

IN THE MATTER OF SECTION 13 of the Consolidated
Hearings Act, 1981, S.O. 1981, c. 20

- and -

IN THE MATTER OF an application by the Regional
Municipality of Halton for :

- (a) the acquisition of land for construction, operation and maintenance of a sanitary landfill site to contain 7.96 million cubic meters of waste in the Regional Municipality of Halton by one of the two alternative methods as follows:
 - (i) landfilling at the site referred to in Halton's Environmental Assessment as Site "F" in the City of Burlington;
 - (ii) landfilling at the site referred to in Halton's Environmental Assessment as Site "D" in the Town of Milton.

APPLICATIONS TO THE HONOURABLE LIEUTENANT
GOVERNOR-IN-COUNCIL

RESPONSE OF THE CORPORATION OF THE CITY OF
BURLINGTON TO THE PETITIONS OF THE CORPORATION
OF THE TOWN OF MILTON, THE MILTON AREA CITIZENS'
COALITION, ET AL., AND NSP INVESTMENTS LIMITED

WEIR & FOULDS
Suite 1600, Exchange Tower
2 First Canadian Place
Toronto, Ontario
M5X 1J5

M.J. McQuaid, Q.C.
C.J. Tzekas

(416) 365-1110

Consolidated Hearings Board File No. CH-86-02

IN THE MATTER OF SECTION 13 of the Consolidated
Hearings Act, 1981, S.O. 1981, c. 20

- and -

IN THE MATTER OF an application by the Regional
Municipality of Halton for :

- (a) the acquisition of land for construction, operation and maintenance of a sanitary landfill site to contain 7.96 million cubic meters of waste in the Regional Municipality of Halton by one of the two alternative methods as follows:
- (i) landfilling at the site referred to in Halton's Environmental Assessment as Site "F" in the City of Burlington;
 - (ii) landfilling at the site referred to in Halton's Environmental Assessment as Site "D" in the Town of Milton.

APPLICATIONS TO THE HONOURABLE LIEUTENANT
GOVERNOR-IN-COUNCIL

RESPONSE OF THE CORPORATION OF THE CITY OF
BURLINGTON TO THE PETITIONS OF THE CORPORATION
OF THE TOWN OF MILTON, THE MILTON AREA CITIZENS'
COALITION, ET AL., AND NSP INVESTMENTS LIMITED

WEIR & FOULDS
Suite 1600, Exchange Tower
2 First Canadian Place
Toronto, Ontario
M5X 1J5

M.J. McQuaid, Q.C.
C.J. Tzekas

(416) 365-1110

**RESPONSE OF THE CORPORATION OF THE CITY OF BURLINGTON
TO THE APPLICATIONS OF THE CORPORATION OF THE TOWN OF MILTON,
THE MILTON AREA CITIZENS' COALITION AND NSP INVESTMENTS LIMITED**

I N D E X

<u>Tab</u>		<u>Page</u>
1.	Part I : Introduction and History	1 - 6
2.	Part II : Response to the Application of the Town of Milton	7 -15
3.	Part III : Response to the Application of NSP Investments Limited	16-28
4.	Part IV : Response to the Application of the Milton Area Citizens' Coalition	29-36
5.	Part V : Conclusion	37
6.	<u>Regional Municipality of Halton Act, 1973</u> S.O. 1973, excerpts	
7.	Exhibit B-353, O.M.B. Decision, June 15, 1979	
8.	<u>Re Holmes and Halton</u> (1977), 16 O.R. (2d) 263 (H.C.)	
11	<u>Re Holmes and Halton</u> (1978), 19 O.R. (2d) 468 (H.C.)	
12.	Exhibit M-155, Figure 3, p. 11	
13.	<u>Re Halton and Milton</u> (1981), 12 O.M.B.R. 292 (Ont. H.C.)	
15.	<u>Milton v. Halton</u> (1981), 13 O.M.B.R. 31 (O.M.B.)	
18.	Exhibits B-347, B-348, B-349	
34.	Transcript, v. 122, p. 29566	
35.	Transcript, v. 160, p. 38906	
51.	Exhibit H-936, p. 17	
60.	Transcript, v. 179, p. 44505; v. 187, p. 46522; written summary by Ms. Cronk	
67.	Transcript, v. 114, pp. 27571-27588	
85.	Transcript, v. 167, p. 41766	
91.	Transcript, v. 144, pp. 34838-34851	
103.	Exhibit B-883, p. 15	
125.	Exhibit H-382	

PART I : INTRODUCTION BACKGROUND & HISTORY

MAY IT PLEASE YOUR HONOUR:

✓ 1.1 This response is filed on behalf of the Corporation of the City of Burlington (hereinafter called "the City" or "Burlington" or "the City of Burlington"), in response to applications brought by the Corporation of the Town of Milton, the Milton Area Citizens' Coalition, et al. and NSP Investments Limited.

ORDER REQUESTED

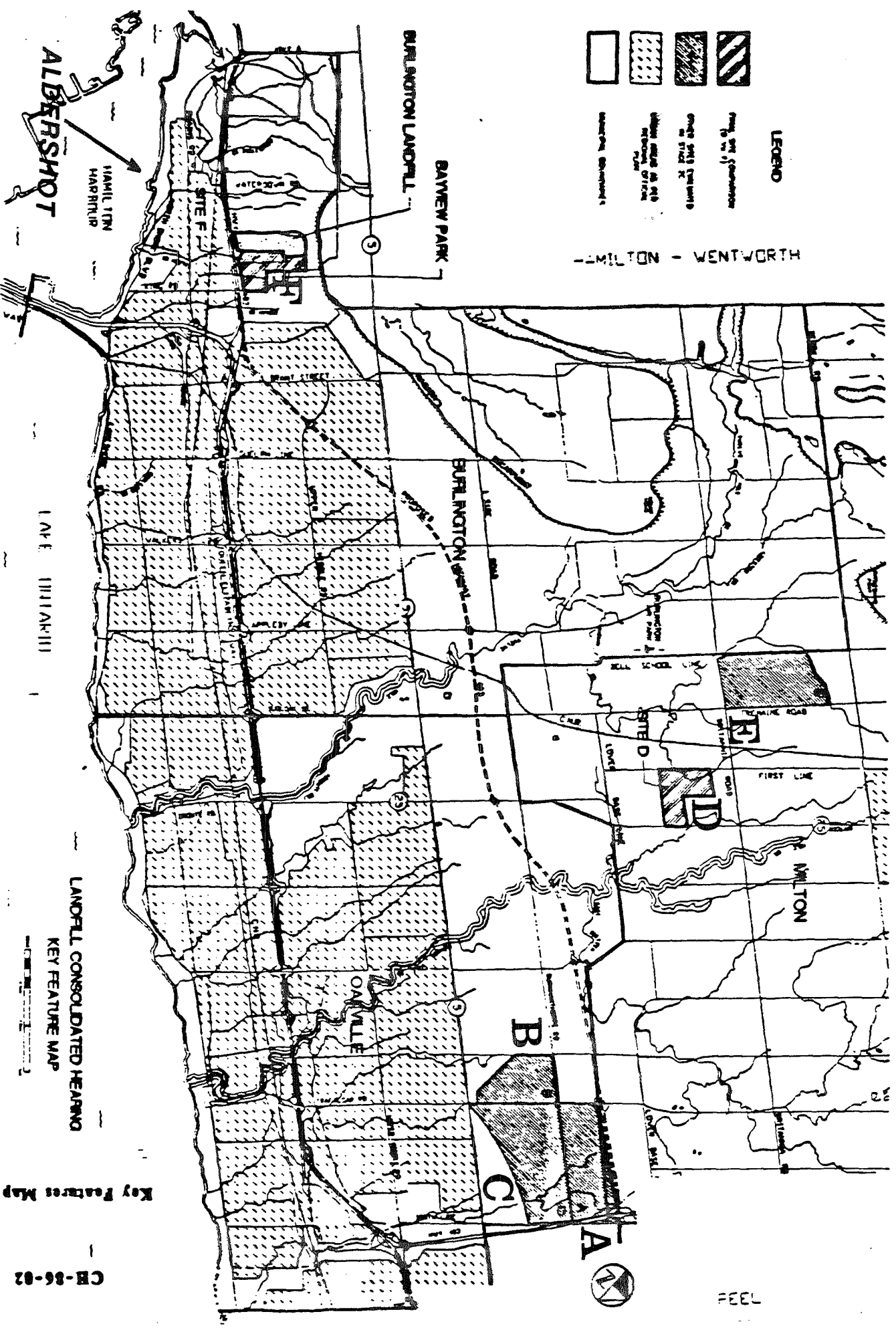
✓ 1.2 The City respectfully submits that the applications brought by the Corporation of the Town of Milton (hereinafter "the Town" or "Milton" or "the Town of Milton"), the Milton Area Citizens' Coalition, et al. (hereinafter "MACC") and NSP Investments Limited (hereinafter "NSP") be dismissed, and further that the Lieutenant Governor in Council confirm the decision of the Joint Board dated February 24, 1989.

BACKGROUND AND HISTORY

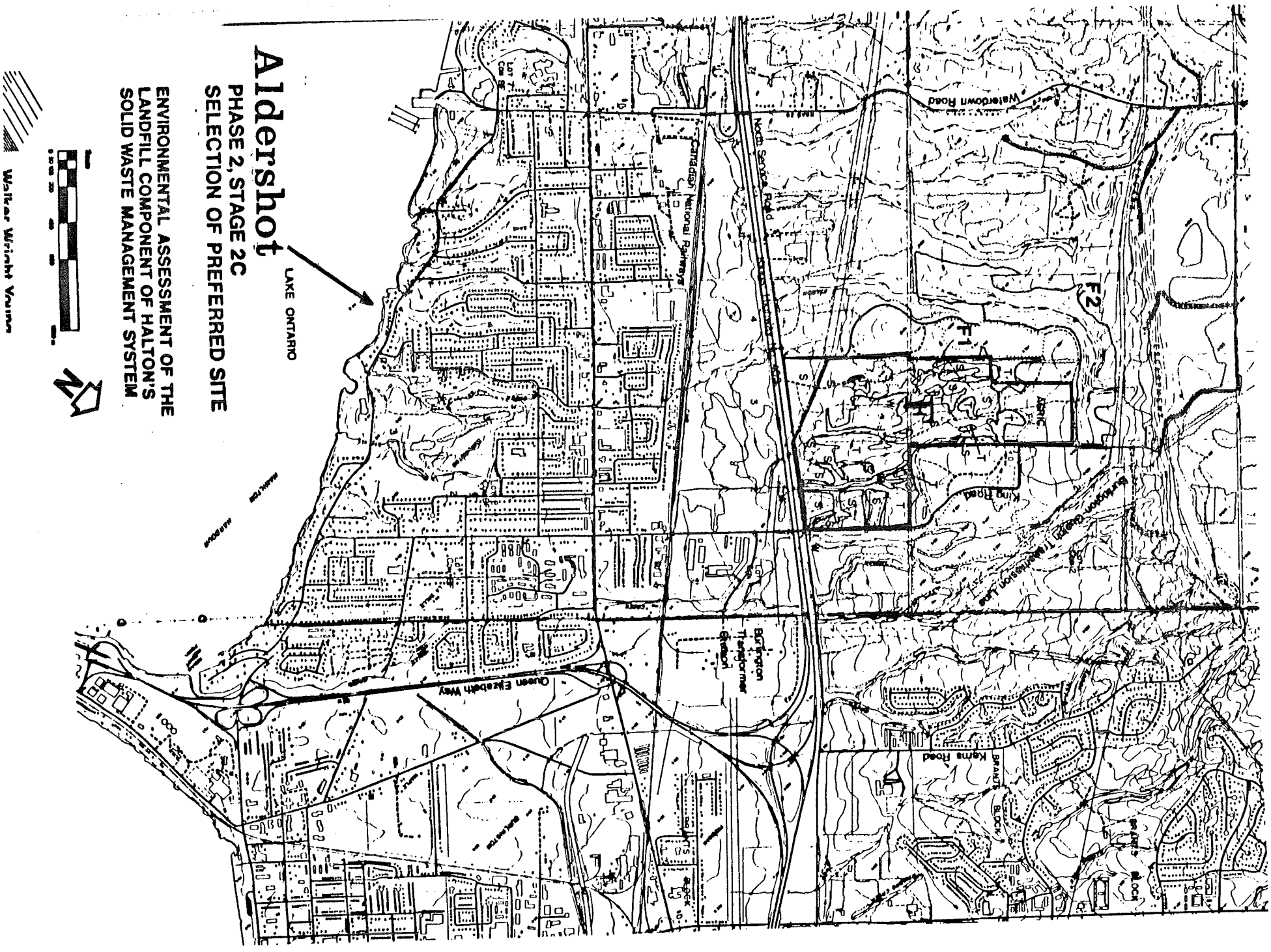
1.3 Site F, one of the two sites which were the subject of the application of the Regional Municipality of Halton (hereinafter "the Region" or "Halton" or "the Region of Halton") before the Joint Board, is located in the City of Burlington in the Aldershot area, a community of approximately 18,000 persons in the westerly part of the City. The location of Site F generally in the Region is depicted on Page 5 of the Board's Reasons, and on the map found on page 2 of this response. More specifically, Site F is immediately to the west of the interchange of the Queen Elizabeth Way and Highway 403 as shown on the map at page 3 of this response, which is taken from the Final Technical Report No. 2, a Biophysical Assessment of Bird and Hale, marked as Exhibit H-16 in the proceedings before the Board. The City has added the lettering and an arrow showing the populated Aldershot community and the letter "F" to show the location of Site F. Site D, the Town of Milton site, is also outlined on the maps which appear at pages 2 and 3 of this response; it was the second site which was the subject of the Region's application.

✓ 1.4 In considering the applications and replies before the Lieutenant Governor-In-Council, Your Honour should be aware of the extensive history involving the Region's search for a landfill site. Three of the sites which were studied are of particular note.

1.5 Sites D and F were the two finally selected by the Region for presentation to the Joint Board, but of note as well is Site E on the east side of Tremaine Road, north of Britannia Side Road, approximately 2 to 3 km. to the west of Site D in the Town of Milton. The map at page 2 herein shows these three sites, together with three others that were dealt in the current site selection process followed by the Region. Site E in the current process was known as "Site F" in an earlier site selection process. As a result, that site was referred to in the proceedings before the Joint Board as Site E or, on some occasions as "old Site F." Old Site F, in fact, was the site approved by the Ontario Municipal Board (hereinafter the "O.M.B.") on June 15, 1979. The history of that approval as well as the current decision of the Joint Board follows.

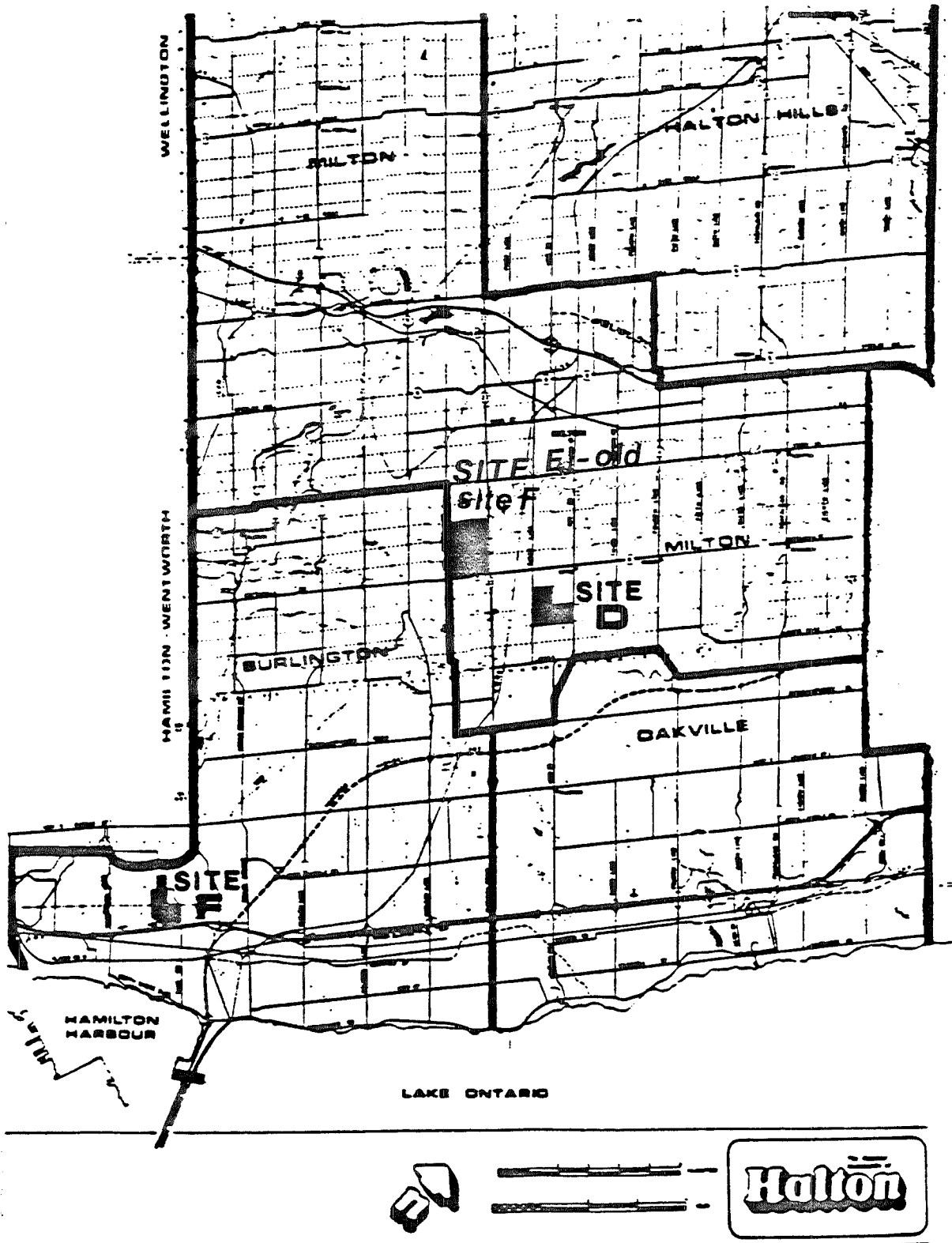


CH-86-02
Key Features Map



Tro

KEY MAP



KEY MAP

1.6 On January 1, 1974, the Regional Municipality of Halton was incorporated and given the responsibility to provide for landfill sites in the Region.

Regional Municipality of Halton Act, 1973 S.O. 1973, c. 70, s. 131, Tab 6 (please note the material at any particular tab number relates to the paragraph of the same number in this response).

1.7 In or about January 1975, the Region conducted studies and investigations leading to the selection of a landfill site in the Town of Milton ("old Site F", now Site E in current selection process), which was close to Site D chosen by the Joint Board.

Exhibit B-353, O.M.B. Decision dated June 15, 1979, p. 4, Tab 7.

1.8 On March 2, 1977, the Region passed a by-law selecting old Site F - now Site E, as the regional landfill site and authorizing the acquisition, testing and approval of that site for landfill.

Re Holmes and Halton (1977), 16 O.R. (2d) 263 (H.C.) at 265, 266, Tab 8.

1.9 On May 4, 1977, that by-law was quashed for non-conformity with Milton's Official Plan.

1.10 As a result of that decision, the Region passed new by-laws authorizing applications to the Town of Milton to amend its Zoning By-law and Official Plan to allow landfilling at old Site F - now Site E, and authorizing applications to the Ministry of Environment and the O.M.B. for approval of a site for landfilling and for approval of the expenditures involved, respectively.

1.11 On March 29, 1978, these by-laws were quashed for non-conformity with Milton's Official Plan, except insofar as the by-laws authorized applications to amend Milton's Official Plan and Zoning By-law.

Re Holmes and Halton (1978), 19 O.R. (2d) 468 (H.C.), Tab 11.

1.12 As a result of Milton's refusal to amend its Official Plan and Zoning By-law to allow landfilling at the earlier Milton site, a hearing was conducted by the O.M.B. which considered these issues as well as the acquisition of the site. On June 15, 1979, the O.M.B. issued its Order approving the Official Plan Amendment and Zoning By-law changes, and approving the expenditures needed to allow landfilling at old Site F - now Site E. Site E is in the same regional "Halton till" plain as Site D selected by the Joint Board.

Exhibit M-155, Figure 3, p. 11, Tab 12.

1.13 Milton appealed the O.M.B.'s decision to the Divisional Court and to the Lieutenant Governor in Council by petition. Both appeals were dismissed.

Re Halton and Milton (1981), 12 O.M.B.R. 292 (Ont. H.C.), at 294, Tab 13.

1.14 The Region then applied under the Environmental Protection Act for approval of landfilling at the earlier Milton site. On February 9, 1981, however, the Minister ordered that an environmental assessment of this landfilling project be undertaken under the Environmental Assessment Act.

1.15 On July 3, 1981, Milton applied to the O.M.B. to modify or amend its original order; the O.M.B. refused.

Milton v. Halton (1981), 13 O.M.B.R. 31 (O.M.B.), Tab 15.

1.16 Also on July 3, 1981, Milton and its councillors were cited in contempt of court for failure to amend its Official Plan and Zoning By-law as required by the O.M.B.'s Order.

Re Halton and Milton (1981), 12 O.M.B.R. 292 (Ont. H.C.), supra at Tab 13.

1.17 The Region commenced its environmental assessment under the Environmental Assessment Act in 1981. The Region followed an extensive and expensive site selection process involving study of some 55 sites originally, then further study of the six sites referred to on the map on page 2 herein, leading to the selection of the two sites, Sites D and F, which were the subject of the Joint Board's decision.

1.18 On the 4th day of March, 1987, after the site selection process described above had been completed, Committee of the Whole of the Region recommended by a vote of 12:11 that both Site D and Site F are viable and safe as future sanitary landfill sites, but that Site F is marginally preferred as a future landfill site for the reasons set out in the Comparative Analysis Report, January, 1987. The vote by elected members of Council was 11:11, with the deciding vote in favour of the staff recommendation being cast by the Chairman of the Region.

Exhibits B-347, B-348, B-349, Tab 18.

1.19 On May 5, 1987 the hearing before the Joint Board began. It should be noted that this was the first hearing before a Joint Board on application of a Regional Corporation for a regional landfill site. Many other regional landfill sites are currently being processed. After sitting 194 days, the hearing ended on November 8, 1988. The Board rendered its decision on February 24, 1989.

**PART II :
RESPONSE OF THE CITY OF BURLINGTON
TO THE APPLICATION OF THE TOWN OF MILTON**

INTRODUCTION

2.20 In its application at page 21, Milton submits the following grounds for rescission of the Joint Board Decision:

- " (a) ... the Board erred in rejecting the fracturing hypotheses given in evidence by Mr. Feenstra ...;
(b) The Board further erred in designing conditions of approval which recognized the fracturing hypotheses and delegate to the Proponents and Director of Approvals the function of determining hydraulic conductivity as a result of fracturing ...; and,
(f) ... the Board erred in failing to allow a full hearing in respect of the matter of fracturing ..."

2.21 Further, in the portion of Milton's application entitled "Conclusion and Order Sought" at pages 23 and 24, the Town requests

- " 2. that the Lieutenant Governor in Council order a new Hearing to the issue of whether there are fractures at Site D and the unweathered upper till.
3. that the Hearing consider and determine the method of design of a pumping test pursuant to condition 5.3 at pages 182 and 183 of the Petition of the Joint Board.
4. that the Hearing should consider and determine the standard established by the Board pursuant to condition 5.4 at page 183 of the Reasons of the Joint Board.
5. that the Hearing consider and determine the method of construction of the liner and its effect on the hydraulic trap.
6. that the Hearing consider and determine the groundwater monitoring program and,
7. that the Hearing consider whether the excavation of the landfill at Site D may induce fractures into the unweathered upper till."

2.22 Before addressing the first question posed by Milton's application, the City submits it would be of assistance to review what the duties of the Joint Board are as the body responsible for finding facts and for considering the opinions of the many professional witnesses presented to it.

THE ROLE OF THE BOARD AS THE FACT FINDER

2.23 It is the City's submission that the Joint Board, as the trier of fact, was responsible for examining and weighing the evidence presented to it, including the opinion evidence of the expert witnesses. (This is confirmed by certain arguments made to the Joint Board on behalf of NSP. In her argument, Ms. E.A. Cronk, counsel for NSP, filed a Book of Authorities Concerning the Assessment of Credibility. The book contained ten cases with the relevant passages highlighted. | |

2.24 The purpose of the introduction of these authorities can best be summarized by reference to Ms. Cronk's argument (vol. 186, p. 46181) where she stated:

"... The essential governing principles may be summarized

in our submission as follows: first, in assessing credibility the law makes no distinction between professional witnesses and other witnesses. The evidence of experts must be appreciated like that of others, and the trier of fact is bound to examine it and to weight it as any other evidence given in the case, ..."

"... - the law makes no distinction between professional men and other witnesses. Their evidence must be appreciated like that of the others, and the Court is bound to examine it and to weigh it as any other evidence given in the case (Tobin Mfg. Co. v. Lachance (1914), 22 Rev. Leg. 192). We, therefore, are of the opinion that the trial Judge erred in stating as 'an ordinary rule of appreciation of the evidence' that the theory of the defence should succeed because it was supported by a greater number of physicians. ..." Shawinigan v. Naud, [1929] 4 D.L.R. 57 (S.C.C.), at page 59".

"The second general principle, Mr. Chairman, in our submission, is that it is clear that the obligation of a tribunal in considering the evidence of experts is not restricted to assessing their credibility and qualifications, but rather it is the duty of the tribunal to do more than that. ..."

"In that case the court indicated:

'Expert witnesses, because of their special qualifications and experience, are allowed to give opinions and theories which may assist or guide the Court. The trial Judge, however, is not relieved of the responsibility of forming his own opinion based on all of the evidence.' Gallant et al v. F.W. Woolworth Co. Ltd. et al (1970), 15 D.L.R. (3d) 248 (Sask. C.A.), at 252".

"... The third general principle, Mr. Chairman and Dr. Kingham, is that I suggest the obligation to weigh conflicting evidence involves an evaluation of credibility. ..."

"... And then there is the particular passage I would commend for your consideration, beginning at the second full paragraph on page 125: ..."

Then follows an excerpt, a portion of which the Board used at page 54 of its decision as follows:

"I have given careful consideration to the testimony of all expert witnesses ... I have heard a good deal of expert evidence, much of it in highly technical terms. ... I have looked at, inter alia, the manner in which they presented their evidence and their attitude on the stand, watching for any indication that any one was arrogant, argumentative, an advocate, overreaching, overly technical or forced to retreat or retract"

Ms. Cronk continued:

"... There are two tests suggested in the case law and this case suggests the approach that should appropriately be taken in my submission in this case. Reading from paragraph 19 in the first column on the left at page 13: ..."

Then follows the first two excerpts found at the Board's decision at page 54 as follows:

"Experts, particularly when called en masse, will almost inevitably disagree as amongst themselves. This imposes a further caveat upon the trial judge when attempting to assess that evidence ..."

"When a case is complicated by the introduction of opinion evidence ... it is, I think the duty of the judge to arrive at his own opinion after carefully weighing and considering the evidence of the experts, and availing himself of all the assistance they are able to give him, and himself to determine the question of fact in the light of that evidence ..."

2.25 At page 54-55 of the decision, the Joint Board set out two other excerpts from the cases upon which it relied. All of the excerpts cited by the Board are from the cases put to it by Ms. Cronk and three of the four citations represent highlighted portions which she put to the Board; the fourth immediately followed a highlighted portion.

2.26 The second of these excerpts formed the foundation upon which the Board concluded:

"We felt it our duty therefore, even though one of the final two sites was preferred by more hydrogeologists than the other, to arrive at our own opinion after carefully weighing and considering the evidence of the experts, and availing ourselves of all the assistance they were able to provide." (p. 55).

This is a direct adoption by the Board of a highlighted passage relied upon and put to it by Ms. Cronk. It is the City's position that the Joint Board understood and exercised the correct principles established by the Courts, and properly fulfilled the role assigned to it by the Legislature. Accordingly, it is respectfully submitted that counsel for the parties cannot be heard to complain when the Board followed principles which are correct in law and which were put to the Board by one of the counsel in the same interest.

**SUBSTANTIVE ISSUES RAISED BY THE TOWN OF MILTON:
WHETHER THE UNWEATHERED UPPER TILL AT SITE D WAS FRACTURED**

2.27 The first question posed by the Town is whether the Board erred in rejecting the fracturing hypothesis of Mr. Feenstra, his first hypothesis in his reply evidence. The grounds are summarized at paragraph 2.20, above.

