Inspection Report dated October 20, 1999.

### Hydrogeological Conditions

The Year 2001 drilling and monitoring program undertaken at the site follows from that of the previous year and completes the first hydrogeological investigation of the landfill. Activities in this second phase include the installation of five monitoring wells at three locations. The subsurface stratigraphy as defined by the boreholes is consistent with previous descriptions. Across the site, an upper layer of fine and silty fine sand is underlain by silty clay at depths of 2.9 to 5.0 metres below ground surface. An unconfined aquifer is defined by saturated conditions within the sand layer. From measured static water levels, the consultant has determined that groundwater flow is predominantly horizontal within the sand and moves southeasterly across the site at a rate of between 1 and 4 metres per year.



Dear Gerry, This e-mail confirms that Golder Associates is in general agreement with the comments provided by Mr. Bob Putzlocher in a report dated August 22, 2002 on Alfred and Plantagenet Ward 3 Waste Disposal Site (Carrière Site) 2001 Monitoring Program report. As such, Golder Associates did not provide a formal response to the MOE. It is noted however that in the Ward 3 Landfill Closure Design Report (Stantec, Oct. 2002), a copy of Mr. Putzlocher's report is included in Appendix B and brief comments are provided in page 2.3. Please do not hesitate to contact myself or Kris Marentette if you require any additional information. Best regards, Marie Gauthier, M.Sc.(Eng.), EIT

Golder Associates Limited  
1796 Courtwood Crescent  
Ottawa, Ontario K2C 2B5  
Tel: (613) 224-5864  
Fax: (613) 224-9928  
E-mail: [mgauthier@golder.com](mailto:mgauthier@golder.com)

Visit our web site at: [www.golder.com](http://www.golder.com) -----Original Message-----

**From:** Monique Bastien [<mailto:mbastien@alfred-plantagenet.com>]

**Sent:** December 1, 2003 1:35 PM


**To:** Marie Gauthier

**Subject:** 2001 Hydrogeological Investigation...Ward 3

Further to the message I left on your voice mail, can you verify with Kris Marentette whether your firm submitted any comments to Mr. Bob Putzlocher's review of the report in question. Mr. Putzlocher's report was dated August 22, 2002 and addressed to Mr. Gerald Murphy... (A copy of the report is included in the Ward 3 Landfill Closure Design Report -- 7 pages from the end). Your reply ASAP will be greatly appreciated, as Mr. Murphy has asked that I provide him with the comments (if any)... Thank you. Monique Bastien

- The monitoring well network is currently adequate to define conditions at the site. However it is very narrow and although the southern boundary is in excess of 400 metres from the waste footprint, the eastern boundary is much nearer. Groundwater elevations suggest that flow direction has an easterly component. Should leachate impacts increase significantly at BH 00-6, an additional monitoring well should be installed at the east boundary and south of BH 00-6.
- The current monitoring program should continue. More results are necessary to determine contaminant trends and to evaluate leachate impacts.
- The consultant uses the maximum concentration of parameters measured at BH 00-1 to describe background conditions. The Reasonable Use assessment requires that representative values be used for background conditions. Because sampling results have been highly variable, background groundwater quality would be better represented by average values or by a stable trend.

If there are any questions or comments regarding the above I would be pleased to discuss them. I can be reached at (613) 549-4000, extension 2659.



Bob Putzlocher  
BP/sh

c: File GW-07-04, Alfred Township (A470904)  
Glen Owen / Star Task 15843

Ministry of the  
Environment

133 Dalton Avenue  
P O Box 820  
Kingston ON K7L 4X6

Ministère de  
l'Environnement

133 avenue Dalton  
C P 820  
Kingston ON K7L 4X6



Ontario

1-613/549-4000 1-800/267-0974 Fax: 613/548-6908

Appendix C

SI PC AT C3 610  
(37308)

## MEMORANDUM

18 July 2001

TO: Gerald Murphy  
Senior Environmental Officer  
Cornwall Office  
Eastern Region

**FAXED**  
July 19/01

To: J. Simard  
for follow-up

MINISTRY OF THE  
ENVIRONMENT

JUL 19 2001

CORNWALL

FROM: Bob Putzlocher  
Hydrogeologist  
Technical Support Section  
Eastern Region

*Old Carriere Site*

Re: 2000 Hydrogeological Investigation and Groundwater Monitoring Program -  
Ward 3 Landfill Site - Township of Alfred and Plantagenet

I have completed a hydrogeological review of the above noted report prepared by Golder Associates Ltd. and offer the following comments.