2.28 On September 30th, 1988, the 176th day of the hearing, Milton sought to call evidence of a Dr. N. Eyles, a quaternary geologist, respecting the possibility of fractures at Site D extending below the weathered upper till into the unweathered upper till. The evidence offered to the Board was that on April 6th, 1988, a T-shaped trench 6 to 7 metres long at the base and 1.5 metres wide, was excavated on Site D to a depth of approximately 8.2 metres. This test pit was excavated on the lands of Mr. and Mrs. W. Martin, one of the landowners in the MACC. The test pit program was supervised by Dr. David Charlesworth, the senior hydrogeologist for the Town of Milton. Observations were taken over a two day period beginning April 6th, 1988 and concluding at approximately 3:30 on Thursday, April 7th. No notice of this testing was given to the Region, the City or the Ministry of the Environment, so no observations were made by any hydrogeologists other than those retained by the Town of Milton, Dr. Charlesworth, his assistant Janet Haynes, and Dr. N. Eyles, the quaternary geologist.

2.29 It is apparent from examination of the following paragraphs which establish the dates and describe the order in which hydrogeological evidence was presented that Milton's representatives did not consider the results of that test pit of significant evidentiary value.

2.30 Mr. Sobanski and Mr. Beechinor, the hydrogeologists for the Region, testified during the spring and summer of 1987. They reported that "the upper till was unfractured and massive" (Exhibit H-39, page i.). They further reported that:

"...a landfill constructed at Site D will be founded in the Upper Till. Tests have shown this unit has good attributes for waste disposal. It is fine-grained, has a low hydraulic conductivity (8×10^{-8} cm/s) and the unweathered portion is devoid of higher hydraulic conductivity features such as sand layers or fractures. This glacial deposit forms a natural landfill liner of low hydraulic conductivity over the underlying glacial strata." (H-39, Page viii, underlining added).

2.31 Dr. David Charlesworth, the hydrogeologist for the Town of Milton, was called and testified from the 25th day of January, 1988 to the 23rd day of February, 1988. While Dr. Charlesworth questioned the comment above respecting the absence of sand layers, he did not suggest that there were any fractures in the unweathered upper till.

2.32 Subsequently, on April 6th and 7th, 1988, Dr. Charlesworth supervised the test pit program described in paragraph 2.28. Dr. Charlesworth and his assistant, Janet Haynes, were active throughout the hearing in advising Mr. David Estrin, the solicitor for the Town responsible for hydrogeological issues, on those issues and in assisting Mr. Estrin during his cross-examination of subsequent hydrogeological witnesses.

2.33 Mr. Stephen R. Garrod, solicitor for Mr. and Mrs. W. Martin and the MACC, collaborated with Mr. Estrin in presenting the hydrogeological case on behalf of the landowners in the area of Site D. Mr. Garrod arranged for the excavation of the test pit on Mr. and Mrs. W. Martin's land. It appears obvious that he and his clients would have been interested in and informed of the results shortly after the test pit program was completed.

2.34 The City of Burlington's main hydrogeological witness, Mr. John Petrie, began testifying on the 14th day of March, 1988. Mr. Garrod cross-examined Mr. Petrie on April 8th and 11th, 1988. Mr. Garrod did not raise any question about the possibility of fractures in the unweathered upper till during his cross-examination. Mr. Garrod was followed immediately by Mr. Estrin, who began cross-examining on the 11th of April. On April 12th, 1988, Mr. Estrin asked Mr. Petrie a series of questions respecting whether one could determine if there were vertical fracturing in the unweathered till. During the exchange Mr. Petrie said: "I have not been provided with evidence of fracturing at Site D in any way, shape or form" (Volume 122, page 29566, line 12, Tab 34.). Mr. Estrin did not make any attempt to confront Mr. Petrie with the results of any indication of fracturing in the test pit that had just been examined some 4 days before nor did he do so in the remaining six days of his cross-examination of Mr. Petrie.

X
2.35 On the 8th day of August, 1988, Mr. Paul Bowen, a hydrogeologist, called by Ms. Vigod, solicitor for the West Burlington Citizens' Group (hereinafter the "WBCG"), gave evidence to the effect that "all investigators, Trow (Messrs. Sobanski and Beechinor) Conestoga Rovers (Messrs. Crutcher and Petrie) and Dr. Charlesworth are in agreement with what I would call the general stratigraphic characterization of the site [Site D]" (Volume 160, page 38906, lines 1-5, Tab 35.). Again, neither Mr. Estrin nor Mr. Garrod sought to demonstrate to Mr. Bowen that fractures were indicated or suggested by the test pit dug on April 6th-7th, 1988.

2.36 Mr. Feenstra testified about his hypothesis respecting fractures in the unweathered upper till on the 29th day of August, 1988. On this occasion, Mr. Garrod and Mr. Estrin had another opportunity to present any relevant evidence from the April 6th-7th test pit program but neither sought to ask Mr. Feenstra about the test pit excavated on April 6th-7th.

2.37 Finally, on August 22nd, 1988, Milton was given a right of reply to the evidence of the City of Burlington. Mr. Estrin called Brian R. Gray and Dr. K. Rowe, a mathematical modeller, who earlier gave evidence with Dr. Charlesworth. Neither Dr. Charlesworth nor Ms. J. Haynes were called to testify in reply.

2.38 It was only on September 30th, 1988, almost 5 months after the excavation of the test pit, that the Town decided to seek leave to adduce evidence about the test pit. It is to be noted that Milton did not seek to lead the evidence through Dr. Charlesworth or Ms. Haynes, hydrogeologists who might be able to comment on any fractures from a hydrogeological perspective and in particular, on what significance any such fractures might have on allowing leachate to travel away from the area. Rather the Town attempted to present evidence through Dr. N. Eyles, the quaternary geologist, who was not retained by the Town but was an observer at the invitation of Dr. Charlesworth. It should also be noted that the photographs produced by the Town of Milton show Dr. Charlesworth in the test pit examining the features of the side walls which Dr. Eyles was to be called to testify about (Photographs, exhibit M-921). No explanation was offered or given as to why Dr. Charlesworth or Ms. Haynes were not called to testify to the evidence sought to be adduced (Photographs, exhibit M-921).

2.39 In the first instance, based on the sequence of evidence above, it is submitted that the Board was entitled to conclude that those concerned with hydrogeological evidence, Dr. Charlesworth, Ms. J. Haynes, Dr. Rowe, Mr. Estrin and Mr. Garrod, must have completely dismissed any concerns respecting fracturing of the unweathered upper till as a result of the test pit observations taken April 6th and 7th. As the Board properly noted, "had such evidence supported the existence of features in the unweathered upper till, we would have expected them to invite other experts to observe the test and report it promptly" (Reasons, page 70). If there had been any real weight to the test pit results, it is submitted that Mr. Estrin or Mr. Garrod would have presented such evidence first hand by calling Dr. Charlesworth or Ms. Haynes.

2.40 Furthermore, the Board analysed the evidence concerning Site D at length from pages 60 to 82 and noted other evidence which contradicted the first Feenstra hypothesis respecting the possibility of fractures in the unweathered upper till:

"The City of Burlington expert, Mr. Petrie, noted that in general the hydraulic gradients, both vertical and horizontal, are quite low, indicating sluggish groundwater movement in this area. The Board notes that this corroborates local residents' observations of large quantities of standing water on surrounding properties." (p. 64)

"... the Board studied the evidence carefully and finds the hydraulic gradients are indeed low in the area, and that there is little driving force to move water either downwards or laterally away from the landfill area." (p. 65)

"During cross-examination, Mr. Feenstra noted that the lower the clay content of till, the less likely it is to fracture as a result of weathering. He observed that the till at Site D has only about half the clay content of the till at Sarnia. Further reducing the similarity, clay at Sarnia has had a much longer period of time to 'weather' through drought periods (approximately 220,000 years versus 50,000 in Halton)." (p. 67)

"It was evident to the Board, after review of the evidence of the Milton area citizen witnesses, that there is a great deal of standing water in the vicinity of Site D. While the initial reaction to this information might be concern that such water could become contaminated, its presence also suggests that the assumption of low hydraulic conductivity in the vicinity of Site D is valid. Furthermore, this evidence supports the conclusion that if a landfill were established at Site D and the primary engineered feature for control of leachate loss was a hydraulic trap, then it seems likely that the hydraulic trap would operate successfully given that the water tends to move sluggishly around Site D." (p. 68-69)

"Messrs. Petrie and Crutcher stated that the observation of ponding in the vicinity of Site D would more likely illustrate a very low hydraulic conductivity which prevents rainfall from leaving the area, than it would demonstrate a high surficial conductivity which would allow recharge of nearby ponds."

"The Board notes from Mr. Feenstra's witness statement that:

"the presence of fractures through the unweathered Upper Till has not been confirmed or even suggested by field data at Site D (though test pits and angled boreholes were not used) and would appear to contradict the lack of tritium in the THCL tritium nest and the lack of tritium in the UGU (upper granular unit). H-936, p. 3" (p. 69)

2.41 Further, Mr. Feenstra admitted that he had discussed this hypothesis with Mr. Sobanski, and that Mr. Sobanski disagreed with it (Transcript, volume 174, page 43301):

Q. "... hav(e) you discussed this Ruland thesis or hypothesis with Trow, Mr. Sobanski.
A. Yes I have.
Q. Does he agree or disagree with you?
A. I would believe he disagrees with me based on my most recent conversation".

2.42 Furthermore, the Feenstra hypothesis was based upon a Master's project of a hydrogeological student involving the Sarnia till, over 100 miles away from Site D.

Mr. Feenstra did not make any first hand observations of the fractures nor was he able to verify the data. Finally, it was admitted that the Sarnia soils were different from those at Site D (Transcript, vol. 174, p. 43288-43292, 43307-43309; vol. 175, p. 43524-43526, 43550-43565, p. 43662, Tab 42).

2.43 The Board also had before it evidence that Gartner Lee Associates, a geological-hydrogeological firm retained by the Ontario Waste Management Corporation, had identified and selected Site D as one of the final three sites, out of a review of more than 152 sites in the Golden Horseshoe area, suitable for the potential development of a physical - chemical treatment and/or incinerator facility. Their nomenclature referred to the site as Site PI-1N; their report stated:

"The Ontario Waste Management Corporation (OWMC) site selection process to locate facilities for treating hazardous wastes and disposing of the treated waste residues has been a phased process which began in 1981. Initial studies identified 261 hydrogeologic areas throughout southern Ontario which were grouped into six zones. Within the Golden Horseshoe, zone 1 and 2 lands were considered most favourable for facility siting. Twenty candidate areas were identified within the Zone 1 and 2 lands in the Golden Horseshoe in 1983. A total of 152 sites were identified in these twenty candidate areas in 1984 and this number was subsequently reduced in stages to sixteen potential sites and finally to eight candidate sites through the application of various constraints, screening processes, and ranking systems based on multidisciplinary factors. ...

... This Gartner Lee Associates Limited (GLAL) report documents and interprets available geologic, hydrogeologic, and geotechnical information for Site PI-1N and serves as the data source for input to the Phase 4A comparison study. ..." (Exhibit M-155, p. 1)

2.44 At page 69 of its reasons the Board concluded:

"Having considered all the evidence, the Board does not find support for Mr. Feenstra's hypothesis about fracturing in the vicinity of site D. To the contrary, the bulk of the evidence supports the conclusion that groundwater moves very slowly through the unweathered upper till".

2.45 Further, the City adopts the submissions made by the Region on this issue at paragraphs 2.4 to 2.25 of its response, and states that the Joint Board decision should not be set aside on this question. It is submitted that the Board was correct and within its jurisdiction in refusing to accept Mr. Feenstra's first hypothesis and that no new hearing should be ordered on this basis.

**WHETHER A NEW HEARING SHOULD BE ORDERED TO CONSIDER
CERTAIN TECHNICAL MATTERS**

2.46 In its application, at the bottom of page 5, top of page 6, counsel for the Town of Milton make the following comments:

"The Town of Milton, through its counsel supported the position of the Region of Halton to investigate two sites and propose two sites in the alternative to the Joint Board.

The Town also supported the Region of Halton in its preference (albeit marginal) for landfilling at Site F in

Burlington and took a position that the Environmental Assessment conducted by the Region of Halton was adequate and in conformity with the provisions of the Environmental Assessment Act."

2.47 It is submitted that both of these statements confirm that the Town of Milton implicitly agreed that Site D is an acceptable landfill site. Accordingly, the Town's main complaint is its unhappiness as to the preference of the Joint Board for Site D. The Town seems to admit the acceptability at Site D for landfilling purposes. Further, the Town of Milton confirms that the environmental assessment conducted by the Region of Halton was adequate and in conformity with the provisions of the Environmental Assessment Act.

2.48 The Town of Milton in adducing its hydrogeologist, Dr. Charlesworth, did not provide testimony saying that Site D was unacceptable for landfilling purposes. Rather, Dr. Charlesworth's report, Exhibit M-438, raised questions of uncertainty about Site D and criticized the Regional hydrogeologists, Messrs. Sobanski and Beechinor, for not being conservative enough.

2.49 Accordingly, based on the Town's position and admissions as referred to in paragraph 2.46, above, it is submitted that the application of the Town for rescission of approval of Site D should be refused.

2.50 Furthermore, based on the evidence of Dr. Charlesworth and his report, Exhibit M-438, there is no evidence adduced by the Town through its witnesses that Site D was unacceptable for landfilling. At best, Dr. Charlesworth sought to raise doubt about the site but he was not prepared to offer a positive opinion that the site was unacceptable.

2.51 Milton appears to base its case for rescission on the acceptance of Mr. Feenstra's first hypothesis that there is fracturing in the unweathered till and the refusal by the Board to accept the evidence respecting the test pit discussed above, but in the end Mr. Feenstra did not say that Site D was not an acceptable site; rather, his evidence was clear that Site D would be acceptable. He stated at page 17 of the witness statement filed in reply (Exhibit H-936, page 17, Tab 51):

"It is my opinion that Site D can be made suitable for landfilling."

2.52 Mr. Feenstra then indicated three alternative means of responding to his hypothesis or concerns where he said:

"It is my opinion that this possible eventuality should be avoided by alternatives such as design, installation and testing of the purge well system prior to landfilling, the connection of the residences to pipe municipal water supply or construction of a liner recompacted native clay fill till on the basis of landfill." (Exhibit H-936, page 17, supra Tab 51).

2.53 There is, therefore, no case made by the Town of Milton for rescission of the Board's approval of Site D for landfilling. Nor in the light of the lengthy hearing before the Board and the lengthy history noted in paragraphs 1.3 to 1.19 above, should there be

any further hearing on design aspects for Site D. The Town of Milton asked for and received a full environmental assessment on the issues of the location, selection, design and operation of a landfill site in the Region of Halton. The Town of Milton has received a full and fair environmental assessment, as it admitted, as well as, in the City's submission, a full and fair opportunity to submit all evidence that it considered compelling and cogent. The selection and approval of a landfill site in the Region of Halton should not be prolonged any further.

2.54 On the requests numbered 2 - 7, noted at paragraph 2.21 above, the City of Burlington adopts the submissions of the Region found at paragraphs 2.26 to 2.48 of its response.

**PART III :
RESPONSE OF THE CITY OF BURLINGTON
TO THE APPLICATION OF NSP INVESTMENTS LIMITED**

INTRODUCTION

3.55 In its application, NSP requests that the decision of the Joint Board be rescinded and that Site F be approved for land filling (paragraph A) or in the alternative, that a number of findings be rescinded (paragraph B) and others substituted (paragraph C), or alternatively and finally, a rehearing on certain matters be ordered (paragraph D). The main grounds for such relief are initially set out at paragraphs 2 to 8 of the NSP application. The main grounds can be summarized as follows:

Question A:

Whether the Joint Board erred in finding that Site F was hydrogeologically unsuitable (paragraph 2, NSP application).

Question B:

Whether the Board's reasons are in conflict with Ministry policy (paragraphs 3 and 4, NSP application).

Question C:

Whether the Board failed judicially in its consideration of the planning evidence before it (paragraph 5, NSP application).

Question D:

Whether the Board erred in its consideration of critical evidence relating to a number of items involving Public Health and Safety (paragraph 6, NSP application).

Question E:

Whether the Board erred in overturning the Regional Council's decision (paragraph 7, NSP application).

Question F:

Whether the Board erred on the issue of Economic evidence (paragraph 8, NSP application).

**QUESTION A
WHETHER THE BOARD ERRED IN FINDING THAT SITE F WAS
HYDROGEOLOGICALLY UNSUITABLE.**

Hydrogeology of Sites F and D

3.56 The City adopts the submissions of the Region at paragraphs 4.5 to 4.7 of its response, and in particular the summary at paragraph 4.7, where counsel for the Region summarizes their conclusions respecting the Board's concerns about Site F as compared to Site D:

- "1. The hydrogeology at Site F was not made comprehensible to it.
2. Site F is a leaky landfill site and Site D is not.
3. Site D is capable of natural containment through a hydraulic trap while Site F, as an engineered solution, is but a partial solution in respect of leachate containment.
4. The hydrogeologists could not agree on the contaminant migration pathways from Site F although all agreed that contaminants would move away from Site F.

5. The hydrogeologists could not agree that contaminants leaking out of Site F would have no adverse impact on surface waters.
6. The hydrogeologists testified that monitoring Site F was not a straightforward matter.
7. The hydrogeologists could not agree on the appropriateness or effectiveness of the contingency measures proposed."

3.57 But also important for consideration by the Lieutenant Governor in Council is the question of whether the definition of hydrogeological suitability used by the Board was the same as that used by the witnesses. The City submits it was not.

3.58 The City of Burlington presented hydrogeological evidence through two witnesses, Messrs. A. Crutcher and J. Petrie, representatives of the firm of Conestoga Rovers & Associates ("CRA"), a firm specializing in environmental engineering matters.

3.59 In the CRA reports presented for Sites D and F, Exhibits B-617 and B-618, and in their evidence, these witnesses discussed the specific factors that should be considered in determining whether a site was "hydrogeologically suitable". Mr. Crutcher and Mr. Petrie testified that in their view certain minimum criteria should be used to determine whether a site was "hydrogeologically suitable". These were:

- "1. Migration of contaminants from the landfill must be predictable and the impact from this migration must be determined to be acceptable. ✓
2. The site must be able to be adequately monitored in order to verify the predictions on the behavior of the contaminant migration. ✓
3. Feasible contingency plans must be developed such that if unacceptable contaminant migration results, as determined from the monitoring, this migration can be mitigated." (CRA Report on Exhibit B-617, Site F). ✓

3.60 In addition, during the argument Mr. Estrin, counsel for the Town of Milton, and Mr. Tidball, counsel for the Ministry of the Environment, both submitted their versions of the factors that would establish hydrogeological suitability. Ms. Cronk, counsel for NSP, did the same in her submissions (argument of Mr. Tidball, volume 179, page 44505; argument of Ms. Cronk, volume 187, page 46522 and written summary submitted in argument entitled "Suggested Criteria for Acceptance of Landfilling", Tab 60.)

3.61 Accordingly it is clear the concept of what constituted hydrogeological suitability evolved during the course of the hearing during the evidence and argument.

3.62 The term "hydrogeologically suitable" is not a defined term in any statute or text book. Prior to the use of this term by Messrs. Crutcher and Petrie, no attempt had been made to define exactly what was meant by a hydrogeologically suitable site nor to enumerate the specific factors that would constitute such a definition.

3.63 It is apparent from the decision that the term "hydrogeologically suitable" was adopted and used by the Board. But it is further submitted that the Board, as it was

entitled to do so, reached its own conclusion as to seven factors that it considered to be of significance in defining "hydrogeological suitability". The Board went on to weigh the evidence as against each of those factors (Reasons, p. 109).

3.64 Examination of these seven factors demonstrates they are different from those attested to by Messrs. Petrie and Crutcher. The Board's factors were as follows:

- "(1) The hydrogeology of the area must be comprehensible to the Board.
- (2) The loss of contaminants should be minimal (and preferably zero), as a result of natural containment or engineered works.
- (3) Natural containment and attenuation of contaminants is preferred to engineered containment and attenuation.
- (4) If it is predicted that contaminants may move away from a landfill site then the postulated contamination migration pathway should be predictable.
- (5) It should be demonstrated that predicted leachate migration from the site will have no significant adverse impact on surface waters.
- (6) Monitoring to identify contaminant escape and migration pathways should be straightforward.
- (7) There should be the highest possible confidence in the effectiveness of contingency measures to intercept and capture lost contaminants." (Reasons, p. 109-112)

The Board went on to state:

"Having considered these matters, among other things, the Board finds that Site F was not hydrogeologically suitable for landfilling but that Site D is hydrogeologically suitable. On the basis of this finding with respect to hydrogeology, other findings in Public Health and Safety category, and findings in other categories, it approves the undertaking to landfill at Site D only." (Reasons, p. 112)

3.65 It is to be noted that when the Board used the term "hydrogeologically suitable" that it was using that term as it defined it by the seven factors set out above.

3.66 The factors used by Messrs. Crutcher and Petrie were much more limited than those used by the Board. Accordingly, the Board was entitled to establish its own criteria and arrive at its own opinion "after carefully weighing and considering the evidence of the experts and availing itself of all the assistance they were able to provide" (Reasons, p. 55).

3.67 Furthermore, Messrs. Crutcher and Petrie were extensively cross-examined about the capability of Site F to be made hydrogeologically suitable. Both testified that Site F would not be hydrogeologically suitable without the installation of a clay liner. However, in cross-examination by the Regional solicitor, Mr. D. Hodgson, on the 29th day of March, 1989, Mr. Hodgson obtained an admission from Mr. Petrie to the effect that there would still be leakage even with the installation of a clay liner because of the high hydraulic head that would occur across a liner installed on the slope of the escarpment at Site F. Therefore, it was made clear to the Board that a liner would have had a limited

effect on the ultimate containment of leachate. Depending on the location of the water table in the landfill, Mr. Hodgson established that 8.14 millimetres per annum of leachate may escape from the site even with the installation of a clay liner. (Transcript, volume 114, pages 27571 to 27588, Tab 67).

3.68 The exfiltration, or amount of leachate escaping from any site, depends on the amount of infiltration from rain and snow which percolates through the waste and reaches the bottom of the landfill where either it meets clay, in the case of Site D, or fractured shale in the case of Site F.

3.69 During the presentation of evidence various estimates of possible exfiltrations of leachate from Site F into the shale were given to the Board by the hydrogeologists. These estimates are as follows:

HYDROGEOLOGIST	EXFILTRATION ESTIMATES
1. Sobanski, Exhibit H-40 p. 74	14 mm/year or, 2,200,000 gallons/year 550 tank trucks/year (Vol. 36, p. 7976 to 7979)
2. Sobanski, Exhibit H-40 p. 75	22.5 mm/year
3. Sobanski (Volume 36, p. 7954-7955)	2.3 mm/year
4. Dr. K. Cartwright (Exhibit N-748, p. 5)	"probably to less than 1 inch" per year or 25.4 mm/year
5. Mr. S. Feenstra (Exhibit H-936 p. 16 (para. 49)	10-20 mm/year
6. Dr. Charlesworth Volume 92, p. 21936, l. 12	"Nobody really knows."
7. Paul Bowen (Volume 160, p. 38920)	10-20 mm/year "Most probable but could be from 5 ⁺ to 30 to 40 mm/year"
8. J. Petrie Volume 134, p. 32595, l. 9-25	50 mm/year

3.70 In the end it is submitted, as Dr. Charlesworth testified, that no individual hydrogeologist could testify as to the exact amounts of leachate that would escape. At best, the amount can only be estimated rather than measured or observed; no scientific methodology has been established capable of measuring the exact amount. What does appear clear is that Site F will leak.

3.71 The Board concluded at page 110 of its Reasons that "Site D is described by the proponent as intended to release no contaminants to the wider environment. Site F is expected to release between 1,000 gallons per day and 12,000 gallons per day with the engineered containment system working. The most likely losses would be in the neighbourhood of 5,000 gallons per day". This finding is supported by the estimates given in paragraph 3.69 above. To understand the significance of the potential losses, consider that an oil company tanker commonly seen on the highway holds 4,000 gallons. The potential losses, therefore, represent something greater than a tank truck a day.

3.72 At page 112 of its Reasons, the Board concluded "having considered these matters (i.e., factors 1 to 7 listed in paragraph 3.64, above), among other things, the Board finds that Site F is not hydrogeologically suitable for landfilling, but D is hydrogeologically suitable".

3.73 The Board's reasons are supported by the evidence before it and the Board was entitled to define the factors that constitute hydrogeologic suitability. It is not demonstrated that the Board erred in substance or in principle or that it failed to judicially exercise its proper functions, or that there was any denial of natural justice - which allegations are raised in paragraph 38 of NSP's application. Accordingly, it is respectfully submitted that the Board's decision should not be rescinded as submitted in paragraphs 2, 52 and 53 of the NSP application.

QUESTION B
WHETHER THE BOARD'S REASONS CONFLICT WITH MINISTRY POLICY

3.74 At paragraph 2 and 3 of the NSP application, NSP submits that the Board's conclusions in approving Site D directly conflict with Ministry of the Environment policies. At paragraph 60 of the application, NSP submits that the Board *effectively* concludes that "a sanitary landfill engineering proposal which contemplates the loss of any leachate from the landfill is unacceptable and that only a 'total containment' engineering system is suitable".

3.75 It is submitted that these statements are too broadly put. It would be more accurate to state that the Joint Board reviewed the two alternatives before it and concluded that a total containment site, Site D, was the preferable one in the circumstances of the specific case before it. That was a finding that the Board was entitled to make within the mandate of the Environmental Assessment Act.

3.76 It is submitted that that decision is also consistent with the larger overall objectives of the Ministry of the Environment and the Provincial Government.

3.77 At paragraph 61 of the NSP petition, NSP lists three written policies which relate to the decision by the Board:

- (a) Policy Document 1 is - M.O.E. groundwater quality management policies and procedures contained in the publication "Water Management - Goals, Policies, Objectives and Implementation Procedures of the Ministry of the Environment", revised as at May 1984, (the "Water Management Policy") (Exhibit 154);
- (b) Policy Document 2 is - Policy for the "Incorporation of the Reasonable Use Concept Into M.O.E. Groundwater Management Activities", effective April 25th, 1986 as detailed in the document entitled "The Incorporation of the Reasonable Use Concept into the Groundwater Management Activities of the Ministry of the Environment", September, 1986, (the "Reasonable Use Policy") (Exhibit 154, second half);
- (c) Policy Document 3 is - Policy entitled "Engineered Facilities at Landfills That Receive Municipal and Non-Hazardous Wastes", effective May 11, 1988, together with the Ministry's Guideline For Engineered Facilities at Landfills, and Exhibit N-475 before the Board, entitled "Ministry Interim Guideline on Engineered Facilities at Landfills", dated July 13, 1987, (the "Engineered Facilities Policy") (Exhibit 928).

3.78 The following points should be noted with respect to these documents: Policy

Document 1 was originally issued in November of 1978 and revised in May of 1984. Subsequent statements of The Honourable J. Bradley, Minister of the Environment, indicate that current policies are being reviewed in the light of more current policies of the Government. Policy Document 2, issued in 1986, establishes procedures for the revised 1984 Policy Document 1. Policy Document 3 dated April 20th, 1988, provides the following:

"POSITION STATEMENT

It is the Ministry's position there are limitations to engineered facilities and it prefers sites in environments with characteristics that provide a high degree of natural protection (eg. thick clay deposits)" (Page 27, Exhibit 92B).

Specific Ministry policies must be considered by the Joint Board within the context of the statutory direction given to it by the Legislature by the various statutes. In particular, the Board must look ultimately to what the Legislature has directed it to consider under the provisions of the Environmental Assessment Act.

3.79 In addition to these policies, the evidence before the Board was that the Ministry of the Environment was engaged in a new program for the control of municipal and industrial discharges into surface waters, known as "Municipal-Industrial Strategy for Abatement (MISA)". That document was entered as Exhibit 930. In the Minister's foreword for the release of the Government's White Paper in June 1986, The Honourable Mr. Bradley made the following comments:

"This Paper describes my Ministry's new program to reduce the flow of toxic chemicals into our waterways.

The water pollution control system I inherited regulated only a limited number of conventional contaminants.

Furthermore, that system's major criterion governing industrial waste water discharges was concentration -- in other words, if you dilute, you could pollute.

That system was up-to-date a decade ago, but it is inadequate now and I am replacing it

For the first time, the total amount of each toxic contaminant from each polluter will be capped. This will be done by requiring each direct discharger to meet standards attainable by the best available pollution abatement technology.

MISA's best available technology provision will require pollution reductions -- sometimes great, sometimes small, depending on current performance -- from virtually every major discharger of contaminants into Ontario waterways.

Another key departure from past practice is the dynamic nature of the program ... When re-examinations find better technology has been developed, or industry abatement standards have improved, or the receiving body of water is suffering, new and lower limits will be imposed.

The periodic re-examination provision drives MISA toward the goal of the virtual elimination of persistent toxic pollution from our waterways. This is an idealistic goal, yet I believe we have fashioned a program at once

immediately practical and capable of getting us all the way to that distant destination." (underlining added)

3.80 Further the White Paper contained the following policy at page 27:

"DEVELOPMENT OF COMPLEMENTARY PROGRAMS

The BAT* approach for setting effluent limits will be complemented by the water quality impact approach for setting more stringent site-specific effluent limits needed to protect particularly sensitive receiving water bodies. For the water quality impact approach to be effective in setting effluents limits for toxics, existing water management policies and procedures must be revised and new receiving water quality impact assessment techniques must be developed.

Review of Existing Policies and Procedures. A number of related policies, guidelines and implementation procedures in the MOE publication "Water Management" (1984 edition) ** will be reviewed and revised to reflect the changes brought on by the MISA program." ...

* Best Available Technology

** Policy Document 1, Exhibit 154 referred to in paragraph 4 herein.

3.81 It would appear that the Ministry is reviewing and updating older policies with the goal of seeking the virtual elimination of discharges into the environment, if at all possible, through the use of the Best Available Technology, or as is referred to in other documents issued by the Ministry, "up-to-date technology" "state-of-the-art technology".

3.82 It is respectfully submitted that the Board's decision recognizes that the Region should not use less stringent standards for discharges to ground water where such discharges can be avoided. Here the Board had the alternative of selecting a total containment site which avoids discharges to the environment, and its selection of this site is consistent with the Ministry of the Environment's and the Government's overall objective and goal of the "virtual elimination of ... pollution from our waterways". It is also consistent with the spirit, objective and provisions of the Environmental Assessment Act which aim at providing the best environmental solution possible.

3.83 NSP places too much reliance upon the testimony of one witness from the Ministry of the Environment, Dr. George M. Hughes, who was restricted only to reviewing two policies of the Ministry and who did not testify as to the broader issue before the Board - that is, which of the two sites was preferable under the Environmental Assessment Act.

3.84 In his witness statement presented to the Board Dr. Hughes made the following statements:

"2. With the exception of brief discussions pertaining to the interpretation of Ministry policy and guidelines and occasional technical advice, I have had no involvement with the Halton Landfill Environmental Assessment. I have not reviewed any of the documents in evidence before the Joint Board.

3. I am not sufficiently knowledgeable about either Sites D or F to comment on their hydrogeologic suitability for sanitary landfilling. I am in a position to explain two Ministry policies which are applicable to the consideration of the hydrogeologic suitability of the two sites." (underlining added)

3.85 In cross-examination an attempt was made to ask Dr. Hughes to expand his evidence to consider the MISA document. Dr. Hughes indicated that he had not read the MISA document entered as Exhibit 930 (volume 167, page 41728, Tab 85). He also indicated "I am not even sure what best available technology means..." and further "... by no stretch of the imagination could you consider any appreciable part of my work is in landfill site proposal reviews" (Transcript, volume 167, p. 41766, Tab 85).

3.86 At paragraph 71 of its application, NSP asserts that the Board's reasons and decision are in direct conflict with Government policy and do not consider the long term implications for sanitary landfill policies of the M.O.E. It is respectfully submitted the Board's reasons are consistent with the overall policy of the Ministry, as described above.

3.87 In any event, it is submitted that there is no conflict between the decision of the Board and the current Reasonable Use Policy of the Government. As the Board found at page 105 of its decision:

"the MOE policy does not say that 'the most reasonable use of groundwater ... is for waste disposal,' as suggested by Dr. Charlesworth, nor does it encourage such use where there are alternatives which could prevent groundwater contamination."

3.88 Nor should the Board's decision necessarily be taken to say that only total containment facilities will be approved in the future, as is submitted in paragraph 71 and 73 of the NSP application. Rather it is submitted, in the circumstances of this case, the Board was presented with a selection between a site (Site D) where total containment was possible and a site (Site F) where release of leachate to the environment occurs even with a liner; the Board quite properly selected the site which allowed for more stringent control of the emissions to the environment.

3.89 It is respectfully submitted that the Board's decision was in the public interest and not contrary to it as alleged in paragraph 78 of the NSP application.

Service Life of Collection Facilities at Site D

3.90 With respect to the submissions of NSP in paragraph 79 to 89 of its application regarding the service life of the leachate collections facilities, the City adopts the submissions of the Region at paragraphs 4.12 and 4.13 of its response.

3.91 At paragraph 4.12 counsel for the Region indicates that Mr. Sobanski testified at volume 40, page 8933, to the fact that pumping wells could be installed in the leachate and that the hydraulic trap could be maintained through such devices. Mr. Crutcher, of CRA, also gave evidence to the same effect and he stated that the possibility of any major failure of the proposed engineering facility through clogging was extremely low (Transcript, volume 144, p. 34838 to p. 34851, l. 15, Tab 91).

QUESTION C
WHETHER THE BOARD FAILED JUDICIALLY IN ITS CONSIDERATION OF
THE PLANNING EVIDENCE BEFORE IT

Planning Issues

3.92 NSP's application states that the Board made an "implicit finding that Site F is unacceptable for sanitary landfilling from a planning perspective". The Board made no such finding.

3.93 NSP further suggests that this implied conclusion is "amply demonstrated" by the six statements made by the Board, which are set out at page 33, paragraph 91, of NSP's application. The City of Burlington respectfully submits that these six statements do not support NSP's suggestion as to an "implicit finding" and furthermore, that there is a substantial amount of evidence to support each of the Board's statements.

3.94 In considering NSP's submissions on this point, it is important to recall that the planning evidence which the Board heard was not confined to the small number of professional planning consultants who testified. It must also be remembered that only two of these planners, Mr. Walker (on behalf of the Region) and Mr. MacNaughton (on behalf of the City of Burlington), sought to synthesize all factors bearing on the selection of a site in the context of a complex environmental assessment. The other planners tended to deal with more specific planning considerations (such as land use compatibility), and often from a perspective that focussed on only one of the sites.

3.95 The Board also heard what might also be called "planning evidence" from various other experts on the following specific topics: natural resources (agriculture, mineral aggregate and biophysical considerations), visual impacts, cultural (heritage) factors, noise impacts, transportation impacts, air quality (dust and odour) impacts, social factors, hydrology (surface water) considerations, possible bird hazards, as well as detailed expert evidence as to the after-use proposals at both sites.

3.96 In addition, the Board heard from over 100 lay witnesses, many of whom described what may be termed "planning concerns" with respect to the selection of one or the other site. The Board also had before it various models, reports and other written submissions.

3.97 Any assessment of the Board's planning conclusions must be made in the context of all of this evidence. To focus merely on the testimony of the expert planners, as NSP does in its application, is inappropriate and inconsistent with the argument it presented to the Board with respect to its role as "factfinder".

3.98 As indicated earlier, the Board did not conclude that Site F was unacceptable in planning terms. It did not, therefore, "substitute its own opinion for that of the planning experts", as suggested by NSP at page 35 of its application. In any event, for the reasons set out in paragraphs 2.23 to 2.26 of this response, and for the reasons argued by NSP itself at the hearing, the Board was not obligated to limit its conclusions to the

opinions expressed by the six planners.

3.99 The specific findings made by the Board which NSP refers to in support of its contention are all supported by the evidence.

3.100 With respect to the question of land use conflicts, for example, the Board heard evidence from the users of Bayview Park, which is located immediately adjacent to Site F on the east; this park contains a horse riding facility and a model airplane club. It also heard evidence from the Region's "after use consultant" who confirmed that the area immediately adjacent to Site F on the west was being restored for passive recreational purposes. The Region's subconsultants in areas such as noise, visual and air quality impacts, agreed that there would be conflicts between these adjacent uses and a landfill at Site F. The traffic consultant called by the Region gave evidence that many of the trucks going to and from Site F would travel along highly urbanized roads in the City of Burlington (such as Brant Street), and the Region's visual expert agreed that the location of landfill at Site F would impact on nearby residences. Many of the residents of Aldershot gave first hand testimony that the "physical and man-made barriers" referred to by NSP at page 36, paragraph (a), of its application were insufficient to buffer their community from the impacts of the former Burlington landfill site, which was immediately adjacent to Site F. There was, therefore, substantial evidence upon which the Board could have relied in reaching its decision.

3.101 The Board was cognizant of the fact that a *Regional* landfill at Site F was deemed to conform with the Parkway Belt West Plan (hereinafter the "PBWP") and its regulations (Reasons, p. 126). This was not an issue at the hearing. [The statement referred to at paragraph (b) on page 36 of the NSP application was obviously made by the Board in reference to private initiatives for landfilling in this area. On this issue, the City of Burlington respectfully adopts the arguments made by the Region of Halton at paragraphs 4.20-4.26 of its response to NSP application.]

3.102 NSP also complains at page 37, paragraph (c), of its application about the Board's findings as to Site F's biophysical significance. The Board's findings, however, were based directly on NSP's own environmental assessment, which stated:

"Our analysis show that parts of the subject property may be considered Environmentally Significant since they satisfy criteria 1, 3, 4, 5 and 6".
(Exhibit WB-107, Environmental Appraisal, prepared for NSP by Proctor & Redfern, in March, 1982).

3.103 This information was then used by the City of Burlington's expert, Dr. C. Kitchen, as a basis for comparing Site F with the 37 other areas in the Region of Halton which had been designated as environmentally sensitive. The results were graphically illustrated at page 15 of the Dr. Kitchen's report on the Biophysical Resources Assessment of Site D & F (Exhibit B-883, p. 15, Tab 103). This evidence was also confirmed by Mr. MacNaughton in his report and testimony.

3.104 There was, therefore, substantial evidence upon which the Board could have come to these conclusions. For the reasons outlined in paragraphs 4.141 and 4.142 of this

response, the City of Burlington also submits that there was substantial evidence to suggest that there was a significant difference between the two sites in terms of their environmental significance.

QUESTION D
WHETHER THE BOARD ERRED IN ITS CONSIDERATION OF
CRITICAL EVIDENCE RELATING TO A NUMBER OF ITEMS
INVOLVING PUBLIC HEALTH AND SAFETY

Fractures in Unweathered Upper Till - First Feenstra Hypothesis

3.105 Further, on the question of NSP's submissions that the Joint Board erred in rejecting Mr. Feenstra's first hypothesis respecting fractures in the unweathered upper till unit, as set out in the NSP application at paragraphs 96 to 116, the City adopts the submissions of the Region contained in its response at paragraphs 4.33 to 4.36.

3.106 Furthermore, the City refers the Lieutenant Governor in Council to the submissions respecting the appropriateness of rejecting this hypothesis as found earlier in paragraphs 2.27 to 2.45 of this response.

Depletion of Water Resource - The "Shadow Hypothesis - Feenstra's Second Hypothesis

3.107 With respect to NSP's submission that the Joint Board erred in rejecting the second hypothesis of Mr. Feenstra, outlined in paragraphs 122 through 128 of the NSP application, the City adopts the submission of the Region at paragraph 4.37 of its response.

Induced Fractures or Stress Relief at Site D - Feenstra's Third Hypothesis

3.108 With respect to NSP's submission that the Joint Board erred in rejecting the third hypothesis of Mr. Feenstra, outlined in paragraph 96 and paragraph 117 - 121 of its application, the City adopts the submission of the Region in its response found at paragraph 4.38.

Need for Liner

3.109 With respect to the concerns expressed in the NSP application at paragraphs 129 to 133, the City adopts the submissions of the Region in its response at paragraphs 4.39 to 4.41.

QUESTION E
WHETHER THE BOARD ERRED IN OVERTURNING THE
REGIONAL COUNCIL'S DECISION

3.110 With respect to the complaint of NSP respecting the overturning of the Regional Council's decision, as set out in paragraph 141 and 142 of its application, the City refers the Lieutenant Governor in Council to paragraph 1.18 above, and further adopts the submissions of the Region at paragraph 4.43 of its response.

3.111 Furthermore, Lieutenant Governor in Council will recognize that the Joint

Board received much more detailed and fully developed professional evidence during the course of the 194 day hearing than was available to Halton's Council at the time it made its decision, and that evidence was subjected to intensive cross-examination and argument. For example, Regional Council was given a Comparative Analysis report, Exhibit H-14, by one of the witnesses, Mr. Peter Walker. When the question of weight to be given to that report was considered by the Board, it stated:

"An issue the Board considered was whether or not the analysis presented in exhibit H-14 held firm in light of all of the evidence. When the Board came to the comparative analysis of the two sites, it was in possession of much more thorough evidence which led to different conclusions than the Region was able to come to, based on the information available to it in 1986" (Reasons, p. 136).

The same principle applies. The Joint Board had much more thorough evidence before it and was entitled to come to a different conclusion than the marginal preference indicated in the Region's March 4, 1987 resolution.

QUESTION F
WHETHER THE BOARD ERRED ON THE ISSUE OF ECONOMIC EVIDENCE

Economic Issues

3.112 On this question, NSP sets out its submissions at paragraphs 143 to 151. The concerns of NSP with the Board's evaluation of the comparative costs of land filling at Site F v. Site D are very thoroughly dealt with by the Region of Halton at paragraphs 4.44 - 4.58 of its response. The City of Burlington respectfully adopts those submissions.

3.113 The City of Burlington also notes that it was the only party other than the Region of Halton to call expert evidence as to the projected cost of a landfill facility at either Site D or Site F (the evidence of Mr. Stamm), and the only party to call the evidence of a qualified real estate appraiser (Mr. O'Brien). NSP did not seek to call economic or appraisal evidence, nor did it seek to cross-examine Mr. O'Brien on his appraisal evidence.

3.114 The Board correctly noted that its role in respect of this issue was to "consider what costs should be reasonably anticipated when arriving at a conclusion about the economic impact at either site" (Reasons, p. 137). The City of Burlington respectfully submits that the Board carried out its role properly and appropriately in light of the decisions which it made with respect to the location and nature of this facility.

FINAL ISSUE
WHETHER THE LIEUTENANT GOVERNOR IN COUNCIL SHOULD
RESCIND AND SUBSTITUTE FINDINGS

3.115 In the NSP application at paragraph 154B and C, a request is made for substituted findings in the Board's reasons concerning Site F. It is respectfully submitted that such a request is inappropriate. Section 13 of the Consolidated Hearing Act, 1981, S.O. 1981, c.20 gives the Lieutenant Governor in Council the power to confirm, vary or rescind all or any part of a decision of a Joint Board. The Board's decision in this case is found at pages 149 and 150 of its document "Reasons for Decision and Decision".

Arguably, therefore, the Lieutenant Governor in Council may not have the power to alter the Board's reasons for decision. There is, however, a more practical and sensible reason as to why the Lieutenant Governor in Council should not interfere with the Board's specific findings of fact in this case. Simply put, the Joint Board heard the witnesses, and it was in a position to assess their credibility, qualifications and opinions. The Lieutenant Governor in Council has not had the benefit of a review of all of the evidence nor the opportunity to hear and see the witnesses. Nor can the Lieutenant Governor in Council have before it on these applications all of the relevant evidence which the Board did at the hearing. It is respectfully submitted that it would therefore be unfair to the Lieutenant Governor in Council to ask that it substitute findings of facts or opinion for those set out in the Board's reasons. Accordingly, the request of NSP and MACC for "substituted findings" should be dismissed.

PART IV
RESPONSE OF THE CITY OF BURLINGTON
TO THE APPLICATION OF THE MILTON AREA CITIZENS'
COALITION, ET AL.

4.116 The Milton Area Citizens' Coalition, et al. (the "MACC"), have asked that the decision of the Joint Board be rescinded and that in its place a decision be substituted granting all the necessary approvals for landfilling at Site F, subject to the conditions of approval proposed at the hearing by the Ministry of the Environment.

4.117 MACC also ask for substituted findings as did NSP. For the reasons expressed in paragraph 3.115, it is submitted that this request be dismissed.

Hydrogeology Issues

4.118 At page (iii) and from page 9 to page 29 of its application, the MACC submits the decision of the Board is unreasonable and should be rescinded for four reasons. The first three of these reasons relate to submissions with respect to hydrogeological evidence. The City submits that for the reasons explained in paragraphs 3.56 to 3.73 and 3.105 to 3.109 of this document, the decision of the Board should not be altered.

4.119 The City adopts the specific submissions of counsel for the Region found at paragraphs 3.14 to 3.23 of its response document.

Resource Policy Issues: Introduction

4.120 The Board gave careful consideration to the resource policy issues raised at the hearing. The Board weighed the expert testimony relating to these issues and it was clearly cognizant of the government's policies and the various Ministries' positions thereon.

Resource Policy Issues: Agriculture

4.121 The MACC's application contends that the Board erred by not giving "appropriate recognition" to the status of the Foodland Guidelines (page 29), and that it did not treat the Guidelines as "official" government policy (page 8). This misstates the findings of the Board. The Board did not conclude that the Foodland Guidelines "do not represent official provincial government policy"; this was a statement made by Mr. MacNaughton, a planner whose opinions the Board was summarizing at page 40 of its reasons. This statement was made by Mr. MacNaughton in simple recognition of the fact that the Foodland Guidelines had not yet received approval under section 3 of the Planning Act, 1983, S.O. 1983, chapter 1. This fact was recognized by many other witnesses throughout the hearing, including the MACC's own planner, Mr. Kentridge (evidence of L. Kentridge, transcript vol. 98, at page 23538).

4.122 Even though Mr. MacNaughton recognized that the Foodland Guidelines had not received *formal* approval under the Planning Act, he acknowledged their importance as a statement of government policy - and he indicated that in the context of an

environmental hearing "the Foodland Guidelines and the MARP policy require equal consideration" (evidence of I.F. MacNaughton, transcript vol. 157, page 38079).

4.123 It is clear that the Board took cognizance of the Foodland Guidelines (Reasons p. 36 and 125) and that it gave these Guidelines as much weight as it accorded the Province's Mineral Aggregate Resource Policy, which has been approved under the Planning Act (Reasons, p. 40).

4.124 The Board correctly concluded that each policy permits alternative land uses where such land uses can be justified and that the selection of either site would require justification under one or the other of the policies. This conclusion was consistent with the positions taken at the hearing by the City of Burlington, the Region of Halton, the Ministry of Natural Resources and the Ministry of Agriculture and Food (through its correspondence).

4.125 In its written comments on the assessment process carried out by the Region, the Ministry of Agriculture and Food stated that the methods and techniques used for data gathering, the sub-factors for evaluation and the relative impact weighing of sub-factors used in the agricultural resource analysis, were appropriate in determining the list of candidate sites. The Ministry also acknowledged that factors other than agriculture must be considered in any environmental assessment process. In this case, one obvious example was the MARP policy as it affected the mineral aggregate resources at Site F.

(i) Exhibit H-382, letter from the Ministry of Agriculture and Food to the Region of Halton, dated May 4, 1984, Tab 125.

4.126 In later correspondence, the Ministry of Agriculture and Food also indicated that the Region's methodology and site comparisons, in the stage 2C report, were "appropriate and well thought out" and that it was "satisfied with the data and analysis provided in the EA" and "satisfied that agriculture was given a high priority in the EA process". The Board agreed with these comments (Reasons, p. 39).

Exhibit H-382, letter from the Ministry of Agriculture and Food to the Region of Halton, dated March 8, 1985, Tab 125; and, Exhibit H-382, letter from the Ministry of Agriculture and Food to the Region of Halton, dated November 1, 1985, Tab 125.

4.127 In commenting on the Ministry of Agriculture and Food's participation in this environmental assessment process, the Town of Milton's agricultural expert, Mr. Hoffman, agreed that the Ministry had carried out its role and reviewed the Region's work in the context of the Foodland Guidelines adequately (evidence of M.K. Hoffman, transcript vol. 70, at page 16406).

4.128 Mr. Hoffman also acknowledged: (i) that landfills have in fact been placed in agricultural areas in the past; (ii) that landfills and agriculture often "compete" because clay soils are considered to be good for both purposes; (iii) that the Foodland Guidelines

recognize that there will be competing demands for agricultural land; (iv) that the resolution of these competing demands will vary according to the specific circumstances of each case and the particular uses to be accommodated; (v) and that an environmental assessment process such as this could justify other uses in agricultural areas (evidence of M.K. Hoffman, Transcript, vol. 69, at pages 16253-16255, 16258-16259, 16261, 16264, 16268-16269 and 16272). Mr. MacNaughton agreed that this environmental assessment process would satisfy the Foodland Guidelines' requirement for "justification" (evidence of I.F. MacNaughton, Transcript, vol. 157, pages 38072 and 38092).

4.129 The environmental assessment process undertaken in this case and the evidence when taken as a whole provide ample justification for the use of Site D as a landfill area, in spite of its agricultural characteristics.

4.130 It is therefore submitted that the interpretation of the Foodland Guidelines suggested by the MACC (ie, that the Guidelines *direct* the landfill use to Site F unless it can be demonstrated that Site F "cannot be used") (MACC Application, page 31) is too extreme and should be rejected. Such a theory would give the Foodland Guidelines a status which was not suggested by the Ministry of Agriculture and Food, and it would significantly undermine the environmental assessment process and fetter the discretion of future boards, which must try to apply all relevant Provincial policies and the directives of the Environmental Assessment Act.

4.131 The application of the MACC also complains that there was no evidence to support the Board's conclusions as to agricultural profitability in the vicinity of Site D. This statement is incorrect: there was substantial evidence from which the Board could have reached this conclusion. For example, Mr. Hoffman acknowledged that the area around Site D had experienced urbanization in the form of rural residential construction, commercial activity, fragmentation, absentee ownership and increased land prices, all of which might affect the economic viability of agricultural production and decrease the value of the agricultural resource within the meaning of paragraph 3.11 of the Foodland Guidelines (evidence of M.K. Hoffmann, Transcript, vol. 70, at pages 16376-16388 and 16597-16599B).

4.132 The Region's agricultural expert, Dr. Mackintosh, agreed that the area in the vicinity of Site D was starting to get fragmented, that it was experiencing urban pressures and inflated land prices and that it contained a significant percentage of absentee owners. Dr. Mackintosh also agreed that the question of this area's viability for agricultural purposes would have to be asked if the site were to be compared to other agricultural areas (evidence of Dr. E.E. Mackintosh, Transcript, vol. 7, pages 1547, 1552, 1558-1559).

4.133 One of the tenant-farmers who gave evidence on behalf of the MCAA, Mr. Lambrick, confirmed that the land in this area was too expensive to own as a farm and that the returns from farming were slim in any event (evidence of Mr. Lambrick, Transcript, vol. 99, pages 23751 & 23757).

4.134 It is therefore submitted that the Board's treatment of the agricultural issue was fair, balanced and consistent with the evidence presented. Interestingly, the Board's

conclusions were also consistent with the decision made nearly 10 years ago by the Ontario Municipal Board in respect of the "old" Milton site; in that case, the Ontario Municipal Board stated:

"In our view, it is desirable that good farmland which forms part of a viable farming operation, should be kept as farmland. But desirable as this is, it is, as the Region of Halton draft Official Plan recognizes, not always possible. The Food Land Guidelines, in Section 3.12, also recognizes that "A parcel of land may be suitable for several uses, or several uses may be competing to locate on it. The municipality must decide which use will be permitted. These trade-offs must be made for all land on which more than one use might be feasible". In this case, the Region of Halton, who have the responsibility of picking and developing a site for a sanitary landfill, decided the trade-off must be made and we think they were right".

"So, in our view, we have the temporary loss of a very tiny portion of the farmland of Halton to set off against an inexpensive but safe site for a needed municipal facility. We believe the trade-off is justified". (Decision of the O.M.B., pages 36-37).

Resource Policy Issues: Mineral Aggregate Considerations

4.135 At pages 29 to 35, MACC make submissions about errors of the Joint Board respecting various Ministry policies. For the following reasons, the City submits that the Board's reasons are supportable and its decision should not be altered.

4.136 The MACC application states that the Board was unreasonable in comparing agricultural impacts at Site D with the mineral aggregate resource considerations at Site F. It also suggests that the Board misunderstood the role of the Ministry of Natural Resources (MACC Application, p. 34). The Board's conclusion on this point is found at page 41 of its decision; the Board stated:

"Having considered both physical resource issues, the Board finds that there are impacts in both areas. There was not enough evidence to assign more importance to one resource than the other, given the possible mitigating measures and the shifting land uses in both areas".

4.137 In dealing with the mineral aggregate resource issue, it is respectfully submitted that the Board was right to consider all of the evidence presented to it and not constrain its investigation to an examination of exhibit MNR-538 (the "agreement" made between the Region, the Ministry of Natural Resources and N.S.P.). This "agreement" merely preserved an option for the Region's possible future extraction of the shale resource; it did not ensure that the resource would in fact be exploited. Mr. MacNaughton suggested to the Board that the Region's option to extract the shale resource at Site F could fairly be juxtaposed with the Region's commitment to restore the long term use of Site D for agricultural purposes (evidence of I.F. MacNaughton, Transcript, vol. 157, page 38092). In these circumstances, it was fair for the Board to

consider both Provincial policies and to contrast the potential loss of the shale resource at Site F as against the net impacts on the agricultural resource of Site D.

4.138 It is therefore submitted that the Board's analysis of the MARP and Foodland Guidelines was balanced and fair; it was also consistent with the evidence of the only witness who's final report sought to compare the implications of a landfill on *both* physical resources and *both* government policies: Mr. MacNaughton.

Resource Policy Considerations: the Parkway Belt West Plan

4.139 The MACC application refers to the position of the Minister of Municipal Affairs with respect to the PBWP. This position was not an issue at the hearing. However, the Minister's order (to the effect that a *Regional* landfill site at Site F would not conflict with the PBWP) did not absolve the Board of carrying out a detailed planning assessment of the candidate sites as part of the environmental assessment process. It was for this reason, no doubt, that Halton, Burlington, Milton, the MACC and NSP all called the evidence of at least one planner. The Board was right to consider this evidence as part of the comparative analysis required by the environmental assessment process.

Resource Policy Considerations: the Biophysical Issues

4.140 The MACC application, at page 33, submits that Site F's significance as a natural area was "limited" and "not of sufficient importance to be designated for protection". This position is incorrect and inconsistent with the evidence presented.

4.141 The Board heard the testimony of two experts in this area: Ms. L. Hellas, called on behalf of the Region, and Dr. C. Kitchen, called by the City of Burlington. In addition, the Board had before it a detailed environmental appraisal which had been prepared on behalf of N.S.P. in connection with its own landfill initiatives (exhibit WB-107) as well the comments made by the Halton Region Conservation Authority (exhibit B-106). The opinion expressed in each case was consistent: Site F was an area of environmental significance. Furthermore, Messrs. Walker and MacNaughton, who sought to compare the two sites in respect of their biophysical factors, agreed that Site F was much more significant than Site D, and that the latter was to be preferred for landfilling from the perspective of this particular issue. The Board's findings are entirely consistent with this evidence. The MACC did not call any expert to contradict these opinions.

4.142 The fact that Site F had not been "officially designated" was of no significance to the two experts who testified as to its biophysical importance. Dr. Kitchen explained that the imposition of such designations was largely based on the analysis of historic information. NSP's environmental assessment also stated that much of the Region's work in this regard was undertaken by summer students. The environmental process in this case went far beyond these investigations; it brought new information and new analysis to light. In these circumstances, the Board was right in rejecting the argument that the area's lack of "official designation" should circumscribe the hearing process or its investigations. Such a limitation would seriously undermine the environmental aspects of this assessment process. The MACC's argument on this issue is one which Cabinet should reject.

Social Impacts

4.143 At pages 35-40, counsel for MACC makes submissions requesting that the Board's Decision be set aside based upon errors in its consideration of the social impact evidence. The City submits that this request should be dismissed.