### Background

The site of interest was formerly known as the Carriere landfill site and is located on Part of West ½ of Lot 35, Concession III in the Township of Alfred and Plantagenet, Ontario. The landfill operates under Certificate of Approval # A470904 which is in current need of amendment to reflect changed method of operations. The total property area is 37.4 hectares with a licensed waste footprint of 2.5 hectares. Test pits indicate that the footprint area is presently exceeded. The report was prepared to provide the hydrogeological assessment requirement of an MOE Compliance Inspection Report dated October 20, 1999.

### Hydrogeology

The Year 2000 drilling and monitoring program represents the first hydrogeological investigation of the landfill. The landfill is situated on the Russell & Prescott sand plains as described by Chapman and Putnam (1984). Borehole logs of the newly installed wells show that the physical hydrogeology of the site is fairly simple. A surficial layer of fine to very fine sand is present with thickness ranging from 2.4 to 4.2 metres. Silty clay underlies the sand. Bedrock was not encountered in any borehole. An unconfined aquifer is defined by saturated conditions within the sand layer. From measured static water levels, the consultant has determined that groundwater flow is predominately horizontal within the sand and moves southeasterly across the site.



**CORPORATION**

DU CANTON D'  
OF THE TOWNSHIP OF

**ALFRED** ET  
AND

**PLANTAGENET**

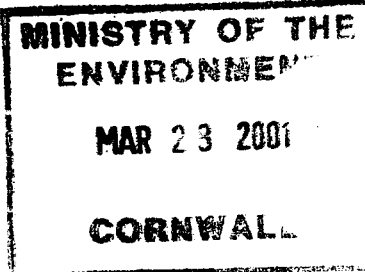
C.P./P.O. Box 350  
205, vieille route 17 / 205 Old Highway 17  
Plantagenet, Ontario, K0B 1L0

Téléphone/Telephone: (613) 673-4797  
Télécopieur/Facsimile: (613) 673-4812

file: 257-2

March 27<sup>th</sup>, 2001

Mr. Jim Mahoney, Acting Area Manager  
Ministry of the Environment  
113 Amelia Street  
Cornwall, Ontario  
K6H 3P1



Dear Sir:

Re: 2000 Hydrogeological Investigation and Groundwater Monitoring Program - Ward 3 - OLD  
Landfill Site - Township of Alfred and Plantagenet, C of A # A470904 CARRIÈRE  
Site

Attached please find a copy of the marginally noted report prepared by Golder Associates Ltd.  
This report was accepted by resolution TP 2001-17 of the Public Works committee of the  
Township of Alfred and Plantagenet.

As indicated in Golder Associates letter of February 11, 2000, which was attached to my letter of  
February 17, 2000, it is the municipality's intention to apply for an amended C of A as well as  
for an Operation and Development plan for the site in year 2002, after the completion of a year  
and a half of hydrogeological monitoring. This will give us enough time to determine the actual  
situation encountered on the site and will permit the Municipality to take an enlightened decision  
as to the future of this site.

Should you require additional information, please do not hesitate to contact the undersigned or  
Golder Associates for any technical information.

A handwritten signature in cursive script, appearing to read "Sylvio Simard".