4.144 The evidence as to social impacts heard by the Board was presented in many forms: through the testimony of expert sociologists (such as the Region's witness, Dr. M. Schiff), the testimony of over 100 lay witness from the Milton and Burlington areas, the testimony of numerous experts in specific planning fields such as transportation, noise, odour, dust, visual impacts, as well as through the numerous written reports and briefs submitted during the course of the hearing. The Board was required to and it did synthesize and assess all of this information in reaching its conclusions.

4.145 The MACC application suggests that this evidence established that there would have been a difference in social impacts at the two sites. The Board did not disagree with this position: it stated that the social impacts at Site D would be more severe (albeit for a small number of people), whereas the impacts at Site F would be more diffuse and less serious (albeit for a larger number of people) (Reasons, p. 28). These conclusions are consistent with the evidence presented. There is no reason to suggest, therefore, as the MACC does, that the Board's treatment of these social impacts is "inconsistent and unreasonable" (MACC Application, page 39).

4.146 The MACC application also suggests that the Board sought to "equate" the social impacts at both sites, and that this was "unreasonable" and "unrealistic" (MACC Application, p. 40). The Board did not "equate" the social impacts at the two sites, although it did find that "there would be a serious social impact at both sites" (Reasons, p. 23). This finding was also consistent with the evidence presented.

4.147 The social analysis set out in the MACC's application at pages 36-39 is a synopsis of the studies carried out by its *planning* consultants, Messrs. Kentridge and Kauffmann. The City of Burlington respectfully suggests that these studies were not balanced or complete. For example, each of these planning consultants focussed on the *potential* impacts and risks that might be experienced at the candidate sites without examining (in most cases) what the *probable* impacts would be; Mr. Kauffman agreed that he considered the impacts from a "fail safe" perspective, without even examining most of the Region's detailed reports and technical studies; Messrs. Kauffman and Kentridge had not studied the impacts at Site F in the same detail or to the same extent as they did the impacts at Site D. The Board acknowledged many of these shortcomings at pages 130-135 of its reasons.

4.148 Even so, the Board did not ignore the evidence of Messrs. Kauffman or Kentridge. What it did, however, was consider their opinions in the context of all of the social evidence presented to it. It was fair and right for the Board to do so.

4.149 Furthermore, the MACC's reference to the Ministry of the Environment's Policy Guideline for Land Use on or Near Landfills and Dumps in support of its thesis is

inappropriate. This policy sets out guidelines to regulate the use of land on or near existing landfills and dumps, and it is not intended as a guideline for the selection of alternative sites within the context of a detailed environment assessment process.

4.150 In addition, and in spite of the MACC thesis, it should be remembered that one of its members, Mrs. Seehaver, acquired her home across the road from Site D even though she knew that it was one of two sites the Region had decided to take to a hearing; others, namely Mr. and Mrs. T. Martin and Mr. Dhillon, constructed their homes *on and near* Site D after the commencement of the Joint Board's hearings. Mr. Dhillon, in fact, acquired his property at a time when he believed the OWMC's toxic waste facility would be constructed across the road (Transcripts, vol. 99, at pages 23746, 23836; and vol. 100, page 23943). A number of others "chose to establish businesses in the vicinity of Site D, knowing full well that the site was ranked as a potential landfill site" (Reasons, p. 133).

4.151 It is therefore submitted that the Board did not ignore the social impacts that might be occasioned by the imposition of a landfill at either site. What the Board did do was assess all of the social evidence before it, in the context of a complicated environmental assessment in which social impacts were acknowledged to be but one of many factors which the Board had to consider.

Expropriation Issues

4.152 The MACC suggests, at pages 41-43 of its application, that the "expropriation of 4 families" cannot be "fair, sound and reasonably necessary" where an alternative site exists.

4.153 What the Expropriations Act requires however, is that the Board consider whether the taking of land is "fair, sound and reasonably necessary *in the achievement of the objectives of the expropriating authority*" (emphasis added) (the Expropriations Act, R.S.O. 1980, c. 148, s. 7(5)).

4.154 In this case the "objective" of the Region of Halton was to establish the safest and most suitable landfill site it reasonably could. No party took issue with this stated objective. The Board concluded that this objective could not be satisfied at Site F, but that it could be satisfied at Site D.

4.155 Having concluded that the objective of the Region could only be satisfied by the siting of the landfill at Site D, it was reasonable for the Board to approve the expropriations it did. Not only was this "fair, sound and reasonably necessary", it was absolutely essential: without the approval of these expropriations, it must obviously have been the Board's opinion that the Region's objective of establishing the safest possible and most suitable landfill site could not be met.

4.156 Even if Site F was arguably acceptable as an "alternative" site, however, it was clearly not the Board's preferred site. The Board should be at liberty to select the best possible site and it should not be constrained in its evaluations by a reading of the Expropriations Act which would require the landfill to be sited in accordance with the particular desires of a small number of individual landowners. The evaluation process

under the Environmental Assessment Act must precede the consideration of the approvals contemplated by the Expropriations Act.

Conclusion

4.157 Accordingly, it is submitted that the Joint Board's Decision should not be varied or rescinded based upon the submissions of MACC above and that the application ought to be dismissed.

PART V : FINAL CONCLUSION

5.158 In this case, the Joint Board was faced with the unenviable task of weighing and assessing an enormous amount of evidence, much of which was highly technical. A great many experts gave their opinions, some of which conflicted. The Joint Board was also required to consider a variety of Provincial policies and guidelines as well as those factors listed in the Environmental Assessment Act. The City of Burlington submits that the Joint Board has carried out these responsibilities in a careful, thoughtful and well balanced manner. The City also submits that the Lieutenant Governor in Council should, for the sake of the integrity of the environmental assessment process, be loath to interfere with the Joint Board's decision in the absence of some blatant misunderstanding on the part of the Board as to its role or the policies of the Provincial Government.

5.159 The City of Burlington therefore respectfully submits that the Lieutenant Governor in Council should:

- (a) dismiss the applications of the Town of Milton, the MACC and NSP;
- (b) refuse to require any rehearing of the Joint Board's decision; and,
- (c) confirm the decision of the Joint Board in this matter.

ALL OF WHICH IS RESPECTFULLY SUBMITTED.

M.J. McQuaid, Q.C.,
C.J. Tzekas,
of counsel for the City of Burlington

CHAPTER 70

**An Act to establish
The Regional Municipality of Halton**

*Assented to June 22nd, 1973
Session Prorogued March 5th, 1974*

HER MAJESTY, by and with the advice and consent of the
Legislative Assembly of the Province of Ontario, enacts
as follows:

1. In this Act,

- (a) "area municipality" means the municipality or ^{Interpre-} corporation of the City of Burlington, the Town of ^{tation} Oakville, the Town of Central Halton and the Town of North Halton, all as constituted by section 2;
- (b) "bridge" means a public bridge, and includes a bridge forming part of a highway or on, over, under or across which a highway passes;
- (c) "chairman" means the chairman of the Regional Council;
- (d) "debt" includes any obligation for the payment of money;
- (e) "divided municipality" means a local municipality parts of which are annexed to two or more municipalities under subsection 1 of section 2;
- (f) "highway" and "road" mean a common and public highway or any part thereof, and include a street, bridge, and any other structure incidental thereto or any part thereof;
- (g) "land" includes lands, tenements and hereditaments and any estate or interest therein, and any right or easement affecting them, and land covered with water, and includes any buildings or improvements on land;
- (h) "local board" means any school board, public utility commission, transportation commission, public library board, board of park management, local board of health, board of commissioners of police, planning

PART II

INCORPORATION AND ESTABLISHMENT OF THE
REGIONAL COUNCILRegional
Corporation
constituted

6.—(1) On the 15th day of October, 1973, the inhabitants of the Regional Area are hereby constituted a body corporate under the name of "The Regional Municipality of Halton".

Deemed
municipality
under R.S.O.
1970, cc. 118,
323

(2) The Regional Corporation shall be deemed to be a municipality for the purposes of *The Municipal Affairs Act* and *The Ontario Municipal Board Act*.

Regional
Area
deemed
judicial
district
R.S.O. 1970,
c. 230

(3) On and after the 1st day of January, 1974, the Regional Area shall for all judicial purposes be deemed to be a county and be known as the Judicial District of Halton, and for the purposes of *The Jurors Act* any reference to the warden shall be deemed to be a reference to the chairman and any reference to the treasurer of the county shall be deemed to be a reference to the treasurer appointed under this Act for the Regional Corporation.

Registry
boundaries

(4) Nothing in this Act shall be deemed to alter the boundaries of any registry or land titles division.

Appoint-
ments for
County of
Halton
deemed
appointments
for Judicial
District
of Halton

(5) Every person who held an office or appointment under any Act on the 31st day of December, 1973, in and for the County of Halton shall be deemed, so long as he continues to hold such office or appointment, to hold such office or appointment on and after the 1st day of January, 1974, in and for the Judicial District of Halton.

Regional
Council to
exercise
corporate
powers

7.—(1) The powers of the Regional Corporation shall be exercised by the Regional Council and, except where otherwise provided, the jurisdiction of the Regional Council is confined to the Regional Area.

Powers
exercised
by by-law

(2) Except where otherwise provided, the powers of the Regional Council shall be exercised by by-law.

Not to be
quashed as
unreasonable

(3) A by-law passed by the Regional Council in the exercise of any of its powers and in good faith shall not be open to question, or be quashed, set aside or declared invalid either wholly or partly, on account of the unreasonableness or supposed unreasonableness of its provisions or any of them.

Composition
of Regional
Council

8.—(1) The Regional Council shall consist of twenty-five members composed of a chairman and,

(a) in the year 1973, the mayor-elect of each area municipality and thereafter the mayor of each area municipality;

129.—(1) The provisions of this Act apply notwithstanding ^{Conflict with other Acts} the provisions of any general or special Act and, in the event of any conflict between this Act and any general or special Act, this Act prevails.

(2) The provisions of any special Act relating to the County of Halton or a local municipality or local board thereof within the Regional Area, in so far as the provisions of such special Act are not in conflict with the provisions of this Act, continue in force, and the powers conferred by any such special Act may be exercised by the Regional Corporation or a local board thereof or by the corporation of the appropriate area municipality or a local board thereof according to whether the powers conferred by such special Act relate to a function assigned under this Act to the Regional Corporation or a local board thereof or to the area municipalities or local boards thereof. ^{Special legislation}

130.—(1) The Regional Corporation or an area municipality or the Regional Corporation and one or more area municipalities, ^{Municipal buildings}

- (a) may acquire land for the purpose of constructing municipal buildings; and
- (b) may construct municipal buildings for the use of the Regional Corporation or the Regional Corporation and one or more area municipalities or any local board thereof.

(2) Section 256 of *The Municipal Act* applies *mutatis mutandis* ^{Application of R.S.O. 1970, c. 284, s. 256} to any joint undertaking under this section.

131.—(1) In this section, "waste" includes ashes, garbage, refuse, domestic waste, industrial solid waste or municipal refuse, and such other waste as may be designated by by-law of the Regional Council. ^{Interpretation}

(2) On and after the 1st day of January, 1974, the Regional Corporation shall provide facilities for the purpose of receiving, dumping and disposing of waste, and no area municipality shall provide such facilities. ^{Receiving and disposing of waste by Regional Corporation}

(3) For the purposes of subsection 2, the Regional Corporation may acquire and use land within the Regional Area and may erect, maintain and operate all facilities including buildings, structures, machinery or equipment for the purposes of receiving, dumping and disposing of waste, and may contract with any person, including Her Majesty in right of Ontario, for such purposes, and may prohibit or regulate the dumping and disposing of waste or. ^{Waste disposal sites}

any class or classes thereof upon such land, and may charge fees for the use of such property, which fees may vary in respect of different classes of waste, and all such existing facilities and lands of a local municipality to the extent they are used for such purposes vest in the Regional Corporation on the 1st day of January, 1974, without compensation.

Payments of principal and interest to area municipalities

(4) The Regional Corporation shall pay to the corporation of any area municipality on or before the due date all amounts of principal and interest becoming due upon any outstanding debt of such area municipality in respect of the property assumed by the Regional Corporation under the provisions of subsection 3.

Default

(5) If the Regional Corporation fails on or before the due date to make any payment required by subsection 4, the area municipality may charge the Regional Corporation interest at the rate of 12 per cent per annum thereon or such lower rate as the council of the area municipality determines, from such date until payment is made.

O.M.B. to arbitrate

(6) In the event of any doubt as to whether any outstanding debt or portion thereof was incurred in respect of any property vested in the Regional Corporation under this section, the Municipal Board may determine the matter and such determination is final and binding.

Application of R.S.O. 1970, c. 284, s. 354

(7) For the purposes of subsection 3, paragraph 77 of subsection 1 of section 354 of *The Municipal Act* applies *mutatis mutandis*.

Agreement successor rights

132. Where any agreement has been entered into by a local municipality, providing the terms thereof are not inconsistent with the provisions of this Act, the Regional Corporation or the appropriate area municipality shall on and after the 1st day of January, 1974, be deemed to stand in the place and stead of such local municipality in so far as the agreement pertains to the functions of the Regional Corporation or area municipality.

Regional Fire Co-ordinator

133. The Regional Corporation shall appoint a Regional Fire Co-ordinator who shall be responsible for the establishment of an emergency fire service plan and program for the Regional Area, and the Regional Corporation is authorized to expend such sums as it considers necessary to implement such plan and program.

Existing speed limits continued
R.S.O. 1970, c. 202

134.—(1) Notwithstanding the other provisions of this Act but subject to subsections 2 and 3, for the purposes of section 82 of *The Highway Traffic Act* the area in the Regional Area

B-353

1979 OMB Decision - Former Site F



R 781380
R 781381
E 781673

Ex B 333

Ontario Municipal Board

IN THE MATTER OF Section 17(5) of The Planning Act (R.S.O. 1970, c. 349),

- and -

IN THE MATTER OF a reference to this Board by the Honourable Claude F. Bennett, Minister of Housing, on a request by the Regional Municipality of Halton, to amend the Official Plan for the former Burlington Planning Area (now in the Town of Milton) to permit a sanitary landfill site and for agricultural purposes, where feasible, at the north-west corner of Britannia Road and Tremaine Road and being composed of part of Lots 6 and 7, Concession VII, N.S., in the Town of Milton - Site "F" Minister's File OPC-2919-17(3)A

- and -

IN THE MATTER OF an appeal by the Regional Municipality of Halton for an order directing an amendment to By-law 1642 of the former Town of Burlington, now the Town of Milton, to change from "Conservation" and "Agricultural" to "sanitary landfill" the permitted use of lands comprising part of Lots 6 and 7, Concession 7, N.S., formerly in the Town of Burlington, now in the Town of Milton, to permit the establishment of a sanitary landfill operation on the said lands

- and -

IN THE MATTER OF Section 64 of The Ontario Municipal Board Act (R.S.O. 1970, c. 323)

- and -

IN THE MATTER OF an application by The Regional Municipality of Halton for an order approving:

- (a) the acquisition of land and the design, and construction of a sanitary landfill site for the purpose of receiving, dumping and dispensing of waste located at the northwest corner of Tremaine and Britannia Roads in the Town of Milton at an estimated cost of \$3,700,000.00 and the borrowing of money by way of temporary advances not exceeding in the aggregate such estimated cost pending the sale of debentures, and

- (b) the borrowing of money therefor,
and the issuance of debentures in
the sum of \$3,700,000.00 for a term
of five years

C O U N S E L :

J. Edgar Sexton, Q.C. Fraser Berrill D. Perlin	- for The Regional Municipality of Halton
Frederick E. Leitch Larry S. Gangbar	- for The Town of Milton
David Estrin Robert K. Timberg	- for Tremaine-Britannia Citizens Group and others
Rodney H. Crown	- for Hama Investments Limited and Wolf Teichman
Gerard Balciunas	- for J. Zabulionis and S. Kalytis
Richard R. Arblaster	- for H. Reid and others
G. J. Smith, Q.C. Jack D. Winberg	- for Dufferston Holdings Limited
Mark T. Adamson	- for Josephine Peric and others
Peter K. McWilliams, Q.C.	- for Bessie Smith

DECISION OF THE BOARD delivered by W. T. SHRIVES AND
A.J.L. CHAPMAN

The public hearing of these applications was commenced on the 8th day of January, 1979 in the Town of Milton and completed on the 28th day of March, 1979.

The matter under Section 17(5) of The Planning Act was referred to this Board as indicated in the style of cause by the Honourable Claude F. Bennett, Minister of Housing, because the Council of the Town of Milton failed to act on a request from the Council of the Regional Municipality of Halton to amend its Official Plan. There is also a companion application under Section 35(22) made by the Regional Municipality of Halton requesting this Board to instruct the Town of Milton to amend By-law 1642 to implement the proposed Official Plan amendment. The third application simply seeks the necessary authorization to make the capital expenditures.

The Regional Municipality of Halton requested the Town of Milton to designate certain lands in the Town, namely, part of Lots 6 and 7, Concession 7, N.S. for the purpose of establishing a landfill site on the said lands. It is an

area of some 246 acres located at the north-west corner of Britannia Road and Tremaine Road to the south of the urban area of the Town of Milton. The existing designation on the subject lands is found in the Official Plan of the former Burlington Planning Area and is known as Amendment No. 49. This document was approved by an order of the Board dated the 16th day of June, 1971 and designates the subject lands as Agriculture. (For purposes of identification, these lands will be referred to as site "F" throughout the remainder of this decision.)

The permitted land use on site "F" is contained in By-law 1642, which is a by-law of the former Town of Burlington, and shows the zoning as agriculture and conservation.

The provisions of the existing Official Plan are silent with respect to a sanitary landfill site although By-law No. 1642 provides for a "dump" as a land use, permitting it in "M2", "M3" and "M4" zones. The Region takes the position that the provisions for a sanitary landfill should be spelled out both in the Official Plan and the restricted area by-law in order that the specific use can be detailed and also that a variety of other uses cannot be allowed.

In addition to the above, there are two other planning documents which, from a planning standpoint, have an influence on site "F". The first of these is the new proposed Official Plan for the Milton Planning Area which has been approved by Council but has not as yet been approved by the Minister. The new Milton Official Plan designates site "F" as agriculture. The second document filed as Exhibit No. 76 at the hearing is the draft Official Plan for the Regional Municipality of Halton which is again a document which has Council approval but as yet has not been approved by the Minister. It is intended that this latter Official Plan will be dealt with at some length later in the decision.

Section 131(2) of The Regional Municipality of Halton Act, 1973, reads as follows:

"(2) On and after the 1st day of January, 1974, the Regional Corporation shall provide facilities for the purpose of receiving, dumping and disposing of waste, and no area municipality shall provide such facilities."

This statute, therefore, clearly places the responsibility of providing the necessary facilities for receiving the waste materials of the four area municipalities on the Region. It is the exercise of this duty which brings these applications before this Board.

In order to more clearly understand the background, it is essential that the chronology of events be outlined leading up to the present.

The process seems to have started even before the Region came into existence when in 1972 the former County of Halton commissioned the firm of James F. MacLaren Limited to carry out a solid waste management study. This study, which was sponsored by the Government of Ontario, was completed in the summer of 1974 at which time the Region had come into existence. The study was filed as Exhibits No. 27A and No. 27B at the hearing and identified some 30 potential landfill sites in the Region. It is not intended to deal with this study in this decision because the Region, in presenting its case, did not rely on it other than to identify its existence. It is interesting to note, however, that at the time Regional Government came into existence, there were six landfill sites operating in the Region and this has now been reduced to three.

In the latter part of 1974, the Provincial Government offered to fund municipalities to study their waste management problems with a view to introducing resource recovery. As a result of this offer, the Region engaged the firm of M.M. Dillon Limited to carry out a Resource Recovery Study for the Region of Halton and an interim report was filed with the Region on the 6th of February, 1976 (Exhibit No. 9). This report, as well as others, will be dealt with in detail later in the decision but the report can really be identified as the starting point of the Region's search for a landfill site.

It should be pointed out that although the early intention of the

Region was to study the matter of landfill it also looked at the subject of resource recovery and while it is acknowledged by the Region that the study of resource recovery will continue, that subject did not form a part of this hearing and will not be considered in the decision. It is quite apparent that resource recovery is a matter which is still in its infancy and while it may some day become an integral part of waste management and to some extent reduce the need for landfill sites, it is not going to solve the immediate needs of the municipality.

In February, 1975, prior to the appointment of the Dillon firm, the Region, by a resolution, established a committee composed of elected representatives and staff of the Region and four area municipalities, as well as representatives of the Ministry of the Environment. This Committee became known as the Technical Co-ordinating Committee and was given the task of directing and monitoring the study carried out by the consultants.

A resolution of the Regional Council dated April 16, 1975 also set out certain terms of reference which were to be considered by the consultants. These are as follows:

1. Establishing more than one landfill site within the Region (possibly one in the north and one in the south).
2. Establishing a site or sites for the acceptance of any dry solid waste (demolition material etc.).
3. The feasibility of using quarries, the National Sewer property and the Milton Brick yard as landfill sites.
4. Using Class III, or lower agricultural lands only on which to locate landfill sites.
5. The matter of minimizing haulage costs to the area municipalities.

6. Extending the life of the existing sites.
7. The economies in relation to the operation and capital costs of the reclamation plant and transfer station.

It was as a result of these factors that Dillon decided to divide the study into two separate phases. The first phase dealt with the report which has already been mentioned and received by the Region in February, 1976. This report dealt mainly with the selection of a landfill site. The second phase of the Report was completed sometime later and presented to the Region in July of 1976 (Exhibit No. 10) and dealt with the feasibility of a resource recovery plant.

In August, 1975, the consultant Dillon began at once by organizing a team to carry out the first phase of the study. The engineering and planning was done by Dillon, the public participation portion by Connor Development Services Ltd., the environmental analysis by Ecoplans Ltd., and the hydrogeology by Gartner Lee Associates Limited. At the outset, the team set up certain parameters which it used in the process of selecting, acquiring, engineering and establishing a site suitable for landfill. These are as follows:

- terrain evaluation for selection of areas suitable for landfills.
- analysis of hydrogeologically suitable areas against existing and future land use.
- environmental analysis of related areas
- public response programs for rating alternatives
- analysis of transportation systems as related to the centre of waste generation and the potential landfill locations
- analysis of economic consideration of alternate locations.

These factors were the ones used in identifying landfill sites in the Dillon Interim Report of January, 1976 and clearly set out that following the choice of any site or sites that further studies would have to be carried out. These included such things as hydrogeology, ownership of land, engineering design and proposed operational methods.

It is quite clear that the public participation aspect of these studies was commenced at an early stage as evidenced in the resolution of Regional Council dated October 15, 1975 and filed as Exhibit No. 7 at the hearing. Examples of the brochures and the newspaper tabloid were entered at the hearing and it was explained that they tried to give these as wide distribution as possible but there were certain difficulties due to an ongoing mail strike. During the month of December, 1975, public meetings were held in Milton, Oakville, Georgetown and Burlington to familiarize the public with the waste management studies.

Regional Council had also narrowed down the original 11 sites proposed in Exhibit No. 9 to six sites, at this time, and these were sites "A", "B", "D", "F", "G" and "H". It should be pointed out that site "A", referred to here for the first time, should be identified since it will be subsequently referred to many times in this decision. It is in fact the existing landfill site in Burlington and any reference to site "A" is that site or the land immediately surrounding it.

On the 15th day of September, 1976, the Council of the Region passed a resolution which authorized Stage II drilling on site "F" and at the same time Dillon was authorized to prepare an initial conceptual design of "B", "D" and "F", a Stage I study on site "D" and a Stage II study on sites "B" and "D". The same resolution authorized the Tremaine-Britannia Citizens' Group the opportunity of having a report prepared by their consultant, Dr. A. Benedet, on site "A" as an alternative to consider.

In June, 1977, the consultant Dillon presented a Stage III Report to the Region with respect to site "F". This report presented a three-dimensional

interpretation of groundwater movement in the site "F" area. It also reduced the size which had been considered as site "F" up until that time to a much smaller acreage and identified the area as being north of Britannia Road and west of Tremaine Road.

The record indicates that on the 6th day of September, 1977, the Regional Council requested the Town of Milton to amend its Official Plan in order that a landfill site could be established at site "F". The Council of the Town of Milton, by a resolution dated April 3, 1978, requested further information from the Region with respect to site "F" as well as information on alternative sites.

On the 17th of May, 1978, the Council of the Regional Municipality of Halton passed the following resolution:

"That for the purposes of clarity this council hereby confirms that the applications for Official Plan amendments and for restricted area by-law amendment to permit a proposed regional sanitary landfill waste disposal site at 'Site F' only encompasses approximately 246 acres consisting of the lands of Mogil Properties Limited with an acreage of approximately 102.129 acres and the lands of Kowal and Micallef with an approximate acreage of 143.534 acres with the life of proposed site to be for a tonnage of not more than 2,000,000 tons (1,814,000 metric tons) of waste."

This same resolution also authorized the staff and Dillon to prepare a response to the Town's request in the hope that the Town would change the decision and approve the Region's request to amend the Official Plan and the zoning by-law. In a resolution dated July 5, 1978, Regional Council recognized the fact that a crisis may develop before the longer term plan could be implemented and authorized the Dillon firm to carry out an Interim Waste Disposal Feasibility Study. The resolution set out certain parameters which Council wanted further study on. These included such items as updating refuse projection, maximizing the three existing sites as well as expanding the existing sites onto small portions of available adjacent lands. This report was forwarded by Dillon to Regional Council on the 29th day of August, 1978. The report set out seven options which the Region could choose from to give the

Region additional waste disposal capacity.

The Region, by a resolution dated September 6, 1978, selected the 2nd option proposed and this was the expansion of the existing Burlington and Oakville sites together with a stream diversion at the Oakville site. The resolution further authorized Dillon to carry out all the necessary studies to implement these expansions.

In a letter from the Region to the Town of Oakville dated September 15, 1978, the Region asked the Town of Oakville for its comments on the proposal of expanding the existing site in Oakville. Oakville responded to this proposal with a recommendation from the General Committee of Oakville which was endorsed by Council on the 20th of November, 1978 and this read as follows:

"That this Committee recommended to Council that it notify the Region that Oakville is strongly opposed to any expansion of the Fourth Line Sanitary Landfill Site."

In October, 1978, Dillon submitted a final report entitled "Review of Landfill Alternatives" and this in effect was a follow-up on the 11 sites identified in the January, 1976 report (Exhibit No. 9). This report again re-evaluated the potential landfill sites but this time based their analysis on an alternate capacity of two million tons. It again identified and recommended the selection of site "F" based on the knowledge at hand as the more preferable alternative at the present.

In the months that followed, many reports were prepared by the consultant Dillon and the other consulting firms engaged by them. Following is a list of these reports:

1. Hydrogeological Study (Gartner Lee Associates)
2. Design Operations Report (M.M. Dillon Limited)

3. Planning Report (M. M. Dillon Limited)
4. Review of Waste Quantities and Characteristics (M.M. Dillon Limited)
5. Woodlot Vegetation Analysis (Ecoplan Limited)
6. Transportation Analysis (M.M. Dillon Limited)
7. Noise Impact Analysis (Valcoustics Canada Limited)
8. Potential Bird Hazards to Aircraft (L.G.L. Ltd. Environmental Research Associates)
9. Study For Agricultural Rehabilitation (Ecological Services for Planning Ltd.)

The foregoing chronology of events and list of studies are set out to indicate the extensive input which must go into the selection of a site for sanitary landfill.

This chronology does not in any way reflect the list of documents which were filed as exhibits during the course of the hearing and which detail such things as reports, submissions to council and minutes of council.

There is no doubt in the mind of the Board that garbage is one of those facts of life that, although it is acknowledged, no one wants anything to do with it. It is probably the natural reaction of any municipality that it does not want it located in its backyard and this view is reflected in the reaction of the Council of the Town of Oakville concerning the expansion of the existing site in that municipality.

The Region, in presenting its case, called many qualified witnesses on such matters as engineering, land use planning and environmental aspects. In dealing with the evidence adduced by these witnesses, the Board does not

intend to review this evidence in great detail. A great deal of this evidence is of a highly technical nature and will no doubt form an integral part of future approvals, but needless to say, it was evidence which aided the Board in reaching its conclusions.

The present Director of Public Works, Mr. Robert Moore, was called to outline to the Board the history of the applications at hand. In tracing the history, he emphasized such matters as need and related it to his former position in the Town of Oakville and, in addition, filed many of the main reports from the Dillon firm, which laid the foundation for the decision of the Regional Council in selecting site "F".