Sylvio Simard, Deputy Clerk

c.c.: Mr. Gerry Murphy, MOE Cornwall ✓  
Mr. Kris Marentette, Golder Associates Ltd, w/o report



**CORPORATION**

DU CANTON D'  
OF THE TOWNSHIP OF

**ALFRED**

ET  
AND

**PLANTAGENET**

C.P./P.O. Box 350

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Téléphone/Telephone: (613) 673-4797

Télécopieur/Facsimile: (613) 673-4812

August 20<sup>th</sup>, 2001

File: 257-2

Ministry of the Environment  
113 Amelia Street  
Cornwall, Ontario  
K6H 3P1

MINISTRY OF THE  
ENVIRONMENT

AUG 23 2001

CORNWALL

Attn: Gerry Murphy


Dear Gerry,

Re: Memorandum dated July 18, 2001 from Bob Putzlocker - Ward 3 landfill site,  
C of A 470904

The memorandum dated July 18, 2001 from Bob Putzlocker concerning the ward 3 landfill site,  
was forwarded to Golder Associates for comments.

Attached please find a letter dated July 26, 2001 from Golder Associates, responding to Mr.  
Putzlocker's memorandum.

Should you require additional information, please do not hesitate to call me.

  
Sylvio Simard, Deputy Clerk

SS\II

**Golder Associates Ltd.**

1796 Courtwood Crescent  
Ottawa, Ontario, Canada K2C 2B5  
Telephone (613) 224-5864  
Fax (613) 224-9928



July 26, 2001

011-2825

Township of Alfred and Plantagenet  
P.O. Box 350  
Plantagenet, Ontario  
K0B 1L0

JUL 27 2001

Attention: Mr. Sylvio Simard, Deputy Clerk

002275  
257-2

**RE: RESPONSE TO MINISTRY OF THE ENVIRONMENT  
MEMORANDUM DATED JULY 18, 2001  
WARD 3 LANDFILL SITE  
TOWNSHIP OF ALFRED AND PLANTAGENET, ONTARIO**

Dear Sylvio:

The purpose of this letter is to provide a response to the July 18, 2001 Ministry of Environment (MOE) Memorandum (from B. Putzlocher to G. Murphy) which provides comments on the 2000 Hydrogeological Investigation and Groundwater Monitoring Program for the Ward 3 Landfill Site.

The Memorandum indicates that the MOE is in general agreement with the report and the conclusions given therein. The reviewer recommends that three boreholes/monitoring wells be installed along the eastern boundary of the site instead of the two proposed by Golder Associates. The 2001 field drilling program was completed prior to receipt of the MOE review as proposed in the report (i.e. two monitoring wells along the east boundary and one monitoring well along the west boundary).

The results of the 2001 hydrogeological investigation and groundwater monitoring will be submitted to the MOE after completion of the fall monitoring program. The need for additional monitoring wells or changes in the monitoring program will be assessed at that time.



Should you have any questions on any aspect of this letter, please do not hesitate to contact the undersigned.

Yours truly,

**GOLDER ASSOCIATES LTD.**

Environmental Division



M.A. Venhuis, M.Sc.  
Environmental Geochemist



K.A. Marentette, M.Sc.  
Senior Hydrogeologist/Associate

MAV:KAM:cr

\\ott\_main\data\active\2800\011-2825 a&p ward 3 lfr-001 26jul01 response to moe.doc

c.c. Mr. G. Lalonde, P.Eng., Stantec Consulting Ltd.

**Appendix "D"**

**MARCH 22, 2004, PHOTOS**



1. Entrance to the Alfred-Plantagenet Ward 3 landfill site.



2. Sign at the entrance to the Alfred- Plantagenet Ward 3 landfill site.



3. Road into and from the Alfred-Plantagenet Ward 3 landfill site.



4. View of the active waste disposal area of the Alfred-Plantagenet Ward 3 landfill site.





5. Uncovered waste at the Alfred-Plantagenet Ward 3 landfill site.



6. Uncovered waste at the Alfred-Plantagenet Ward 3 landfill site.



7. Uncovered waste at the Alfred-Plantagenet Ward 3 landfill site.



8. Uncovered waste at the Alfred-Plantagenet Ward 3 landfill site.



9. Uncovered waste at the Alfred-Plantagenet Ward 3 landfill site.



10. Uncovered waste at the Alfred-Plantagenet Ward 3 landfill site.