Mr. Hubert Borque, who is an engineer and a former employee of the Region, was the author of a report placed in evidence as Exhibit No. 31. During the time of his employment with Halton, he was responsible for the planning, design and operation of sanitary landfill sites as well as any sampling or testing at the three existing sites. It is also interesting to note that Mr. Borque has a continuing association with sanitary landfill in Halton in that his present firm has assigned him as project engineer for designing a leachate collector system for the existing Burlington landfill site.

The report of this witness (Exhibit No. 31), details such matters as site operations at the existing landfills, operational improvements to existing landfill sites, site record keeping and operating plans, and site capacity estimates. This latter portion of the report is the critical one in establishing the urgent need to find a new and suitable site. Based on the calculations which Mr. Borque made, it is expected that the three existing sites will close on the following dates:

March 1979 for Halton Hills (Georgetown) (It has in fact been closed.)

October 1979 for Oakville

December 1979 for Burlington

It should be noted that Mr. Borque did not include in his capacity estimates any additional capacity either at Burlington or Oakville with respect to the proposed extensions. He felt that since these applications had not been made they should not be included. He also strongly emphasized the problems which are encountered when filling takes place beyond the final contours such as erosion.

It probably can be safely said that the key witness called by Mr. Sexton to support the Region's position in these appeals was Mr. W.F. Wells of the M.M. Dillon firm. Mr. Wells has an extensive background in the field of solid waste management not only with Dillon whom he joined in 1973 but also as an employee of the Ministry of the Environment in the Province of Ontario.

HYDROG.

The Dillon firm was retained by Halton in August, 1975 and the complete terms of reference covering this retainer are shown under Appendix "A", Exhibit No. 10, filed at the hearing. This was the second and the last of the two Resource Recovery Studies done by Dillon. This latter report dealt primarily with resource recovery while the earlier report of February, 1976 dealt with the problem of landfill. The report of February, 1976, which was marked as Exhibit No. 9, set out to identify locations within the Region which could be used for landfilling and did not attempt to identify a particular site. In this connection, the following quote is taken from this report:

"This Report does not recommend a specific solution to the landfill situation but presents four alternative solutions which are acceptable from a technical point of view. Obviously, the final decision rests with the Region and should take into account the social concerns which were generated as a result of the public participation program."

Mr. Wells emphasized that the costs of extensive drilling to prove the hydrogeological capabilities of a site are quite expensive and caution must be exercised. This may have influenced Council in making its decision to proceed with detailed drilling at site "F" and if the results were satisfactory, it would not be necessary to drill at the other sites which were still under consideration. In any event, Regional Council, by a resolution dated the 5th day of July,

1978, directed the Dillon firm to carry out the necessary work which led to the Interim Waste Disposal Feasibility Study (Exhibit No. 19) forwarded to the Region under cover of a letter dated August 29, 1978.

The Study (Exhibit No. 19) identified the fact that the need for interim waste disposal was apparent and looked at the problem under the following headings:

- recommend additional landfill capacity in areas physically suitable
- recommend a program that will permit approval of new capacity at the earliest possible dates
- recommend a program that provides sound waste management practices and is compatible with Regional policies on waste management.

Four specific locations were selected for review in the Study and these are the existing Burlington and Oakville landfill sites, the Milton brick yard and the NATCO quarry in Burlington. The report set out the technical feasibility of extending the life of the Burlington and Oakville sites and although data was provided on the NATCO quarry it seems to have been dropped because of development problems.

Again in October, 1978, Mr. Wells sent a report to the Regional Council which updated the information on the 11 sites identified in the January, 1976 report. This report (Exhibit No. 41) attempted to answer the specific points raised in Resolution No. 671 dated April 3, 1978 of the Council of the Town of Milton. It again concluded that for all the reasons cited in the report that site "F" was the most desirable site for sanitary landfill.

Mr. Wells pointed out to the Board that in the beginning of study the area identified as site "F" consisted of some 2500 acres. This much larger

acreage was as a result of the early studies which dealt with an area on the east side of Tremaine Road and north of Britannia as well as the area west of Tremaine and north of Britannia. The hydrogeological results, however, reduced the area and the land on the west side of Tremaine Road was the final choice.

In December, 1978, a report entitled "Design and Operations Report", which was prepared under the supervision of Mr. Wells, was received by the Region. This is a crucial document in that it details the actual operation of the site from its very beginning to the final day when the site closes and the after use begins. The latter point is a very important one because it is one on which a great deal turns. The number of options open to the after use of the landfill site are quite limited. In the instant case, it was first felt that upon completion of the landfill the site could be used for recreation purposes. It was found, however, after investigation that nobody seemed interested in the recreational aspects of the site. In the final analysis, therefore, it was decided to put the site back into an agricultural use and this had a very strong influence on the Design and Operations Report (Exhibit No. 42). In order to prepare the design it was necessary to have the input of the various experts such as the hydrogeologist for the leachate collection system, the planner for visual considerations, an engineer for surface drainage, a traffic engineer and several other persons qualified in their own fields. It has already been pointed out that each of these experts dealt with their concerns in great detail and this decision does not intend to review this evidence unless it applies to specific points raised by the objectors.

In the opinion of the Board, Mr. Wells appeared to be completely confident that site "F" could be engineered to meet all the requirements demanded by the Ministry of the Environment in establishing a landfill site. It should also be borne in mind that the proposed design details presented by Mr. Wells are not considered by him to be the final design details. These details will have to be available at a later date when application is made to those who have the jurisdiction of approving them.

In the event that one set out to make a list of points in their order of importance concerning the establishment of a sanitary landfill site, there is no doubt that ranking number one would be hydrogeology. The Board, having heard this important evidence, is convinced that although many sites may be found in a municipality which could meet all of the criteria essential to establishing a landfill site, if the hydrogeological conditions were unfavourable, the site in all probability would not be approved. Mr. Grant Anderson of the firm of Gartner Lee Associates Limited gave extensive technical evidence on this subject at the hearing and the details of that evidence are contained in his report filed as Exhibit No. 51.

It was under his supervision that all of the testing and drilling was done at site "F". The Board cannot help but note that the job of testing groundwater in the vicinity of site "F" was made much more difficult by the circulation of a notice to ratepayers in the area. This notice was filed as Exhibit No. 182 at the hearing and is signed simply as "Interested Citizens' Group". The notice points out that Gartner Lee will seek to investigate every well in the area before it can effectually evaluate the site for landfill. The following is extracted from the notice:

"We feel that to cooperate with Gartner Lee Associates would be an admission of consent to the landfill. We feel that to not cooperate with them will serve to delay their decision. As you know, their decision has to be made within a specific period of time. Do not let them come on your property."

The memo then goes on to advise the residents to inform the land agent of the Region that they will not grant permission to come on their property.

This seems like a rather unusual step for people who may have certain fears about groundwater pollution and could have their fears supported through technical engineering information and thus rule out the possibility of site "F" being further considered as a landfill site.

In spite of this hurdle, however, Mr. Anderson was able to carry out his drilling program and where necessary do it within the road allowances.

A great deal of evidence was adduced with respect to the generation and collection of leachate which will occur at site "F", and the large annual cost of removing it from the site. There was, however, no disagreement with the fact that when the generation of leachate reaches its peak some years hence that steps would be taken to connect it with one of the existing sanitary sewers at that time.

Mr. Anderson concluded that because site "F" is located on a glacial clayey silt till in a discharge area that a properly designed and operated landfill will have no adverse impact on the ground and surface water quality in the area.

In view of the fact that these appeals are made under the pertinent sections of The Planning Act, the evidence given by qualified planners at the hearing becomes extremely important. The Board also feels that because of its ruling, which allowed the Town of Milton to introduce evidence on other sites, it had a much broader scope to assess the planning details.

The planning evidence in support of the Region's case was given by Mr. James Balfour and Mr. Edward Cumming.

Mr. Balfour, who is a qualified planner, is a member of the Dillon Staff and prepared a report which was entered as Exhibit No. 66.

Mr. Balfour approached the matter first of all from the various planning documents which are presently in force on the subject lands. This investigation revealed the fact that it was necessary to amend the Official Plan to set out the specific proposed use of the site and amend the land use by-law and set out a special landfill site use.

In addition to the local Official Plan and by-law presently in force, there are two other planning documents which have a bearing on the subject

site and one of these is the new Official Plan for The Milton Planning Area (Exhibit No. 75). This document is approved by the local council but is still before the Minister pending approval. The second document is the new proposed Official Plan for The Regional Municipality of Halton (Exhibit No. 76), which is also before the Minister awaiting approval. It is the intention of the Board to deal with this latter Official Plan in some detail because of its references to such matters as Agriculture, Environmental Protection, Solid Waste Management and Resource Management Policies. Mr. Balfour also had the input of other specialists such as traffic, site operation, site rehabilitation and woodlot vegetation.

The site consists of some 246 acres of which 136 acres will be used for landfill and 110 acres surrounding the interior lands will be used for buffering etc. At the present time, 64 percent of the site is used for forage production, pasture and 17 percent for corn and cereal grain production. The remaining 48 acres or 19 percent of the site is comprised of farm buildings, a woodlot and old fields which are out of production. Ninety six percent of the site is made up of Classes 1 to 3 soils but since 65 percent of rural Halton possesses these 1 to 3 capability soils, this is not unusual. The subject site would represent about 0.2 percent of the good farmland in the Region.

The present predominant use of land in the area is agriculture although there are a number of small holdings in the area which have been improved by residences and show up quite visibly on Figure 4 of Exhibit No. 66. As a matter of fact, there are 25 residences with 2/3 of a mile of site "F" and of these residences only about five are farm residences. There appears to be an attempt now to stop the creation of these small lots for urban type residences since most recent applications for severances have been denied.

Mr. Balfour described the area as one where the agricultural economy is relatively stable. The evidence, however, indicates that many farms in the area have been sold in recent years, including the subject site, and are now in the ownership of non-farmers. This means that although large acreages are still actively farmed, it is on a short-term lease basis and the continued use is

not at the discretion of the farmer.

The report also deals with the problem of the possible conflict of removing good farmland even in a temporary basis and the need to establish adequate waste disposal facilities. Mr. Balfour recognized the problem and dealt with it on the basis of there having to be a trade-off between the requirements of the proposed Regional Official Plan and also the Food Land Guidelines (1978). It is quite clear that both of these documents emphasize the need to keep good farmland in production.

Section 3 subsection 9 of the proposed Regional Official Plan under the heading of Solid Waste Management reads as follows:

"Recognize that, in Halton, the nature of the operation of landfills and the need to protect ground and surface water supplies may conflict with the need to preserve agricultural land expressed elsewhere in this Plan."

There was also reference to Section 3.12 of the Guidelines (Exhibit No. 77) which deals with the matter of competing uses for land, which in this case would be agriculture versus landfill. It points out that it may be necessary to make certain trade-offs in such cases but again it must be recognized that the landfill use is a temporary one and that it will ultimately return to a farm use after rehabilitation.

Mr. Balfour recognized the possibility of a conflict between the movement of farm machinery on Britannia Road and the increase of traffic between Highway No. 25 and the site. It is pointed out, however, that even if these applications are not allowed, there will be an increase in the traffic on Britannia Road in this area because the road has been upgraded on both the proposed Regional Official Plan and the Milton Plan to the status of an arterial road.

The planner also dealt with the effect on the residential uses situated within 2/3 mile of the area of actual landfill operation. He pointed out that there may well be some disruption of the rural lifestyle and their reliance on a

quiet pastoral atmosphere. This is met, however, with the point that the use is an interim use only and with proper operation of the site, these matters can be controlled.

Mr. Balfour, as a result of his study, drew some 10 conclusions, which in his opinion, justified the proposed land use on site "F". These are as follows:

1. Site "F" is an acceptable site for a regional landfill operation from a land use planning point of view.
2. The potential effects of the landfill operation on agricultural uses are not significant.
3. The potential effects of the landfill on agricultural operation in the vicinity of the site are minimal.
4. The small size of the Smith property, its proximity to the landfill operation and the potential noise effects of the operation on the residence make it advantageous for the Region to acquire the property and develop it in conjunction with the proposed agricultural after-use of the site.
5. Other residences in the vicinity of the landfill will not be significantly affected by allowing dust and litter or noise from the landfill operation.
6. Residences along the major access routes to the site will not be adversely affected by truck traffic volumes or noise.
7. The shape of the landform and sequence of landfill operation have been designed with various screening and operating techniques to minimize disruption to the visual quality of the area.
8. The landfill operation will not have an adverse effect on the quality of the existing woodlot on the site provided that the

recommended management guidelines are implemented.

9. The fencing and supervision of the landfill site, and the routes, traffic pattern and stops of the school buses will minimize potential hazards to children posed by the landfill operation and truck traffic to the site.
10. The landfill operation will not adversely affect commercial activities in the vicinity of the site or along the major access routes.

Mr. Edward Cumming, the Director of Planning for the Region, gave evidence as to his involvement in the selection of a landfill site for the Region. It was his opinion that sufficient comparative studies had been done in connection with the selection of site "F" to satisfy any requirements. He also felt that based on the information which the Region had that it had made a reasonable decision in selecting site "F" and he was not aware of any better location.

Mr. Charles R. Smith of Ecoplans Limited, prepared a report at the request of the Dillon firm which described and evaluated the woodland vegetation on the site. Mr. Smith looked at this from the point of view of its environmental sensitivity and made recommendations for the appropriate management and protection of this vegetation.

This witness concluded that the woodland located on site "F" is of high aesthetic quality and made certain recommendations for its preservation.

Another member of the Dillon Staff, Mr. Paul Hill, who is a qualified traffic engineer, and heads up the transportation planning and traffic engineering for that firm, did the transportation analysis. His report entitled "Transportation Analysis" was filed as Exhibit 88.

In preparing his report, Mr. Hill used three criteria which he listed as

classification, geometries and physical condition of the roads. The purpose was to determine the road requirement necessitated by the additional loading because of trips to and from the proposed landfill site. He pointed out that Mr. Wells had supplied certain information such as the number of trucks which will be generated by the landfill and also indicated that all of the traffic counts which were taken were done during the hours when the site would be open.

His conclusions indicate that it will be necessary to improve certain roads such as Britannia and other changes in the Highway No. 25 intersection to ensure the flow of traffic north and south will not be disrupted. Generally the witness felt that the additional traffic generated on the selected routes would not overtax the capacity for which they are designed.

In view of the fact that there is an existing airport within 1½ miles of the proposed site, it became necessary to take a close look at the probable results of opening a landfill site and its effect on aircraft. In order to study this matter the Dillon firm engaged the services of Dr. W. John Richardson of LGL Limited, who is an ornithologist, and one who has done considerable work in the field of bird migration.

Dr. Richardson's Report, (Exhibit No. 90), spells out quite clearly the potential problem between birds and aircraft and there is no doubt that when site opens and birds are attracted, the potential danger will increase. The witness pointed out, however, that the danger to small piston type aircraft is far less than to jet type aircraft. The only type of aircraft at the Burlington Air Park is the smaller piston type plane because of the limited length of the grass runways.

Dr. Richardson stated that since the beginning of flight there have been only 12 recorded accidents caused by birds in which there were fatalities. He also pointed out that there is a very high population of gulls at the Toronto Island Airport and several thousand takeoffs and landings and this does not seem to hamper the operation of the airport.

The report also contained certain mitigative measures which may be taken and five of these are suggested in Section 5.4. These measures, if taken, may reduce the potential bird hazard but will not entirely eliminate them.

Dr. A.D. Lightstone of Valcoustics Canada Ltd., prepared a study (Exhibit No. 99) on the aspects of the noise impact of the proposed landfill operation at site "F". The primary purpose of the study is to look at the potential noise effects on the surrounding residential uses in the vicinity of the site as well as the approaches to the site.

There are two important criteria which Dr. Lightstone uses in preparing his report and these are that first of all a landfill operation is not a stationary sound source and secondly the acceptable maximum L.eq level in a rural area is 55. He draws comfort in using these standards because they are acceptable to the Ontario Ministry of the Environment.

In his conclusions, Dr. Lightstone stated that the traffic noise generated by the landfill operation will affect some eight residences but in no case will the sound exposure exceed an L.eq of 55. There are a total of 21 existing residences within a radius of 3000 feet of the operational boundary of the site. In many cases there will be no significant noise increase from the site operation. The sound environment for some of these residences, however, will experience a noticeable temporary increase but not above the L.eq 55 level. Two homes, namely, the Smith and Katz residences, will likely exceed L.eq 55 and a third home may exceed that level in a minor amount.

It has already been stated previously in this decision that the intended after use of the proposed landfill site is to be an agricultural use. In order to investigate this possibility, the Dillon firm engaged the services of Dr. Erven Mackintosh, a member of Ecological Services for Planning Ltd. The report of this witness was filed as Exhibit No. 103 at the hearing. Dr. Mackintosh whose qualifications were filed as Exhibit 101, is a qualified soil scientist and at the present time is studying the reclamation of land in both England and Germany. The state of the art in both of these countries is much

more advanced than in this country and in the case of Germany, several thousand acres have already been reclaimed to agricultural uses.

The report recognizes the fact that because this is a landfill site, certain problems may be encountered but he feels that there is enough technology available to take care of them. It also recommends that the whole project be carefully monitored throughout the course of the operation of the site and in this connection, he makes some 45 recommendations leading up to the actual cropping operation on the site.

This, in summary, was the evidence adduced by the Region in support of its appeals to this Board. The only other witness called and not referred to above was Donald Farmer, who is the Regional Treasurer, and gave evidence with respect to the financial capability of the Region regarding the capital expenditure application. This evidence was not seriously challenged during the course of the hearing so it was felt that it was unnecessary to deal with it.

We turn now to consider the concerns and objections raised by the Town of Milton, the Tremaine-Britannia Citizens' Group, the farmers in the immediate area and the public, to establishing a sanitary landfill site at site "F". No particular significance should be attached to the order in which we deal with these concerns and objections, but as the public indicated in their answers to a questionnaire circulated by the Region that a site for a garbage landfill was useless unless it was a safe site, we will start there.

The precipitation that falls on site "F" either evaporates or goes into the ground and eventually becomes part of the groundwater system or drains away on the surface and eventually ends up in the Indian Creek which flows into the Bronte Creek which drains into Lake Ontario. Several wells in the area of the Bell School Line, north and south of Britannia Road, produced water from a layer of sand and gravel located about 18 feet more or less below the surface. This layer, or seam of sand and gravel, appeared from the well records to be from 0 feet to 10 feet thick and to be more or less continuous for some distance. Every spring at the time of the spring runoff when the

snow melts, and after a very heavy rain, ponding occurs on site "F", as it does on most fields in the area, and the Bell School Line is flooded near and at its intersection with Britannia Road and just south of its intersection with Derry Road. There was not enough information in the M.M. Dillon design and operations report to determine, firstly, if you could keep all the sediment the construction of the landfill would produce out of the Indian Creek, and secondly, if construction of the berms and operation of the landfill would contribute to greater flooding in the area. To some the drilling program carried out by Gartner Lee Associates Limited seemed haphazard, inadequate and more related to the area east of Tremaine Road than the area west of that road.

From this, the objectors reasoned that leachate and methane gas could migrate from the site via the sand and gravel seams to their land and wells, polluting their drinking water and causing vegetable kill. From this, the farmers worried that leachate could be carried from site "F" via the surface runoff to the Indian Creek, in which they watered their cattle, causing pollution of the creek with the resultant danger of sickness breaking out in the dairy herds sufficient to put a dairy farmer out of business. From this, some objectors were concerned that sediment would be carried from the landfill site by the surface runoff to the Indian Creek, which could affect the quality of the water resulting in possible harmful effects on the fish population of the Bronte and Indian Creeks.

Two persons gave evidence, on behalf of the objectors, who could be described as having some knowledge of hydrogeology and groundwater in the area. One of them, Mr. B.W. Beatty, is a qualified hydrogeologist and a man with knowledge of methane gas. Mr. Beatty had made no study of site "F" and he was unable to help the Board as to the easterly extent of these sand and gravel seams that appeared in the area of the Bell School Line north and south of Britannia Road. He could not say if these layers of sand and gravel extended in an easterly direction as far as site "F", a distance of over 2000 feet, so as to act as a conduit for leachate from site "F" to the objectors' wells. He did say that even if the sand seams extended to site "F", something

he did not know and would not speculate on from the evidence of the well records, they would not carry methane gas as they were below the water table and methane will not pass through water.

The other witness was Mr. Marcel Peltier, a well digger who drilled many of the wells in the area. Mr. Peltier is not an hydrogeologist and he had no information about where the sand and gravel seams came from or went to or their extent. He would not even guess how far easterly they extended let alone whether they extended as far east as site "F".

On behalf of the Region, Mr. Grant Anderson, an hydrogeologist with Gartner Lee Associates Limited, had made a study of site "F". His firm had drilled the test holes that Mr. Stuart MacFadden, the President of the Tremaine-Britannia Citizens' Group and a layman, had felt were inadequate and more related to the area east of Tremaine Road than site "F". It was Mr. Anderson's professional opinion that the holes his firm had drilled told him all he needed to know about the stratigraphy of site "F" and that the information revealed by the well records and the evidence of Mr. Peltier correlated well with the stratigraphy he had plotted from information obtained through his bore holes. Mr. Anderson knew of the existence of these sand seams through his test drilling. He found them much more common in the sandy silt till than in the clayey silt till, but regardless of where they occurred it was his professional opinion that because of the nature of the deposition, that is because the till was put down by glacial ice on the ground and not in water, while you have a mixture of soils in the glacial till the sand seams are not likely to have large lateral extent and certainly not from the wells on the Bell School Line to the proposed landfill site.

Mr. Anderson advised the Board that the proposed landfill would be situated in a glacial clayey silt till that was presently under groundwater discharge conditions. As such, there was very little risk of contaminating groundwater supplies even if groundwater mounding in the fill occurred which would tend to reverse the present groundwater discharge conditions. Even under these conditions the risk would be minimal because the downward

movement of leachate would be very slow due to the composition of the till and the leachate would be attenuated. To be absolutely safe he recommended an under drain system for leachate collection which is described in Exhibit No. 51. This system if operated as Mr. Anderson recommends, would, if it was so desired, maintain the groundwater discharge conditions that presently exist and provide for the total collection of leachate. Mr. Anderson was firm that the groundwater would not be contaminated by the operation of a landfill at site "F" and the Board accepts his evidence. It was not shaken by cross-examination or other evidence and at the end of the hearing little creditable attack was being made on it by anyone.

Two witnesses with expertise in surface drainage were called by the objectors and gave evidence. They were Mr. Gus Ribeiro, an engineer retained by the Halton Conservation Authority to study the floodplain of the Indian Creek and to examine the site "F" proposal, and Mr. Murray Stephen, the General Manager of the Halton Conservation Authority.

They had four concerns, namely; that more leachate would be produced, and produced sooner, than Dillon had calculated; that leachate would get into the Indian Creek; that sediment from the construction of the landfill site would get into the Indian Creek; and that the contours of the site could alter the drainage patterns and possibly affect flooding in the area.

They were handicapped in that neither man had ever designed a landfill site, nor were they experts on leachate, nor had either of them ever made a study of a landfill site. They were further handicapped in that neither man had really had much of an opportunity to study the region's proposal as evidenced by the fact that they had not seen the drainage maps, they had not appreciated until it was pointed out to them that the design and operations report was conceptual in nature and not the final design, and in the case of Mr. Ribeiro, he had not appreciated the fact that the Ministry will not let anyone landfill garbage into water.

We have no doubt that the final design of M.M. Dillon will solve all

these problems. Mr. Wells said it would, and both Mr. Stephen and Mr. Ribeiro stated that they had confidence in M.M. Dillon and believed that firm was "quite competent to design a safe site".

We are inclined to think that more leachate will be produced than Dillon predicted because of the groundwater coming up from below and passing through the garbage, and it may have to be drawn off sooner than expected, but it is not a matter of concern because the leachate collection system will look after it. From the very beginning Messrs. Anderson and Wells recognized that there was a risk of contaminating surface water unless engineered controls were used in the landfill operations. The leachate monitoring and collection system was designed to eliminate that risk. Mr. Anderson, when asked to comment on the concerns expressed at the hearing about the possibility of leachate being carried by surface drainage to the Indian Creek, said this:

"Yes, I described at length in evidence in chief the type of leachate containment system which we recommended and it essentially precludes the movement of leachate away from the site in both the groundwater and surface water. It has a built-in monitoring program that will act as an early warning system with regard to when we might have to start taking leachate away from the site; so we are not going to be allowing leachate built up in the site and overflowing the edge of the landfill and getting into the stream and moving into Indian Creek. We are going to intercept it at the site in an engineered collection system in the bottom of the landfill."

As we have already stated, the concern about sediment originating on the site getting into the creek, the concern about altering the drainage patterns, the concern about increasing the flooding in the area, all these concerns will be taken into account in the final design which all competent witnesses admitted Dillon could do. There is sufficient land available to construct the necessary facilities such as holding ponds to collect runoff and sediment to meet any reasonable requirement by any authority. The drainage patterns will not be altered. In our view, the drainage, ponding and flooding in the area is more likely to be improved.

Before leaving the concern about flooding, we should say that the

flooding which occurs on the Bell School Line will not reach site "F" because site "F" is so much higher than the area where the flooding occurs and no contaminated water will leave site "F".

The Board is satisfied that site "F" is safe.

Some people objected to increased traffic due to the landfill site. It was pointed out that road traffic was light at the moment on Britannia and Tremaine Roads; just people going to and coming from work, shopping, etc. The only heavy vehicles on those roads at the moment were trucks on delivery, school buses and farm machinery in the summer.

The evidence of the witnesses with knowledge about roads and traffic volumes was that there was no road in the vicinity of the site that did not have the capacity to handle easily this increased traffic once the recommended road improvements had been made. Indeed we do not recall a single witness who was concerned about the capacity of the road system to take the traffic generated by a landfill at site "F".

Mr. Holmes was a little concerned about the possible effect of traffic on his horses. He resides on the east side of Bell School Line and trains trotters and pacers there. Trucks carrying garbage will not be using the Bell School Line and while there may be some increase in motor cars going to and from the landfill it is not expected to be great. In any event Mr. Holmes admitted horses get used to traffic noise very quickly and conceded that traffic to and from the landfill was not really much of a problem or concern to him or his operation.

A number of persons were concerned about the increased traffic and the safety of their children. The children are bussed to school. The school buses do not use Britannia Road between the landfill and Highway No. 25. The school buses only stop when there is good visibility for a very considerable distance in either direction. The routes and travel times of the school buses are such that there is little conflict with users of the landfill. Like so many of

the concerns expressed in this hearing this is a problem that could exist at just about any location in Halton. In our view, the danger is minimal at this location. While we understand the concerns we feel the danger to children as a result of increased traffic due to the landfill is remote and minimal.

Some of the farmers in the area were worried about the possible conflict between the increased traffic and slow moving farm machinery, some of it quite large, entering onto, moving along, and exiting from roads in the area. This would affect particularly Mr. Earl Snow who owns a farm south of Britannia Road and rents land on the north side of Britannia Road. He uses Tremaine Road and Britannia Road to move his farm equipment. Again this is a problem that could exist at just about any location in rural Halton. While we recognize the possibility of conflict we do not find it as something that should be the cause of undue concern. The only road that could be a problem is that short stretch of Britannia between Highway 25 and the entrance to the landfill site. Very few farmers will be moving equipment along that road. Considering the hours the farmer has available to him to move his equipment, and the hours of operation of the landfill, and the expected peak hours of landfill traffic, we feel conflict will be minimal. Undoubtedly, there will be the odd time when the farmer, for some reason, has to move equipment along Britannia Road during an hour when landfill traffic is heavy. This may result in some inconvenience and annoyance to each side. But that would happen just about anywhere you put the landfill in a rural area and at this location we believe the suggested conflict is minimal and not as bad as perceived. It must be remembered that Milton and the Region have designated this road to be an arterial road, not a road restricted to slow moving vehicles, or the few.

Witnesses for the Region explained to the Board the routes traffic using the landfill site would use. While small private vehicles may come to and leave the site from and in any direction, it was felt the bulk of the traffic, and certainly all the heavy commercial vehicles, would travel north or south on Highway No. 25, and west and east along that stretch of Britannia Road lying between the entrance to the site and No. 25 Highway. Not too much concern was shown about small private cars, but fear was expressed that the

heavy commercial vehicles would use other routes such as the Bell School Line, Tremaine Road, to get to and from the site. We do not think that will happen for two reasons. First Highway 25 is a short distance east of site "F". No north-south road closer to site "F" than No. 25 is within "a country mile" of No. 25 for moving traffic. When Britannia Road is straightened and improved, as will be done, and when changes in the Highway No. 25 intersection to ensure the flow of traffic north and south will not be disrupted have been completed, the fastest, safest, most economical way of getting to site "F" from any point in Halton that generates garbage is north or south on No. 25 and west to the site on Britannia. Garbage truck owners and operators will be looking for the fast, safe, most economical route. The Board was taken on a bus tour of the area which proved most helpful. The second reason is that the region has a great deal of control over these big commercial garbage trucks. Many of these vehicles will be owned and operated by or under contract to the Region or the area municipalities. It will be a condition to being allowed to use the landfill that the prescribed routes are followed. If the rules are broken, pressure can be brought to bear to ensure the rules are followed, and if that does not work there are still other means that appropriate authority can impose to make sure the heavy trucks stay off the more residential streets and roads of the area.

We have every confidence the heavy truck traffic will be restricted to Highway No. 25, a provincial highway, and the material section of Britannia Road. It is of considerable significance to the Board that not one single residence is located on Britannia Road between the westerly limit of the landfill site and Highway No. 25.

From conflicts due to traffic generated by the landfill, we believe site "F" to be an excellent choice.

The fear that the proposed landfill would attract rodents such as mice and rats, and birds, mainly seagulls, was a concern of a number of people for different reasons.

John Hughes maintains 3500 cherry trees on his farm on the Bell School Line 1/2 mile north of Derry Road, a fair distance north of site "F". He spends up to \$5,000.00 a year now in measures to keep birds away from his fruit. The measures are reasonably effective. Dorothy Walker raises chickens on her farm on Derry Road at Tremaine. Rats are dangerous to chickens and attracted to them. At the present time, she is taking steps to control this rat problem and these steps are proving effective. Eleanor Bousfield has a fruit farm, mainly apples and pears, on the south side of Derry Road, north of site "F". She was worried about birds and rodents attacking her fruit. H. Craig Reid has a farm between Appleby Line and the Bell School Line and farms other land in the area. He was also concerned about rodents and birds being attracted to the dump. They are a problem now, nesting and eating the grain, and he fears location of the dump will make matters worse.

We have used the word "dump", deliberately, because there is really no comparison between the old municipal "dumps" we all know, some alas of fairly recent memory, and more unfortunately, some still operating, and the fairly recent development of the professionally engineered sanitary landfill site. The state of the art has advanced tremendously. Richard Block told us about a dump still operating in Mississauga just north of the Queen Elizabeth Way. Here they are putting garbage in a worked out quarry and there have been many problems. But to make the point here, it is sufficient to say that at that dump garbage was at one time being filed 40 to 75 feet away from Mr. Block's parent's home and that kind of a design, if you can call it that, is a long way from the design and operations report of Mr. Wells that represents a modern landfill site and which is before the Board in this application. We do not intend to go into detail as to how the site will be opened, operated and finally closed and rehabilitated. It is in the exhibit to read. We wish to point out here that one of the important procedures is that at the end of each day's operations the garbage deposited that day will be covered, not with sand that tends to blow away and leave the garbage exposed as happens at the North Bay dump, but with a sufficient cover of earth that will stay put so that at any time the only garbage that will be exposed will be the garbage deposited that day, and that will be covered before the workmen leave for the day. We

believe this will discourage rodents and birds. The "pickings" will be pretty slim.

It is expected, however, that large numbers of birds, particularly gulls, will be attracted by the landfill on a daily basis through much of the year. Dr. John Richardson, in his evidence, suggested a number of other methods that should be used at the landfill site to keep the bird population as small as possible. He explained that the gulls nest at Lake Ontario and would fly north in the morning to the landfill, spend some hours at the landfill, and fly back to Lake Ontario in late afternoon or evening. They would not, it would appear, pose much of a treat to the farms of John Hughes and Eleanor Bousfield whose farms lie some distance north of the landfill and not in the path of the gulls. There was also no evidence that gulls were a problem in fruit orchards.

These gulls and their habits are of considerable concern to Victor Kovachik, the owner of the Burlington Air Park. Mr. Kovachik owns 140 acres of land 1½ miles south-west of site "F". On this land are located two houses, two hangers, two storage buildings, a paint shop, an office building, and two landing strips, one 2300 feet long, soon to be extended to 3000 feet, and the other 1700 feet long. At this site Mr. Kovachik's main business is the servicing, modifying and repairing of aircraft. This operation accounts for about 80 percent of his business. About 65 aircraft are based there and parking fees account for further 10 percent of his business. The remaining 10 percent of his income comes from honorariums paid for instruction, etc. The Burlington Air Park is a licenced airport, but it is not licenced for night flying. Many of the gulls coming from and going to Lake Ontario would fly over his airport and planes taking off from and landing at the Air Park and using circuits in usual use at that Air Park would be in the vicinity of the landfill at 500 feet to 1000 feet. Mr. Kovachik was concerned that he would lose business because pilots would not want to fly into and out of his airport due to increased danger from the presence of these birds. There was no evidence that he would lose business.

There was evidence that the Federal Government has a guideline that airports should not be located within 5 miles of a landfill and landfill should not be located within 5 miles of an airport. Mr. Andrew Carswell, the safety officer in Ontario for the Federal Department of Transport, made it quite clear however that it was only a guideline. That same guideline was anxious not to have airports near fruit and cattle farms. You use, as Mr. Carswell said, common sense. To Mr. Carswell's knowledge, the Department of Transport had never revoked a licence for being too near a landfill site nor had the department ever refused to issue a licence for being too close to a landfill site. The Board learned there are airports near landfill sites, for example, at Maple and at Trenton, and there have been no complaints concerning birds received from those airports.

There is a "dump" within 1/2 to 3/4 of a mile of the North Bay Airport. That is a large municipal airport. Air Canada and the airforce use the North Bay Airport and the birds constitute a much greater hazard to jet aircraft than to propeller driven aircraft. It is also a bad "dump". Sand was used to cover the garbage and the wind blew the sand cover away exposing the garbage. As a result, very large numbers of birds are attracted to that "dump" - 100,000 to 200,000 birds in the immediate area is the estimate with at times as many as 15,000 birds actually nesting on the runway.

The Board is entirely satisfied that the proposed landfill at site "F" cannot be compared with the landfill at North Bay. Our knowledge of how to locate, design and operate landfill has improved beyond measure since the North Bay "dump" was started. Covering the garbage each day, and other methods such as the use of falcons, if necessary, will keep the bird population at site "F" to a minimum. In no way will their numbers approach the numbers found at North Bay or at the Island Airport in Toronto.

While the Board accepts the evidence that garbage attracts birds and birds in great numbers constitute a hazard to aircraft when in the vicinity, the question still remains, how great is the hazard? The evidence was that no accident had occurred at North Bay due to the presence of birds in the area in

spite of a much greater risk there than that expected at the Burlington Air Park - there are two private flying schools at North Bay, the airport is used by jets, etc.

Dr. Richardson's evidence that in the history of flight, there had only been 12 recorded accidents anywhere in the world in which there were fatalities caused by birds was not challenged. Pilots using the Burlington Air Park would be aware of the possible presence of birds in the area through the books they carry and consult and would, in the opinion of the pilots who gave evidence, be able to adjust accordingly - for example, they could make their turns before or after the area of the landfill, thus avoiding site "F".

At the hearing, Dr. Richardson explained his report, Exhibit No. 90, on this point by saying that while the location of a landfill at site "F" would increase the hazard rating of the airport, the risk of an accident due to the presence of birds at that airport was still no higher than a mere possibility. The Region had that evidence and decided to choose site "F". The Board agrees with the Region's decision. In our view, a proposal so entirely acceptable from other points of view should not be put off by a remote possibility.

Nobody wants a landfill and several objectors wanted some other method of disposing of the area's garbage. Many felt it should be reduced at source, that is by the garbage maker. Still more people wanted some form of resource recovery. Mr. Julian Reid was anxious that the Board not approve the Region's proposal, reasoning that lack of approval would keep the pressure on the Region to move faster toward resource recovery. Desirable as these goals are, the better evidence was that for the foreseeable future a landfill site would be required and to decide otherwise at this time would mean staggering costs at best and, regardless of costs, considerable risk of garbage piling up in the streets if the bugs in the resource recovery could not be ironed out in time.

There were objections, particularly from persons living and working

near the proposed site, as to litter, odours, the visual aspects that they feared the landfill would produce. Having listened to these worried people, we believe that their concerns here are largely based on their idea of a garbage "dump". We are satisfied, having heard the Region's evidence, that what will be produced here will be far better in appearance, far better in controlling litter and odours, than the old dumps where one just dumped the garbage. While no one would expect it to be a thing of beauty, it will not be anything like as bad as the objectors fear. The provisions for berms, the landscaping, fencing, the method of dumping and covering the garbage, the control and maintenance of the site, all of which the engineers are capable of designing and we have every confidence the Region will carry out, will assure this. In addition, the location of the existing houses re the woodlots, trees and shrubs that exist today, their distances from the site, the prevailing winds, all assure much less impact from site "F" than is feared, with one exception, and that is the home of Miss Smith which the Region has offered to buy if she wishes to sell.

One objector felt that Milton had been unfairly "ganged up on" by the other municipalities, but when asked to give one example of this, he was unable to do so. The evidence was that the objectors had numerous occasions to present their views to Regional Council and did so. The objectors received answers to their questions and material was supplied to them on request by the Region. We believe they were kept informed and listened to by the Region. The fact that the Region did not accept their submissions is not evidence that Milton was "ganged up on".

Dr. Derek Coleman did not agree with the study process adopted by M.M. Dillon. He felt the selection process used was one of "elimination" rather than "evaluation". In Dr. Coleman's view, there was too much importance given to hydrogeology; too much engineering and not enough planning. He would have done it differently. He would have considered expanding the existing sites more and evaluated all sites under a number of different headings. When you look at Dr. Coleman's headings, however, you find they are not very different from the ones Dillon used and M.M. Dillon did

consider expanding the existing sites. We cannot agree with Dr. Coleman's lack of concern for the leachate landfills produce. He is on record as saying he did not care if the site "spewed leachate" as long as there was no one around to be bothered. Unfortunately, it is not possible to find a site in Halton where there is not somebody around. M.M. Dillon have selected sites for landfills in the past. They have designed landfills. Dr. Coleman has done neither. We see nothing wrong with the process adopted by Dillon and we prefer the evidence of the Region to that of Dr. Coleman. Dr. Coleman was an advocate for a cause - nothing wrong with that - but his facts and reasoning in support of that cause on this point did not stand up to Mr. Sexton's cross-examination.

Mrs. Ethel Gudgeon and others were concerned that the view from the escarpment, particularly the view from Mount Nemo and Rattlesnake Point, where considerable sums of money have been spent to develop the areas, would be ruined. Many others felt the winds in this area were greater than anywhere else in Halton. We believe these people to be sincere, but while one can say something often enough to come to sincerely believe it, that does not make it so. We do not think, having heard all the evidence, that the view from the escarpment will be destroyed. It is quite a considerable distance away and the working face is not that large. The existing woodlots, the plans for opening and closing the site a little at a time, the landscaping as the site is closed, the return to an agricultural use, will all help to hide the landfill operation and site. Nor do we think there was any credible evidence to suggest the wind is stronger at site "F" than anywhere else in Halton on any given day. It is recognized that there will be windy days and it is intended to shut the site down if the wind is too strong to control litter and garbage on the site.

Harold Middlebrook, the past President of the Halton Federation of Agriculture, Craig Reid, Richard Sovereign, Dr. Coleman, and others, were worried about the loss of good farmland and the effect the landfill might have on the continuation of farming in Milton. In our view, it is desirable that good farmland which forms part of a viable farming operation, should be kept as

farmland. But desirable as this is, it is, as the Region of Halton draft Official Plan recognizes, not always possible. The Food Land Guidelines, in Section 3.12, also recognizes that "A parcel of land may be suitable for several uses, or several uses may be competing to locate on it. The municipality must decide which use will be permitted. These trade-offs must be made for all land on which more than one use might be feasible". In this case, the Region of Halton, who have the responsibility of picking and developing a site for a sanitary landfill, decided the trade-off must be made and we think they were right. Land that is within the urban area, like land that has not yet been mined of its mineral assets, is very expensive to buy. Here we are dealing with about 0.2 percent of a good farmland in the Region. It will not be permanently lost to agriculture. Section 3.8 of the Region's draft Official Plan reads as follows:

"View the use of land for landfill during the operational life of the site as an interim use until such time as the land is rehabilitated in accordance with the long term and uses suggested by local plans, and in accordance with the requirements of the Ontario Ministry of the Environment."

Here the long term end use suggested by the Milton Official Plan is agriculture, and that is the use the Region proposes for the land when the landfill is closed. Dr. Mackintosh told the Board about landfill sites in Germany and Britain that had been successfully rehabilitated for an agricultural use. While initially the yields that may be obtained from a rehabilitated site "F" might not be as great as Dr. Mackintosh contemplates, we have no doubt the site can be rehabilitated to an agricultural use. Dr. Mackintosh gave one the feeling that in his quiet way, he knew what he was talking about. He knows what has to be done to make it work and we are satisfied it will work.

So, in our view, we have the temporary loss of a very tiny portion of the farmland of Halton to set off against an inexpensive but safe site for a needed municipal facility. We believe the trade-off is justified.

We cannot agree that the location of a landfill at site "F" will deter the continuation of farming in Milton. We are convinced that the final design

for development and operation of site "F" will be entirely satisfactory in the sense that it will be a safe site, there will be no pollution of the ground and surface water due to site "F", litter, birds and rodents can be and will be controlled, and like traffic will not prove to be the bugbear the farmers fear. We do not think a sanitary landfill is an incompatible use in an agricultural community. If it is a safe site, and it is, it will not interfere with the growing of crops or the maintenance of cattle. Crops and cattle are not much interested in what is in the field next door. Estate residential development, with all the resulting conflicts between City folk and farmers, with increasing land costs which make farming uneconomical eventually, is a greater deterrent to the farming community than a sanitary landfill, in our view.

The point was made by Dr. Coleman and Mr. Zaradanyi, the planner for the Town of Milton, that the Region's proposal did not conform with the Region's draft Official Plan or the existing or proposed local Official Plans or the present zoning by-law. We can find no conflict with the Region's draft Official Plan, indeed that Plan actually contemplates the situation we have here. With regard to conflict with the zoning by-law and local plan, that is the reason for the applications under Sections 17 and 35 of The Planning Act.

It was also suggested that Milton had the right to know that site "F" was the best location for a landfill in the Region. Put another way, it was suggested that the Region must show that other sites in Halton could not be made to meet its needs before Milton should be obliged to accept site "F". With great respect we cannot agree. We do not think the legislature, when it gave the Region the job of disposing of the Region's garbage, placed upon it the burden of proving that the site chosen was the best site, or the only site that could be found in Halton for that purpose. Such a process could cost a fortune and go on forever and even then somebody would probably come forward with a site that had not been proven inferior to the selected site. We believe the job of the Board is to hear the evidence for and against the proposal, to hear the objections to the proposal, to hear the argument for and against, and then to approve or not approve the site selected by the elected representatives of the Region, the body charged with disposing of the garbage.

In spite of this, the Board did hear evidence concerning site "A" because it was the position of the Town that site "A" was at least as good as, and probably better than, site "F" and Regional Council knew or could have known this, but nevertheless chose site "F". The Town said they would prove that, and if they did, then site "F" ought not to be approved. We turn therefore to consider site "A" and compare it to site "F".

The exact location of the landfill at site "A" seemed to move around a little. At one time, the Town seemed to be suggesting the lands to the west of the Bayview Park Landfill known as the Natco property, but this location was abandoned perhaps because the valuable shale it contained had not yet been removed and perhaps for other reasons. The part of site "A" that the Town chose at the hearing to advance was the property to the north of the Natco property, referred to at the hearing and in this decision as the "Goodings Site". We mentioned this because one of the points advanced by the planners for the Town was that site "A" did not require the destruction of farmland. This is certainly true if one is advocating the Natco property or the so-called "bad lands", but it is not true of the "Goodings Site". The "Goodings Site" consists of 60 acres more or less and fully 51 acres of that are Class 1 soils with the remaining 9 acres being Class 3 soils.

Another point advanced by the Town planners in support of site "A" was that it was located in the Parkway Belt and therefore, no rezoning was needed. We are not at all sure about this; certainly, the Parkway Belt regulations would have to be amended to permit a landfill at site "A" and we can see no advantage to site "A" over site "F" on this point.

Another factor advanced by the planners for the Town was that because there were fewer people around site "A" than "F", the impacts on people are less. As site "A" was not before the public, we really do not know how much opposition there would be to it if the Region had chosen site "A". There may well be more people within a mile of site "F" than within a mile of site "A" but that does not mean the impacts will be less at "A" than "F". When one considers that the traffic will move along Britannia Road from No. 25

Highway to and from the site on which there is not a single home located; when one considers the location of the homes near site "F" and the woodlots, etc., we are satisfied not as many people will be adversely affected by the landfill at "F" as they honestly think at the moment. On the other hand, we cannot say the same thing about site "A".

Even if one concedes that there is a greater detriment to farming with a landfill at "F" than "A", we feel because it is minimal, because it is temporary, at "F", it is worth the trade-off when one considers the disadvantages of "A". Even if one concedes that there is adverse impact on more people at "F" than "A", something we do not feel is at all established simply by showing that more people live within say a mile of site "F" than site "A", because it is minimal, because it is temporary, we do not feel it is worth taking the chance on "A". Because "chancy" site "A" surely is from the hydrogeological and costs' point of view.

We do not intend to review in detail the highly technical evidence of Mr. Beatty and Mr. Anderson on the hydrogeology of site "A". Mr. Beatty made a brief field study, not a detailed study. The site was the Natco property. He did not study the "Goodings Site". He attempted to study the migration of leachate from the Bayview Park Landfill and to draw certain conclusions about the landfill at site "A". He admitted that landfills in gravel pits are difficult to engineer. He admitted that there were few if any studies of landfills on Queenston shale. The only landfills on Queenston shale he was aware of are all in Halton and all of them have problems with leachate migration.

Mr. Beatty argued that the bulk of water movement in shale is in the shallow or local groundwater flow, that is the upper 20 feet, perhaps 30 feet of the shale, and because of the many streams that run through site "A", that is the Natco property, site "A" is a discharge area and any leachate produced would be carried by the local groundwater flow to the streams and by the streams to a sanitary sewer.

Mr. Anderson was not so sure that the Natco property was a discharge area. We prefer his theory on the migration of leachate in shale,

which put simply, amounted to the very distinct possibility that some of the leachate would get into the Regional groundwater flow. In any event to be sure you had to know the groundwater flow and the kind of testing that required had not been done by Mr. Beatty at the Natco property.

Mr. Beatty had not tested the "Goodings Site" at all. But he agreed on cross-examination that the "Goodings Site" was an area of local recharge. In our view, that admission makes the construction of a liner of some sort absolutely necessary at the "Goodings Site". Mr. Beatty also admitted that without extensive controls leachate would get to the property of Natco where valuable deposits of shale are located and he knew of no tests on the effect of leachate on Queenston shale.

Mr. Beatty stated: "I would not recommend site "A" on what we know now". What we do know is that site "A", the "Goodings Site", because it is small in area, the landfill would have to be at least 60 feet high and perhaps higher; because it will be a landfill on Queenston shale in a recharge area, the site will require very extensive and expensive controls to make it safe, and even then it might not get the approval of the appropriate authority.

What the evidence clearly revealed was that while the "Goodings Site" might be approved for a landfill, it was by no means certain. There appeared to the Board a very good chance that after spending considerable money on the "Goodings Site", the necessary approvals might not be forthcoming. The chances were much better at site "F". What the evidence also indicated was that even if the "Goodings Site" could be approved, the costs of engineering would be higher than at site "F". Which leads us to another factor advanced by the Town as being favourable to site "A".

We do not intend to deal at great length with the considerable evidence of Mr. Goodings and Mr. Wells as to the costs to the municipalities of a landfill at "A" and a landfill at "F". Mr. Goodings, in his evidence, presented a picture that on the surface clearly indicated the costs being much greater at "F" than at "A". But as a result of the Region's cross-examination the cost gap

between the two sites was narrowed dramatically and after Mr. Wells had given his evidence in reply and been cross-questioned, we are satisfied it will be more expensive to the municipalities to construct and operate a landfill at "A" with a transfer station at Highway 401 and No. 25 Highway than a landfill at site "F". We do not intend to go into detail on this, but a few examples will demonstrate what we mean. Mr. Goodings' land requirements at site "A" and the price per acre, rose from 60 acres and \$4,500.00 per acre to 113.74 acres and \$5,500.00 per acre or from \$270,000.00 to \$625,600.00 and we feel these figures could be low. It does not include the purchase of land for a transfer station. Mr. Goodings' site clearance allowance for site "A" went from \$22,000.00 to \$62,000.00. His allowance for leachate collection system at "A" went from \$100,000.00 to \$1,700,000.00, if you needed a liner, and we are sure you will. Road reconstruction at site "A" from \$240,000.00 to \$355,000.00. His allowance from contingencies went from \$234,000.00 to \$533,000.00 if you allow something for a transfer station. These are just examples of increases in the cost of site "A", admitted to by Mr. Goodings in cross-examination, over his original figures.

In a like manner, Mr. Goodings, under cross-examination, reduced the costs of several items charged to site "F". For example, screening and planting was reduced to \$370,000.00 from \$805,000.00. Much more serious was the reduction in costs for leachate removal. There it went from \$273,500.00 a year for perhaps 100 years to a one time figure of \$423,000.00 and we believe that figure will turn out to be high.

Mr. Wells considered a number of items as well - for example, site rehabilitation, that in the case of site "F" was reduced from \$1,825,000.00 to \$259,000.00. In our view, Mr. Wells' conclusions were not shaken in cross-examination.

We could go on, but the evidence that we accept, having heard the witnesses, comes down to this, that it is more probable that a landfill at the "Goodings Site" will cost more to locate and operate than a landfill at site "F".

Having heard the evidence and studied all the exhibits, we cannot agree with the Town's submission that site "A", the "Goodings Site", is as good as, let alone better than, site "F" for a sanitary landfill. At first blush it appeared so, but when site "A" was subjected to the scrutiny that site "F" received, it began to look more and more like second best.

We wish to touch on one other objection raised and that is to the noise the landfill would produce at site "F". Professor Keeler gave evidence on behalf of the Tremaine-Britannia Citizen's Group. He had been retained shortly before he gave evidence to consider Dr. Lightstone's report and to comment upon it.

Professor Keeler had three concerns. First, what was a proper guideline to assess the noise that would be produced. He felt an hourly L_{eq} of 48 decibels should be the maximum with the preferred hourly L_{eq} of 45 decibels. Dr. Lightstone had suggested an hourly L_{eq} of 55 decibels was acceptable. We do not find it necessary to spend much time on this as Professor Keeler admitted on cross-examination that he would accept the guidelines of the Ministry of the Environment on this; their guideline should be applicable was his view. Later in the hearing we heard that the Ministry guideline was an hourly L_{eq} of 55 decibels.

We are not prepared to accept Professor Keeler's findings about the number of homes that would experience noise levels greater than 45 or 48 d BA, because the correct guideline is 55 d BA. We accept Dr. Lightstone's evidence already referred to in this decision on that point.

In passing we note that Professor Keeler regarded the noise produced by operations at the landfill face as coming from a stationary source and therefore a lower guideline should be applied, but we cannot agree. We accept the evidence of Dr. Lightstone and the Model Municipal Noise Control By-law that the operations of the face are best described as a non-stationary source and the guideline of L_{eq} = 55 d BA should apply.

Professor Keeler's next concern was that much more noise would be produced at the working face than Dr. Lightstone had anticipated. He felt that all the vehicles and equipment using the site would not conform to the present regulations. He felt that even if the vehicles and equipment did conform when new, they would not be maintained and thus be noisier than Dr. Lightstone allowed. Professor Keeler did not hear Dr. Lightstone's evidence. We are satisfied having read Exhibit No. 99 and heard Dr. Lightstone that there is nothing wrong with Table 4 on page 26 of Exhibit No. 99. All new equipment is being designed and built to meet, and more than meet, the proposed guidelines. Apart from trucks, it will be all new equipment working in the landfill. Table 4 is dealing with a 1991 peak hour and it can be assumed that by then many trucks on the road today will not be operating. Most of the trucks and all of the equipment will be post 1977 and therefore designed and built to meet the proposed guideline. We note that the range for the truck sound output allows for the presence of older vehicles which may have been manufactured prior to 1979 or have grown noisier - see page 16 of Exhibit No. 99. We also note that most of the equipment will be under the control of the Region and, therefore, we assume well maintained. We also note that Table 4 assumes all equipment is working at full blast steadily for one hour and this simply will not be the case. We find that Dr. Lightstone has in Table 4 allowed for the worst possible situation and that in actual fact the noise produced will not be as great as Dr. Lightstone has estimated. For instance, all Dr. Lightstone's trucks are operating with open throttle. In actual fact, only a few trucks will be in the landfill site at any given time and they will be operating at slow speeds and this will not produce the noise of trucks operating at open throttle.

Professor Keeler was also critical of Table 5 on page 27 of Exhibit No. 99. He felt that total attenuation of sound was not as great as Dr. Lightstone had estimated it to be. He felt that "Total Attenuation", being the sum of "Geometric Attenuation" and "Ground Attenuation", is about 6 to 8 decibels for every doubling of distance and he had conducted measurements to confirm this. Dr. Lightstone, in reply, did not agree with this. He thought it might be accurate for short distances from the sound source, but the further

out you went, the more credit you had to give to ground attenuation and this Professor Keeler was not doing by giving only two decibels for each doubling of distance due to ground attenuation. Dr. Lightstone felt it might work out if you are in a vast paved parking lot, but it did not work out in a field with berms and woodlots and growing grass, etc.

Both men are well qualified, but because Dr. Lightstone had had much more time to study site "F" than Professor Keeler, because Lightstone had heard all of Keeler's evidence and was still unshakeable in his opinion whereas Keeler had not had an opportunity to hear Lightstone, and because it makes sense that grass and trees must absorb sound better than a concrete parking lot, we are inclined to prefer Dr. Lightstone's view on this point. When all is said and done, the two men are probably not that far apart for at the two critical homes, the Smith home at about 350 feet and the Katz home at about 850 feet, Lightstone has total attenuation at 15 to 16 decibels and 23 to 26 decibels, respectively, and Keeler at 12 to 16 and 18 to 24 decibels, respectively.

We accept Dr. Lightstone's evidence that based on the very worst situation, two homes, namely, the Smith and Katz homes, will experience for short periods noise levels exceeding L_{eq} 55. Because of the distance and trees in front of the Katz home, the problem will only be severe at the Smith home in our view, and the Region has offered to buy that property. While this is not ideal, it may well be as good as you are likely to get. Like the temporary loss of good farmland, this is a trade-off.

After considering all the evidence, the advantages and disadvantages of site "F", the objection and concerns of the Town and the citizens, we have come to the conclusion that the Region has made out a sound case for approval of its proposal which has not been weakened by those in opposition.

It is probably trite to say that in the case of many land uses some ratepayers are going to be more directly affected than others and indeed in the instant case the most direct effect will be on the Smith property and to

some extent the Katz property. The Region has recognized this in the case of Bessie Smith and offered to acquire that property and it may well be that the Katz property will also have to be given some consideration. In any event the benefit to be derived from this facility will accrue to all of the residents of the Region.

It should also be borne in mind that up until now all of the other three area municipalities have shared the responsibility in receiving the Region's waste. It may now be time for the Town of Milton to assume some of that responsibility.

It is also clear to the Board that although there may be small inaccuracies in estimating the remaining life of the existing sites that immediate steps must be taken to provide for the future. It is quite obvious that the matter of resource recovery is too indefinite at the present time to rely on it as an alternative.

The Board accepts the argument made by Mr. Sexton that these applications differ greatly from those usually brought under the pertinent sections of The Planning Act. In this case, the appellant does not come as a volunteer seeking something which the land use provisions do not provide for but rather as one seeking to fulfill a statutory requirement of the legislation.

In the circumstances, therefore, the Board is going to approve the proposed amendment to the Official Plan of the former Burlington Planning Area (now in the Town of Milton) which will permit an area composed of part of Lots 6 and 7, Concession VII N.S. in the Town of Milton for the purpose of a sanitary landfill and for agricultural purposes.

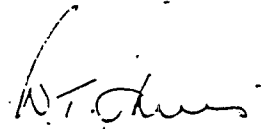
The Board will also direct that the Council of the Town of Milton amend Restricted Area By-law No. 1642, which is a by-law of the former Town of Burlington relating to lands formerly in the Town of Burlington to permit a sanitary landfill.

The Board suggests that both the Official Plan amendment and the amending by-law follow the draft form submitted by the Region. If there is any difficulty with either the form or the wording of these documents, the Board may be spoken to. In any event, the Board's order will not issue until the draft of the by-law and amendment to the Official Plan approved by both parties have been received.

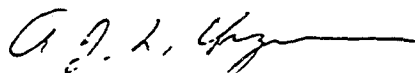
The Board is also going to approve the application by the Regional Municipality of Halton to acquire the land, design and construct the site at an estimated cost of \$3,700,000.00. The Board also authorizes the issuance of debentures for a term of five years to cover the above amount.

There will be no order as to costs in this matter.

DATED at Toronto this 15th day of June, 1979.



W. T. SHRIVES
VICE-CHAIRMAN



A. J. L. CHAPMAN
MEMBER

sition that the local Judge had no jurisdiction to grant judgment against the defendant, because he could not find there was no triable issue without deciding a question of law, which, it is said, he was precluded from doing by such cases as *Orpen et al. v. McCaskey*, [1938] O.W.N. 301, [1938] 3 D.L.R. 758n, and *Bank of Toronto v. Stillman* (1930), 65 O.L.R. 375 at pp. 377-8, [1930] 3 D.L.R. 838.

It is, I think, the effect of the judgment of this Court in *Weinberg v. Elliott Hotel Ltd.*, [1960] O.W.N. 233, that the principle of the cases earlier mentioned must be interpreted and applied reasonably; the mere raising in formal terms of an alleged legal defence does not prevent a Master or local Judge hearing a motion for judgment from examining the law as he understands it and seeing whether the facts as raised by the affidavit of merits come at least within arguable distance of a ground of defence known to the law, in the circumstances arising in the particular action. Such an examination in the case at bar reveals at once, in our view, that there is in law no such defence as is sought to be raised, arising from the documents put before the Court.

Accordingly, we are all of the view that the local Judge properly gave judgment for foreclosure as claimed in the specially endorsed writ. The appeal is dismissed with costs, to be taxed as between a solicitor and his client, which costs may be added to the mortgage debt.

Appeal dismissed.

[HIGH COURT OF JUSTICE]

Re Holmes et al. and Regional Municipality of Halton

CORY, J.

4TH MAY 1977.

Planning legislation — Official plan — Public works — By-law proposing land use contrary to official plan — By-law invalid as violating s. 19 of Planning Act, R.S.O. 1970, c. 349.

[*Re Maurice Rollins Construction Ltd. and Township of South Fredericksburgh* (1975), 11 O.R. (2d) 418; *Serre et al v. Town of Rayside-Balfour* (1975), 11 O.R. (2d) 779, conad]

APPLICATION to quash a by-law.

D. Estrin, for applicants.

R. M. Martin, for respondent.

CORY, J. (orally):—Before proceeding, I would like to thank counsel for their assistance in this matter. They were most helpful in their submissions.

This is an application to quash a by-law of the Regional Municipality of Halton.

At the outset, a question was raised by the respondent as to my jurisdiction to hear the application. The application has been brought pursuant to ss. 283 and 285 of the *Municipal Act*, R.S.O. 1970, c. 284. Those sections appear in Part XI of that Act, "Quashing of By-laws". It is the position of the respondent that the matter should have been brought before the Divisional Court. Reference was made to s. 2 of the *Judicial Review Procedure Act*, 1971 (Ont.), c. 48, and reliance was placed upon two cases.

The first is *Re Maurice Rollins Construction Ltd. and Township of South Fredericksburgh* (1975), 11 O.R. (2d) 418. In that application, the following appears in the judgment of Mr. Justice Thompson, at p. 421:

Although the applicant, according to its notice of motion, intends that the application shall be by way of *certiorari* to quash or for an order in the nature of *certiorari*, I do not consider it as such. In my view, the more appropriate proceedings under the circumstances here, would have been an application to quash pursuant to s. 283 of the *Municipal Act*, R.S.O. 1970, c. 284, or the alternative procedure by way of action for a declaration that the by-law is void and that it should be set aside.

It is clear that Mr. Justice Thompson was of the view that the appropriate procedure would be an application to quash the by-law pursuant to s. 283 of the *Municipal Act*, the method adopted by the applicants here.

The second case is *Serre et al. v. Town of Rayside-Balfour* (1975), 11 O.R. (2d) 779. Mr. Justice Galligan, delivering the oral judgment for the Divisional Court, stated, at p. 780:

It is submitted that this is a proceeding which ought to have been brought pursuant to s. 283 of the *Municipal Act*, R.S.O. 1970, c. 284. It is our opinion that this issue is conclusively determined by the decision of the Supreme Court of Canada in *Wiswell et al. v. Metropolitan Corp. of Greater Winnipeg*, [1965] S.C.R. 512, 51 D.L.R. (2d) 754, 51 W.W.R. 513. The majority of the Supreme Court of Canada, in that case held that, notwithstanding a similar section of the Manitoba legislation, the Court had power to make a declaration in an action therefor declaring a municipal by-law invalid.

In my opinion, that case does not go so far as to state that an application to quash would be inappropriate or that the Court would not have jurisdiction to hear such an application. Rather, it stands for the proposition that the Divisional Court has jurisdiction to make an order for the relief that an applicant would be entitled to in proceedings by way of an action for declaration. That is a different procedure from an application to quash a by-law. A review of the sections of the *Municipal Act* relating to quashing of by-laws indicates that the rights of an applicant may be somewhat wider or, in any event, somewhat different from the right of an applicant moving pursuant to the *Judicial Review Procedure Act*, 1971, for relief under the latter statute.

I have, therefore, come to the conclusion that I do have jurisdiction to hear this matter and it is properly before me in Weekly

Court. In any event, there does appear to be some urgency in connection with the case and some need for as expeditious a determination of the issues as possible. If it were necessary, I would have concluded that the urgency clothed me with jurisdiction to hear this matter in any event.

This application arises out of a very fundamental problem that no doubt will repeat itself frequently in the future. The respondent regional municipality is under a statutory duty to provide the facilities for the disposal of waste and to acquire land to carry out that statutory duty. A more difficult duty facing elected representatives of the people it would be hard to imagine. To fulfil the duty is not only onerous but bound to be unpopular with some residents. The provision of this essential service can only be loathed and detested by those who are in close proximity to the chosen site. The service must be provided and decisions with regard to it will have to be made by elected representatives with considerable courage and fortitude. No unnecessary obstacles should be placed in the way of those conscientiously and courageously attempting to carry out their difficult tasks. In situations such as this it is no longer appropriate to say "you can't fight city hall", rather the question is whether city hall can find its way through the convoluted procedural labyrinth imposed upon it.

On the other hand, owners adjacent to the proposed site, with a natural love of their land, may quite properly take all steps to ensure that their rights are recognized.

On March 2nd of this year, the Corporation of the Regional Municipality of Halton passed a by-law in the following terms:

1. The actions of the Council of the Corporation of the Regional Municipality of Halton at its meeting held on the 2nd day of March, 1977, in respect of each recommendation contained in the Reports of the Committees and each motion and resolution passed and other action taken by the Council of the Corporation of the Regional Municipality of Halton at this meeting is hereby adopted and confirmed as if all such proceedings were expressly embodied in this By-law.
2. The Chairman and proper officials of the Corporation of the Regional Municipality of Halton are hereby authorized and directed to do all things necessary to give effect to the actions of the Council of the Corporation of the Regional Municipality of Halton referred to in the preceding section hereof.
3. The Chairman and Regional Clerk are authorized and directed to execute all documents necessary in that behalf and to affix thereto the Seal of the Corporation of the Regional Municipality of Halton.

To understand the by-law, it is necessary to set out certain of the resolutions which are referred to. Those resolutions are all dated March 2, 1977, and are as follows:

Number: 18 — Resolution No. 8 — Landfill Sites —

THAT the selection of location F be confirmed as the site of the future landfill for the Region.

Number: 20 — Resolution No. 5 — Landfill Sites —

AND FURTHER THAT the staff be authorized to negotiate the purchase of sufficient Site F lands to accommodate the landfill requirements in the Region of Halton, not to exceed a period of six years;

THAT the Region apply for approval to the Environmental Review Board to use said lands for a period of 6 years only, and further

THAT the Region proceed as quickly as possible in cooperation with the Province for the installation and operation of a transfer site and "front-end" operations in the Queen Elizabeth Way and Burloak area including instructing our Property Agent to acquire the necessary lands for such facilities.

Number: 21 — Resolution No. 6 — Landfill Sites —

THAT stage 3 hydrogeological investigations be commenced at F.

Number: 22 — Resolution No. 7 — Landfill Sites —

THAT all other necessary steps be undertaken to implement the use of site F.

The proposed site that is referred to in the resolutions in the by-law designated by the letter "F" is on both sides of a north-south road by the name of Tremaine, and running north from the east-west Britannia Rd.

The site is located within the Regional Municipality of Halton. That municipality was formed on January 1, 1974. As yet the regional municipality does not have an official plan. Thus, the official plans of the constituent municipalities and the restrictive area by-laws passed pursuant to those official plans, are in force and in effect within the regional municipality. The site east of Tremaine Rd. was within the planning district of Oakville. Both in its official plan and the restricted area by-law implementing it, the Town of Oakville designated the lands within the site on the east side of Tremaine as agricultural lands. That designation does not include waste disposal sites or landfill sites.

On the west side of Tremaine Rd., the site was within the planning district of Burlington. The zoning of the Municipality of Burlington both in its official plan and implementing restrictive area by-law, again designated those lands as agricultural. Once again, such a designation would not and could not include landfill sites.

The applicants all reside and own property within the Regional Municipality of Halton. Two of the applicants reside in what was the Municipality of Burlington, and the balance within what was the planning district of Oakville. The site would now be within the presently constituted boundaries of the Town of Milton.

As I stated earlier, the regional municipality has the responsibility for providing facilities for the disposal of waste and to acquire and use land for such purposes. Pursuant to s. 6 of the *Regional Municipality of Halton Act*, 1973 (Ont.), c. 70, it is deemed to be a municipality. Section 115 [am. 1973, c. 162, s. 8; 1974, c. 117, s. 42; 1976, c. 43, s. 81; 1976, c. 70, s. 42] of the same Act states that s. 336 of the *Municipal Act* applies *mutatis mutandis*. Thus, the regional municipality must pass a by-law to acquire land.

Section 19 of the *Planning Act*, R.S.O. 1970, c. 349, provides in s-s. (1) as follows:

19(1) Notwithstanding any other general or special Act, where an official plan is in effect, no public work shall be undertaken and, except as provided in subsections 2 and 3, no by-law shall be passed for any purpose that does not conform therewith.

(Subsections (2) and (3) are not applicable.) That same statute defines "public work" to mean any improvement of a structural nature or other undertaking that is within the jurisdiction of a council or local board. The provisions of the *Planning Act* are then applicable to, and binding upon, the Regional Municipality of Halton.

The by-law under consideration proposes a land use that is contrary to the existing official plans.

On its face, the impugned by-law appears to be contrary to the provisions of the *Planning Act* and therefore illegal.

The prime defence put forward by the municipality was that the application was premature. I have difficulty accepting that proposition. The by-law, in my opinion, would immediately affect both the landowners within the designated site and those immediately adjacent to it. Their ability to deal with the land, their ability to use and enjoy the land must surely be restricted, or at least adversely affected by the passage of the by-law. The by-law clearly indicates that certain described lands have been designated as a landfill site by the regional municipality, and that the municipality's agents are to take steps to acquire that land.

It was submitted by the respondent that if the Council did not pass a by-law such as the one before the Court, no preparatory steps can be taken by the municipality. The municipality would find itself in the unfortunate position of being statutorily required to provide the site without being able to undertake any investigations or preparations for the acquisition of the site. Certain testing will undoubtedly have to be done both for the satisfaction of the necessary authorities pursuant to the provisions of the *Environmental Protection Act*, 1971 (Ont.), c. 86, and for the municipality's submissions to the Ontario Municipal Board. The municipality must not and cannot be prevented from undertaking all reasonable and proper steps in the course of its investigations and preparations, including the testing of land to determine its suitability as a landfill site.

However, it would seem to me that enabling by-laws could be passed which would not be contrary to the provisions of the *Planning Act*, which would not require an amendment to the official plan, and yet would permit the municipality to make the requisite and essential tests.

In my opinion, the application is not premature. The by-law is il-

legal in that it is contrary to the provisions of s. 19 of the *Planning Act*, and it ought therefore to be quashed.

It should be pointed out, I think, that the municipality may proceed by one of two methods to achieve its goal of establishing a landfill site. It may institute proceedings pursuant to the *Environmental Protection Act, 1971*, or by way of the *Municipal Act*, s. 354, para. 77. Pursuant to s. 354, para. 77 of the *Municipal Act*, a municipality may pass by-laws for acquiring land in any local municipality or in territory without municipal organization, for any of the purposes specified in para. 76 which includes "establishing and maintaining a system for the collection, removal and disposal of garbage...".

Section 354, para. 77 goes on to provide:

- (a) No land shall be acquired in a local municipality under this paragraph without the approval of the local municipality, which approval may be granted upon such terms and conditions as may be agreed upon, or failing such approval or agreement, the approval of the Municipal Board, and no land shall be acquired in territory without municipal organization under this paragraph without the approval of the Municipal Board.
- (b) The Municipal Board, before giving its approval under this paragraph, shall hold a public hearing and shall give or cause to be given at least ten days notice of the hearing to the clerk of the local municipality concerned and to such other persons in such manner as the Municipal Board may direct and the Municipal Board, as a condition to giving any such approval, may by its order impose such restrictions, limitations and conditions respecting the acquisition or use of such land as to the Municipal Board may appear necessary or expedient and the Municipal Board may order the amendment of any official plan or of any by-law passed under section 35 of *The Planning Act* to permit the use of the land for the purposes for which it is to be acquired.

It may well be that if the municipality decides to proceed under s. 354, para. 77, then perhaps the by-law ought not to be passed without approval of the Ontario Municipal Board, however, I do not need to determine that issue.

The municipality could also undertake the procedure provided by the *Environmental Protection Act, 1971*, authorized in Part V, "Waste Control", ss. 28 to 48, as amended. In either procedure, a hearing is provided to determine if the proposed site is appropriate.

In my opinion, this is not a matter for the awarding of costs. A municipality has a very difficult and tortuous route to pursue before it can acquire an appropriate site. The procedure is technical and new. The issue on its merits will be determined in other hearings and for those reasons, there will be no costs of this motion.

Order accordingly.

chose to place in joint tenancy with his present wife. Much of the remainder was used for the purchase of a motor-home and an automobile. While these assets may not be of a liquid nature, they are capable of supporting a loan, if necessary, and there will, therefore, be an order to provide for maintenance for the applicant in the form of a lump-sum payment of \$10,000 to be made within six months of this date.

In view of the respondent's past record I have no confidence in his ability to maintain periodic payments and I shall, therefore, order none. The order with respect to maintenance for the children is intended to equal the amount of arrears now due. If I am wrong in my calculations and counsel cannot agree the matter is referred to the Master for computation of the arrears.

The applicant shall have her costs.

Application granted.

[HIGH COURT OF JUSTICE]

Re Holmes et al. and Regional Municipality of Halton

SOUTHEY, J.

29TH MARCH 1978.

Planning legislation — Official plan — Municipality passing by-law authorizing application for certificate of approval of waste disposal site under Part V of Environmental Protection Act, 1971 and other by-laws providing for raising of money and acquisition of lands — Site in question not to be used as waste disposal site pursuant to provisions of official plan — By-laws illegal — Planning Act, R.S.O. 1970, c. 349, s. 19(1) — Environmental Protection Act, 1971 (Ont.), c. 86.

[*Re Cadillac Development Corp. Ltd. et al. and City of Toronto* (1973), 1 O.R. (2d) 20, 39 D.L.R. (3d) 188, apud]

APPLICATION to quash certain by-laws.

David Estrin, for applicants.

M. E. Royce, for respondent.

SOUTHEY, J.:—The applicants own and reside on lands in the Town of Central Halton (formerly the Town of Milton) in the Regional Municipality of Halton ("Halton") that are close to a site chosen by the Council of Halton for use as a waste disposal site for the region. The site was selected from a number of alternatives on the advice of technical consultants and has been designated as site "F". Site "F" is located in an area in which the use of land for a waste disposal site is not permitted under the applicable official plan and restricted area by-law.

Halton does not yet have an official plan of its own, but the official plans and restricted area by-laws of the constituent municipalities from which Halton was formed on January 1, 1974, con-

tinue in force. In this case, the applicable official plan and restricted area by-law are those of the former Burlington Planning Area and Town of Burlington, respectively.

The applicants seek an order quashing certain by-laws passed by Halton to the extent that those by-laws relate to the proposed development of site "F" as a waste disposal site. The by-laws thus attacked are:

- (a) By-law 50-77 approving a capital budget for 1977, that included the expenditure of \$1,588,000 for the development of site "F";
- (b) By-law 52-77, as amended by By-law 159-77, providing for levies on area municipalities, that included sums for the development of site "F";
- (c) By-law 89-77, approving Resolution 156-77, which approved solicitor's report RS 74-77, recommending that applications with respect to site "F" be made to the Town of Milton, Ministry of the Environment and Ontario Municipal Board for the following matters:
 1. Amendments to the relevant official plan and zoning by-law to provide for a proposed waste disposal site;
 2. Approval of the acquisition of the required lands;
 3. Certificate of approval, or provisional certificate of approval, from the Ministry of the Environment for operation of the proposed waste disposal site;
 4. Approval of the financing costs for the proposed waste disposal site.

In the case of By-law 89-77, the applicants acknowledge that a by-law dealing with the first matter mentioned in solicitor's report RS 74-77 is lawful, that is, a by-law providing for applications to amend the relevant official plan and zoning by-law, and that By-law 89-77 should remain effective with respect to that matter. As to matters 2, 3 and 4 in solicitor's report RS 74-77 and the other two by-laws attacked, the submission of the applicant is that the purpose of such by-laws is the development of a waste disposal site in an area where that planned use is not permitted under the official plan and that such by-laws are prohibited by s. 19(1) of the *Planning Act*, R.S.O. 1970, c. 349. That section reads as follows:

19(1) Notwithstanding any other general or special Act, where an official plan is in effect, no public work shall be undertaken and, except as provided in subsections 2 and 3, no by-law shall be passed for any purpose that does not conform therewith.

Subsections (2) and (3) are inapplicable in the present case.

In a judgment delivered on May 4, 1977, Cory, J., quashed a by-law of Halton adopting the selection of site "F" as a landfill site, authorizing the purchase of lands therefor, and authorizing an application for a certificate of approval to the Environmental Review

Board. The boundaries of site "F" were somewhat different at that time and included land on the east side of Tremaine Rd. in another planning district. Cory, J., quashed the by-law on the same ground relied upon by the applicants in this motion, that is, because it proposed a land use that was contrary to the official plan. His reasons for judgment, now reported at 16 O.R. (2d) 263, express with characteristic clarity and sympathy the difficulties and responsibilities facing municipalities and the affected landowners in such matters. Although he quashed the by-law, he stated that the municipality must not and cannot be prevented from undertaking all reasonable and proper steps in the course of its investigations and preparations, including the testing of land to determine its suitability as a landfill site.

He went on to point out alternative methods open to the municipality to achieve its goal of establishing a landfill site. He concluded by referring to the second method in the following words, at p. 268:

The municipality could also undertake the procedure provided by the *Environmental Protection Act, 1971*, authorized in Part V, "Waste Control", ss. 28 to 48, as amended. In either procedure, a hearing is provided to determine if the proposed site is appropriate.

That paragraph has been interpreted by the municipality as meaning that a by-law can be passed authorizing an application for a certificate of approval under Part V of the *Environmental Protection Act, 1971* (Ont.), c. 86, in respect of a waste disposal site, before the official plan has been amended to permit such land use in the area in question. I am not satisfied that my brother Cory intended to go that far in his judgment. If he did, it was clearly *obiter* and I consider myself obliged to decide the issue raised before me on the basis that it has not yet been determined against the applicants by the decision of Cory, J.

The applicants, and their solicitor in correspondence with Halton and others, have taken the position throughout that s. 19(1) of the *Planning Act* prohibits a by-law authorizing an application under Part V of the *Environmental Protection Act, 1971* for a certificate of approval for a waste disposal site in the area until such time as the official plan has been amended to permit such land use. When Halton proceeded with its by-laws for the development of site "F", including a by-law authorizing an application under Part V of the *Environmental Protection Act, 1971*, the present application to quash those by-laws was commenced together with proceedings for an interlocutory injunction restraining Halton, its agents, servants, contractors, consultants or any person acting under its instructions, from submitting or advocating an application for a certificate of approval under Part V of the *Environmental Protection Act, 1971*, and from authorizing the raising or expenditure of any

moneys for works, plans or studies related to the construction of a waste disposal facility at site "F".

Counsel for Halton submitted that the *Planning Act*, viewed as a whole, attempts to regulate the ownership and use of land, and that s. 19(1) should be interpreted as prohibiting only by-laws dealing with actual ownership or use. He contended that s. 19(1) has no application to the by-laws under attack, because those by-laws relate only to steps sought to be taken by the municipality that lead up to use or ownership of the lands for a waste disposal site.

I am unable to accept that argument. The purpose of the by-law authorizing an application for a certificate of approval under Part V of the *Environmental Protection Act, 1971*, is to enable Halton to proceed with a waste disposal site at site "F". That purpose, in my judgment, does not conform with the official plan, because waste disposal sites are not a permitted use of land at site "F" under the official plan. Accordingly, in my view, the by-law contravenes the prohibition contained in s. 19(1) of the *Planning Act*. The same is true of the by-laws providing for the raising of money and the acquisition of lands. All the by-laws attacked, therefore, are illegal, in my view, to the extent that they are directed towards the development of a waste disposal site at site "F", except in so far as they provide for applications to amend the applicable official plan and zoning by-law.

I find support for my conclusion in the following passage from the judgment of Henry, J., in *Re Cadillac Development Corp. Ltd. et al. and City of Toronto* (1973), 1 O.R. (2d) 20 at p. 28, 39 D.L.R. (3d) 188:

... what the Act does is, by s. 19, to place limits on the passing of future by-laws affecting the area to which the plan relates in that they must conform to it. Thus, it is ensured that as the municipality develops, purposefully or otherwise, the legislative changes through the by-laws necessary to allow land development to proceed are gradually channelled in the direction of implementing the policy set out in the Official Plan. Thus, a municipal council that wishes to give effect to the Official Plan or any part of it is free to proceed (subject to objections being brought before the Ontario Municipal Board) under s. 35 but a council that wishes to permit development that conflicts with the policy of the plan is restrained and must first have recourse to the cumbersome machinery for amending the plan and the meticulous scrutiny it entails.

Halton has now completed the investigation and tests which were necessary before it could properly choose the most appropriate location for the required waste disposal site. On the basis of those investigations and tests, and on the advice of its consultants, it has selected site "F". The effect of s. 19(1) of the *Planning Act*, in my view, is that Halton, before proceeding with the development of site "F" as a waste disposal site, must cause the official plan to be amended to permit that land use in the locality in which site "F" is located. Such amendment of the official plan, in my

view, must take place before any by-laws are passed for the development of site "F", now that site "F" has been chosen as the best location.

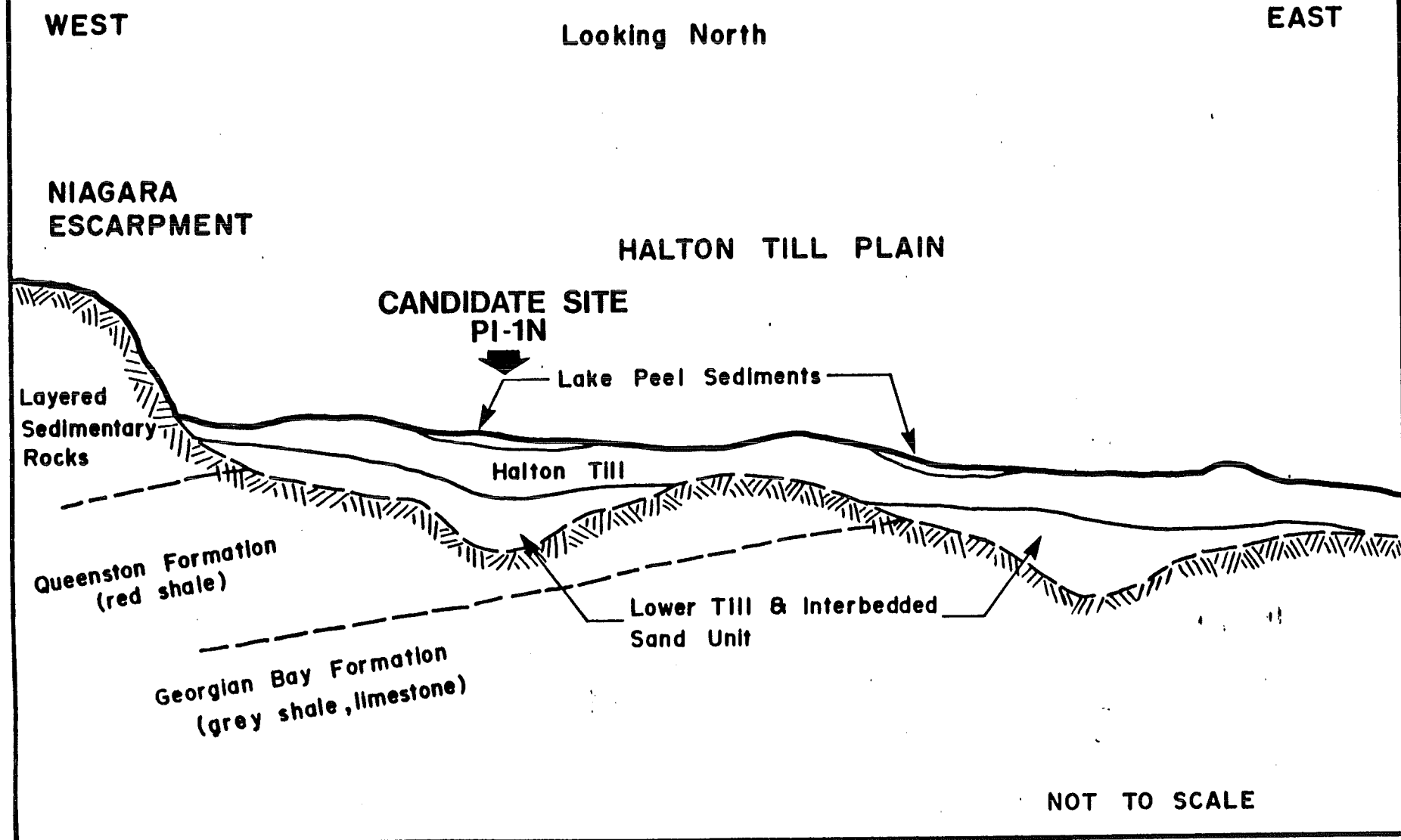
For the foregoing reasons, there will be an order quashing By-laws 50-77, 52-77, as amended by By-law 159-77 and By-law 89-77, to the extent that each of such by-laws relates to the development of site "F" as a waste disposal site, but not in so far as they provide for applications to amend the applicable official plan and zoning by-law. The applicants will have their costs of the application, with any moneys paid into Court by the applicants under s. 283 of the *Municipal Act*, R.S.O. 1970, c. 284, to be paid out to the applicants.

Counsel for Halton assured me that if I were to decide that an amendment to the official plan was necessary before an application could be made for a certificate of approval under Part V of the *Environmental Protection Act*, 1971, or otherwise for the development of site "F" as a waste disposal site, that Halton would abide by such decision, subject of course, to any right of appeal. The injunction, therefore, is unnecessary and the application for an interlocutory injunction will be dismissed without costs.

Order accordingly.

FIGURE 3

Cross-Section Sketch Through Halton - Peel Area



whose advent might come about in the future which would be eliminated to the detriment of the Owen Sound area.

Accordingly the Board will approve the Official Plan amendment as proposed with the following modifications:

The second and fourth paragraphs as found on page 6 of the Official Plan Amendment, Part B, being part of Section 2.C, shall be deleted and the following substituted therefor.

For purposes of this Official Plan Amendment, without derogating from the generality of the foregoing definition of Major/Traditional Department store, any one of Eaton's, Simpson's, Sears and the Bay shall be deemed to be such a store and an example of what is intended by the definition.

For purposes of this Official Plan Amendment, without derogating from the generality of the foregoing definition of a Discount/Promotional Department Store, any one of Woolco, Towers, K-Mart, Zellers and Miracle Mart shall be deemed to be such a store and an example of what is intended by the definition.

By-law 1980-12 serves to implement the intent of the Official Plan amendment and is satisfactory. It is approved.

The Board's decision is obviously not to the satisfaction of the Core Development Committee. The Board in that connection points out that it seriously doubts that the Core Development Committee's position could have been more strongly or ably presented. In the Board's view, the facts and the reasonable interpretation of them simply do not support the position taken in objection.

RE REGIONAL MUNICIPALITY OF HALTON AND TOWN
OF MILTON et al.

Ontario High Court of Justice, Osler J. July 3 and September 9, 1981.

Official Plan — Appeal — Contempt of Court — Ontario Municipal Board ordering town to amend Official Plan to provide for regional sanitary landfill site — Board's order filed as judgment of Supreme Court — Town Council refusing to implement Board's order — Whether town councillors in contempt of Court for refusing to pass requisite by-laws.

Zoning — Appeal — Contempt of Court — Ontario Municipal Board ordering town to amend zoning by-law to provide for regional sanitary landfill site — Board's order filed as judgment of Supreme Court — Town Council refusing to implement Board's order — Whether town councillors in contempt of Court for refusing to pass requisite by-laws.

Statutes and regulations — Ontario Municipal Board Act, R.S.O. 1970, c. 323, s. 85(1) — Contempt of Court — Ontario Municipal Board's order directing amendments to Official Plan and zoning by-law filed as judgment of Supreme Court — Town council refusing to implement Board's order — Whether town councillors in contempt of Court for refusing to pass requisite by-laws.

Procedure — Contempt of Court — Town Council refusing to implement Ontario Municipal Board order directing amendments to Official Plan and zoning by-law — Board's order filed as judgment of Supreme Court — Whether town councillors in contempt of Court for refusing to pass requisite by-laws.

Applications by a regional municipality (Halton) to amend its area municipality's local Official Plan and zoning by-law to permit a regional sanitary landfill site, were refused by the local municipality (Town of Milton). Appeals to the Ontario Municipal Board were granted, and the Board orders directing the changes were filed as judgments of the Supreme Court of Ontario pursuant to s. 85(1) of the *Ontario Municipal Board Act*, R.S.O. 1970, c. 323 (now R.S.O. 1980, c. 347). When the Council of the local municipality still refused to implement the changes, contempt of Court proceedings were commenced by the regional municipality.

Held, the members of Council were in contempt of the judgments of the Court consequent upon the filing of the Ontario Municipal Board orders. The Legislature had given the Board the power to make such mandatory orders directing changes to Official Plans and zoning by-laws, with enforcement being left to the Court. The motive of members of Council in their persistent refusal to pass the by-laws was irrelevant to the question of whether contempt was established, although motive may be an important factor to take into consideration when penalties are considered. An opportunity to purge the contempt by passing the requisite by-laws was granted by the Court, and the by-laws were thereafter passed by the town. In the circumstances, it was an adequate penalty to require the respondents to pay the costs of the applicant on a solicitor-and-client basis.

APPLICATION to the Supreme Court of Ontario for an order finding municipal councillors in contempt of Court for wilfully disobeying orders of the Ontario Municipal Board.

E. Sexton, Q.C., for appellant.

L. S. Gangbar, for respondents.

OSLER J. (orally):—I am dealing today with an application made by the Regional Municipality of Halton for an order finding the Mayor and each councillor of the Town of Milton and the Corporation of the Town of Milton in contempt of Court for wilfully disobeying orders of the Ontario Municipal Board issued on June 15, 1979, and entered on March 5, 1980, and for consequent penalties.

The matter arose from an unfortunate but persistent disagreement between the two municipal bodies as to the creation and location of a landfill site to fill a portion of the requirements of the region for waste disposal. Upon its creation in 1974, the Regional Municipality adopted the ongoing intention of its predecessor municipality to create a new sanitary landfill for regional disposal purposes on what is known as site "F", a location within the Town of Milton which is itself, of course, within the region.

The region requested the town to pass the necessary by-laws.

The region's own instruments having been struck down by the Courts by reason of their being contradictory to the town's Official Plan [*Re Holmes et al. and Regional Municipality of Halton* (1977), 16 O.R. (2d) 263, 2 M.P.L.R. 153], the region applied to the Municipal Board for orders requiring the town to amend its Official Plan so as to provide for the use as a landfill site of the location proposed and to create by by-law the actual site. After a hearing that lasted through a period of three months, the Board decided in favour of the regional municipality and ultimately the formal orders of the Board as settled by the Board and which attached the actual by-laws required were entered on March 5, 1980. Appeals from the decision of the Board were taken to the Divisional Court and to the Lieutenant-Governor in Council on behalf of the town and both were dismissed.

After the filing of the present application before me, an application was made to the Ontario Municipal Board by the town to modify or amend its original orders. The decision of the Board rejecting the application was released this day and, in fact, these proceedings were adjourned for some hours pending the receipt of that decision. Meanwhile, the orders of the Board which must now be taken as final, every avenue of appeal or amendment having been exhausted, were entered in this Court on April 29, 1981, and under the *Ontario Municipal Board Act*, R.S.O. 1970, c. 323 [now R.S.O. 1980, c. 347] such orders thereby became judgments of this Court. It is quite plain from the material before me, consisting very largely of correspondence between solicitors and officials of the two municipalities, that the Council of the Town of Milton has refused to implement the orders. This being a motion to hold the respondents in contempt, I must be satisfied beyond a reasonable doubt that this is so and I am so satisfied. The motive of the members of council in their persistent refusal is a matter that is really irrelevant to my basic decision though it may be an important factor to take into consideration when penalties are being considered. Having made the finding I have, I really have no alternative but to find the Mayor, and I refer to the present Mayor and Council and, once again, I refer only to the present members of Council, in contempt of the judgments of this Court consequent upon the filing of the Municipal Board orders.

I refrain from any finding with respect to members of Council who had ceased to be such on April 29, 1981, as I have made no decision regarding the possibility of any date earlier than the filing date being taken into consideration in such a finding. Counsel for the town says, and I have no reason to ignore or disbelieve his

representations, that Town Council and its members have been sincerely concerned over the effect of s. 6(1) of the *Environmental Assessment Act*, 1975 (Ont.), c. 69 [now R.S.O. 1980, c. 140]. This concern may well have been genuine, but in my view is not well founded. Paragraph (1)(a) of s. 6 provides:

6(1) Where a proponent is required under this Act to submit to the Minister an environmental assessment of an undertaking,

- (a) a licence, permit, approval, permission or consent that is required under any statute, regulation, by-law or other requirement of the Province of Ontario, an agency thereof, a municipality or a regulatory authority, in order to proceed with the undertaking shall not be issued or granted; and

unless,

- (c) the environmental assessment has been submitted to and accepted by the Minister; [and certain other things have followed]

The short answer is that the section did not exist in its present form or apply at the date of the Board's decision and has no retrospective effect so far as that decision is concerned.

By reason of a change in the regulations, it now appears, as the parties agree, that there must be an environmental assessment hearing before the landfill site can be proceeded with. The town will, therefore, have its opportunity to present to the hearing Board the arguments favouring an alternate site favoured by the town and, in effect, to oppose what will then be its own by-law. Nevertheless, the Legislature in its wisdom has given the Ontario Municipal Board the power to make mandatory orders of this kind; enforcement has been left to the Court and I therefore have no alternative but to make the finding I have enunciated above. The contempt may be purged by passing the requisite by-laws in the form imposed by the Board not later than July 31st of this year. The application will be adjourned until Wednesday, September 9th, to consider the matter of penalty.

September 9, 1981.

This application was disposed of by me on July 3, 1981, and at that time I made a finding that the Council and its current members were in contempt by reason of their failure to conform to orders of the Ontario Municipal Board which had been made effectively judgments of this Court.

The matter resulted from what sometimes appears to be the unnecessary proliferation of levels of Government in our community and the Corporation, as I have found, had a sincere difference of opinion with the Regional Municipality with regard to

the siting of a waste disposal facility. Notwithstanding such difference of opinion, it was the duty of the Corporation to give effect to the orders of the Board and I found myself persuaded beyond a reasonable doubt that they had failed to do so.

In brief reasons given at the initial hearing on July 3, 1981, *supra*, I indicated that the contempt might be purged by passing the requisite by-laws in the form imposed by the Board not later than July 31, 1981. I am assured by counsel that this instruction was carried out on July 27, 1981, and under those circumstances it would not be appropriate to impose a severe penalty upon the Corporation or its members. This is a case where it would be appropriate to accept the submissions of counsel that an adequate penalty would result from requiring that the respondents pay the costs of the applicant on a solicitor-and-client basis.

I have had some concern about the impact of this decision upon the various respondents including individual members of council as well as the Corporation. In the circumstances, I am not inclined to differentiate and the order for the payment of costs will therefore be made against all respondents dealt with in my reasons of July 3, 1981.

Judgment accordingly.

RE NIAGARA PLANNING AREA OFFICIAL PLAN

Lieutenant-Governor in Council. August 6 and 20, 1981.

Official Plan (agricultural) — Comprehensive Regional Plan — Preservation of unique Niagara fruit lands — Government policy — Extent of urban area boundaries — Factors to be considered — Restrictive consent to convey policies appropriate — Whether Official Plan may limit granting of consents — Minimum separation formula for livestock operations considered.

Severance — Official Plan policies — Restrictive consent to convey policies appropriate in unique agricultural area — Whether Official Plan may provide for consents "only" when certain criteria are fulfilled — Whether undue interference with Committee's legislative function to grant consents — Special provisions for retiring farmers added by Cabinet — Bona fide, full-time farmer defined.

Government policy — Preservation of unique farm lands — Tender fruit and grape lands of Niagara Region — Restrictive policies governing consents to convey appropriate — Extent of urban area boundaries in issue — Factors to be considered reviewed.

Jurisdiction — Official Plan providing for consents to convey "only" if certain criteria met — Whether interference with discretionary powers held by Committee of Adjustment or Land Division Committee — Whether Official Plan may include policies limiting consents to convey — Comparison with powers of Committee on minor variance application.

owners also argue that levies cannot be made on rezonings — only on plans of subdivision.

The appeals before the Board for an order of the Board directing the City of Mississauga to pass the necessary by-laws to rezone the subject lands for industrial purposes are not opposed by the city on the usual planning grounds. Industrial zoning of the tablelands is accepted as appropriate and conforms to the city's Official Plan.

The city's position is that development should be by plan of subdivision and that, since the owner has no specific development plans at this time, rezoning is premature. The city argues that proper controls over development, particularly when the acreage involved is substantial, can only be achieved through the subdivision process.

Evidence before the Board confirms that the zoning proposed for both the Yelodim and Carlo lands conforms with the Official Plan of the city of Mississauga. The zoning is considered "appropriate" by the city as well as by the owners.

Evidence also confirms that all necessary municipal services are available to the site. On proper planning grounds, rezoning of the subject lands cannot be considered premature.

The city's case for prematurity is based on inability to extract lot levies from the developer at the rezoning stage — not sufficient nor proper grounds to deny the rezoning proposed.

The Board believes that the city can exercise adequate control in development through the application of site plan controls under s. 40 of the *Planning Act*, R.S.O. 1980, c. 379, and under the consent process, should application for severance of part or parts of the appellants' holdings be made at some future date.

The appeals therefore are allowed and the City of Mississauga is directed to pass by-laws in the form of those filed as exs. 31 and 32 in these proceedings.

TOWN OF MILTON v. REGIONAL MUNICIPALITY OF HALTON

E. A. Seaborn and A. J. L. Chapman, Q.C. July 3, 1981.

Motion for review — To vary Ontario Municipal Board orders requiring passage of Official Plan and zoning amendments to permit Regional sanitary landfill site — Public hearing under Environmental Assessment Act, 1975 required by subsequent Regulation — Town refusing to pass amendments ordered — Town objecting that it might be open to Court action if amendments passed prior to obtaining final approvals under other Acts — Whether Environmental Assessment Act, 1975 applicable when Board's order already finalized — Discretion of Board to grant review not exercised in circumstances.

Services — Garbage disposal — Sanitary landfill site — Ontario Municipal Board's orders issued March, 1980, directing passage of Official Plan and zoning by-law amendments permitting sanitary landfill site — Town refusing to implement orders and seeking motion to review — Public hearing under Environmental Assessment Act, 1975 required as of February, 1981 — Whether amendments premature until final approvals under other Acts obtained — Whether Environmental Assessment Act, 1975 applicable when Board's order already finalized — Discretion of Board to grant review not exercised in circumstances.

Statutes and regulations — Environmental Assessment Act, 1975 (Ont.), c. 69, s. 6 — Ontario Municipal Board orders, issued March, 1980, directing passage of amendments to Official Plan and zoning by-law to permit sanitary landfill site — Public hearing under Environmental Assessment Act, 1975 required as of February, 1981 — Town seeking to review and vary Board's orders by delaying implementation — Whether amendments premature until final approvals under other Acts obtained — Whether Environmental Assessment Act, 1975 applicable when Board's order already finalized — Discretion of Board to grant review not exercised in circumstances.

MOTION under s. 42 of the *Ontario Municipal Board Act*, R.S.O. 1970, c. 323, for review of Board orders directing amendments to an Official Plan and restricted area by-law (R 781380, R 781381 and E 781673).

F. E. Leitch, Q.C., for Corporation of the Town of Milton.

J. Edgar Sexton, Q.C., and *Douglas Hodgson*, for Regional Municipality of Halton.

A. J. L. CHAPMAN, Q.C., MEMBER:—The Municipal Corporation of the Town of Milton brings this motion to vary the Ontario Municipal Board's orders, dated June 15, 1979, and issued and entered March 5, 1980, so that an Official Plan amendment and the restricted area by-law amendment thereby ordered to be passed would not have to be passed and come into effect until approval of the use of the lands for a sanitary landfill site, pursuant to the provisions of the *Environmental Assessment Act*, 1975 (Ont.), c. 69 [now R.S.O. 1980, c. 140], had been obtained.

The motion is brought under s. 42 of the *Ontario Municipal Board Act*, R.S.O. 1970, c. 323 [now R.S.O. 1980, c. 347]. Section 42 reads as follows:

42. The Board may rehear any application before deciding it or may review, rescind, change, alter or vary any decision, approval or order made by it.

The power given to the Board by that section to vary its orders is clearly discretionary. The Board has considered the affidavits of Roy Main, filed, the affidavit of Dennis Y. Perlin, filed, and the submissions of counsel for the Town and the Region of Halton, and after thinking about it for a few days, we both feel strongly that

this is not an instance where the Board should exercise its discretion in favour of the town and grant the order requested and, accordingly, the motion is dismissed.

The facts are set out in the affidavits filed. Briefly, after a lengthy hearing, the Board's decision was released June 15, 1979. The Town of Milton asked the Divisional Court for leave to appeal that decision. The Divisional Court dismissed the application for leave to appeal with costs. The Town of Milton and others asked the Cabinet to rescind the said decision or order a new public hearing. The Cabinet dismissed the town's petition and confirmed the Board's decision. In January of 1980, the Region of Halton, because agreement with the town on the form of the order could not be reached, brought a motion to this Board for directions in settling the form of the orders. On March 5, 1980, the Board's orders were issued and entered and it will be noted from an examination of those orders that the Official Plan amendment and amending by-law were attached to the orders as schedules and made part of the Board's orders. All that remained to be done was for Council of the Town of Milton to pass the by-laws.

On or about June 3, 1980, the Regulations under the *Environmental Assessment Act, 1975* were changed so as to bring municipal projects under that Act at the discretion of the Minister [O. Reg. 468/80, s. 2]. On February 9, 1981, the Minister of the Environment issued an order under the *Environmental Assessment Act, 1975*, that the Act applied to the proposed undertaking at what is referred to in these proceedings as Site "F" and that the public hearing be under the provisions of that Act and not under the provisions of the old *Environmental Protection Act, 1971* (Ont.), c. 86 [now R.S.O. 1980, c. 141].

On May 7, 1981, the Region of Halton launched contempt proceedings against the Town of Milton [12 O.M.B.R. 292]. That matter was adjourned until July 3, 1981, at the request of the Town of Milton and the Board was informed by Mr. Leitch, counsel for the town, that he will be requesting a further adjournment on the 3rd of July next in the event the Board's decision on this motion, which was brought by Milton on May 28, 1981, has not been received. Briefly, those are some important dates and happenings in this long and unhappy history. The facts are set out, and set out in more detail, in the affidavits filed and there is really little dispute about them.

Mr. Leitch argues that if the Board's orders are complied with and the landfill site is not approved after the environmental hearing, it might be difficult to amend the Official Plan and rezone

the land. We hardly think so and we note a permitted use is "Agricultural Uses" which was the zoning on the lands before the Board's hearing. There is no merit in that argument at all. Mr. Leitch further argues that if the Region fails to get approval at the environmental hearing for Site "F", others, meaning the present owners of the land, could apply for approval of the site as a sanitary landfill under the existing zoning. Why would a private owner go the expense of an environmental assessment hearing when a public body had failed to obtain the necessary approval? There is no merit in that submission.

Mr. Leitch further argues that, from a practical point of view: "How is the Region hurt if the Board does decide to vary its orders as requested?" One might well ask: "How is the Town hurt if the Board declines to vary its orders?" There is no merit in the argument, but it leads us to his main argument and that is based on s. 6 of the *Environment Assessment Act, 1975*.

Mr. Leitch argues that s. 6 of the said Act might leave Town Council open to Court action if, at this date, it passed an Official Plan amendment and zoning by-law authorizing a sanitary landfill site at Site "F" before final approvals under other Acts were obtained. The Board notes that before the *Environmental Assessment Act, 1975*, was in the picture, the Region had attempted to start this exercise by making application for approval under the *Environmental Protection Act, 1971*. At that time the Town of Milton supported successfully an application to the Courts, the position that first, you must have the zoning in place. Accordingly, the Region commenced the Official Plan amendment and zoning amendment applications that led to the Board's orders of June of 1979.

Everything was completed, the hearing, the decision, the appeal process, long before the *Environmental Assessment Act, 1975*, came into the picture. The Town of Milton was in a position where it had to pass the subject by-laws before the Regulation was changed. We cannot conceive that Milton would be in conflict with s. 6 of the 1975 Act if it now passed the by-laws because the Act did not apply when the Board's orders were finalized and all appeals against them exhausted.

We can find no reason why the Board should vary its orders at this date. On the other hand, we do find that the Town of Milton, by its conduct, has refused to date to carry out the Board's orders. Everyone knows the Town of Milton does not like or agree with the Board's orders. They have appealed to the Courts and the Cabinet against them as they have a perfect right to do, but they

lost. They are on record as saying they will oppose a sanitary landfill site at Site "F" at the environmental hearings and that is their right and the Board's refusal to vary its orders will not prevent this nor will it allow the Region to commence to place garbage at Site "F" until all the necessary approvals have been obtained. One must start somewhere. But the Board's willingness to amend its orders in these circumstances would amount, in our view, to awarding Milton for delay in implementing the planning process as contemplated by the *Planning Act*, R.S.O. 1970, c. 349 [now R.S.O. 1980, c. 379], which amounts, in our view, to holding the planning process up to ridicule.

There are many rules and regulations that are, no doubt, unpopular. We can oppose them, but when we have opposed them and lost, they should be obeyed until the rules or regulations are changed. If that is expected of the ordinary citizen, surely our elected representatives should set the example.

If we were to amend our orders at this time under these circumstances, we would set a precedent that would, if followed, lead eventually to disrespect for and complete breakdown of the planning process as developed over many years. The Board is not prepared to do so. The motion is dismissed. No costs were asked for so the Board makes no order as to costs.

**REGIONAL ASSESSMENT COMMISSIONER, REGION 20 v. CANADIAN
MEDICAL LABORATORIES LTD.**

W. E. Dyer, Q.C. February 2, 1981.

Business tax — Sale of services — Company operating 14 specimen collection centres for its medical testing laboratories — All services performed through doctor's referrals — Services not available to public directly — Whether nature of business falling under "selling services" from chain of "stores, shops or outlets" within Assessment Act, R.S.O. 1970, c. 32, s. 7(1)(e).

Statutes and regulations — Assessment Act, R.S.O. 1970, c. 32, s. 7(1)(e) — Business tax — Sale of services — Company operating 14 specimen collection centres for its medical testing laboratories — All services performed through doctor's referrals — Services not available to public directly — Whether nature of business falling under "selling services" from chain of "stores, shops or outlets" within taxing section of Act.

[*Regional Assessment Commissioner, Region 10 et al. v. Xerox of Canada Ltd.* (1978), 9 O.M.B.R. 330; revd 10 O.M.B.R. 271, 27 O.R. (2d) 269, 106 D.L.R. (3d) 147; aff'd 11 O.M.B.R. 238, 30 O.R. (2d) 90, 115 D.L.R. (3d) 428; revd 13 O.M.B.R. 41, 127 D.L.R. (3d) 511n, distd]

APPEAL under s. 63 of the *Assessment Act* (Ont.), from a decision of a County Court Judge (M 80429).

B-347

Region of Halton Council Meeting Minutes
March 4, 1987 (re Comparative Analysis)

B-347

THE REGIONAL MUNICIPALITY OF HALTON

MINUTES - SPECIAL MEETING OF REGIONAL COUNCIL NO. 6 - 87

DATE OF MEETING: Wednesday, March 4, 1987
7:00 p.m.

PLACE OF MEETING: Council Chambers
Regional Administration Bldg.
Oakville, Ontario

MEMBERS PRESENT: Regional Chairman P. Pomeroy

Mayors: R. Bird, G. Krantz,
B. Perras

Councillors: P. Arch, L. Behrens,
K. Bird, (left at 9:14 p.m.)
R. Bonnette, B. Clements,
K. Flynn, R. Forbes, J. Graham,
J. Grieve, W. Johnson, J. Little,
T. MacDonald, P. McLaughlin,
W. Mulkewich, F. Oliver, B. Quinn,
J. Savoline, M. Serjeantson, P. Sheldon

REGRETS: J. McDonald, R. Miller,

STAFF PRESENT: J. Fleming (C.A.O.):
S. Rogers, Landfill Coordinator:
D. Varley, Regional Clerk:
P. Crimmins, Recording Secretary

DISCLOSURES OF CONFLICT OF INTEREST

There being no disclosures of conflict of interest, the regular order of business was proceeded with.

Motion to Waive
the Rules of Procedure
Resolution No. 54-87

Moved by: R. Forbes
Seconded by: J. Grieve

THAT the Rules of Procedure be waived to allow Mr. W.T. Martin representing the Boyne Britannia Citizens Group to address Council.

CARRIED

MINUTES - SPECIAL MEETING OF REGIONAL COUNCIL NO. 6 - 87
WEDNESDAY, MARCH 4, 1987

- 2 -

Delegations:

The following delegations were present:

- Mr. Michael McQuaid, Legal Counsel
City of Burlington
- Dr. Ed McBean, Professor
University of Waterloo
- Mr. Piero Boldrini
91 Gibson Street
Hamilton, Ontario
- Mr. W. T. Martin
Boyne Britannia Citizens Group

Committee of the
Whole Council to Consider
Staff Report/Recommendations
Resolution No. 55-87

Moved by: G. Krantz
Seconded by: R. Forbes

THAT Council go into Committee of the Whole to consider the following Staff Report and Recommendations contained therein:

- C.A.O. Report 44/87 re: Approval and Adoption of the Comparative Analysis Study: Proposed Site F in Burlington and Proposed Site D in Milton.

CARRIED

Council resolved into Committee of the Whole at 8:15 p.m., rose and resolved back into Council at 9:50 p.m.

Note: The proceedings of Council, in Committee of the Whole are appended to and form an integral part of the Minutes of this Council Meeting No. 6-87.

Report of the
Committee of
the Whole -
Resolution No. 56-87

Moved by: R. Forbes
Seconded by: G. Krantz

THAT the Report of the Committee of the Whole recommending the following Staff Report and Recommendations contained therein be and the same is hereby adopted:

MINUTES - SPECIAL MEETING OF REGIONAL COUNCIL NO. 6 - 87
WEDNESDAY, MARCH 4, 1987

- 3 -

- C.A.O. Report 44/87 re: Approval and
Adoption of the Comparative Analysis
Study: Proposed Site F in Burlington
and Proposed Site D in Milton

AS PRESENTED

CARRIED

Confirmation of
Proceedings -
Resolution No. 57-87

Moved by: R. Forbes
Seconded by G. Krantz

THAT By-law No. 39-87 be now read a FIRST, SECOND and THIRD time,
PASSED, SIGNED by the Regional Chairman and Clerk, the Corporate
Seal affixed thereto and numbered as follows:

- By-Law No. 39-87 - A by-law to confirm the proceedings of
this Special Council Meeting held
Wednesday, March 4, 1987 at 7:00 p.m.

CARRIED

Adjournment -
Resolution No. 58-87

Moved by: W. Johnson
Seconded by: G. Krantz

THAT Council does now adjourn to meet again on Wednesday, March
18, 1987 at 1:30 p.m., or at the call of the Regional Chairman.

CARRIED

Time: 9:55 p.m.

REGIONAL CHAIRMAN

REGIONAL CLERK

* * * * *

REPORT OF THE COMMITTEE OF THE WHOLE
MEETING NO. 6-87 - WEDNESDAY MARCH 4, 1987

Council resolved into Committee of the Whole at 8:15 p.m.

JOINT SOLID WASTE MANAGEMENT COMMITTEE REPORT NO. 6-87 and
PLANNING AND PUBLIC WORKS COMMITTEE REPORT NO. 8-87 - (Item No.6)

ITEM NO. 6 - RE: CAO #44/87 - APPROVAL AND ADOPTION OF THE
COMPARATIVE ANALYSIS STUDY: PROPOSED SITE F IN BURLINGTON AND
PROPOSED SITE D IN MILTON

Councillor Savoline requested a recorded vote be taken on Item No. 6.1 and the results are as follows:

Yeas: Arch, Behrens, K. Bird, Bonnette, Clements, Flynn, Johnson, Krantz, Oliver, Perras, Sheldon (11)

Nays: R. Bird, Forbes, Graham, Grieve, Little, T. MacDonald, McLaughlin, Mulkewich, Quinn, Savoline, Serjeantson (11)

As a result of a tie vote, Regional Chairman Pomeroy voted in the affirmative.

Councillor Savoline requested a recorded vote be taken on Item No. 6.2 and the results are as follows:

Yeas: Arch, Behrens, K. Bird, Bonnette, Clements, Flynn, Johnson, Krantz, Oliver, Perras, Sheldon (11)

Nays: R. Bird, Forbes, Graham, Grieve, Little, T. MacDonald, McLaughlin, Mulkewich, Quinn, Savoline, Serjeantson (11)

As a result of a tie vote, Regional Chairman Pomeroy voted in the affirmative.

As a result of the recorded vote, C.A.O. Report No. 44/87 re: Approval and Adoption of the Comparative Analysis Study: Proposed Site F in Burlington and Proposed Site D in Milton was

CARRIED

There being no amendments to the above Report, Chairman Pomeroy declared C.A.O. Report No. 44/87 adopted as presented.

Time: 9:50 p.m.

* * * * *

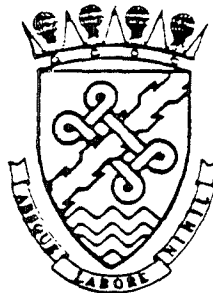
REGIONAL MUNICIPALITY OF HALTON

1. THAT the Report prepared by Walker, Wright, Young Associates Limited: "Comparative Analysis of Alternative Sites for Sanitary Landfilling in the Regional Municipality of Halton Site D and Site F , January 1987," ("Comparative Analysis") be approved and adopted, save and except for the conclusion of the consultant contained therein with respect to a preferred site.
2. That the Regional Municipality of Halton recommends that both Site D and Site F are viable and safe as future sanitary landfill sites.
3. That the Regional Clerk submit the Comparative Analysis to the Minister of Environment for information.

B-348

Region of Halton Council Resolution, March 4,
1987 (re Comparative Analysis)

THE
REGIONAL
MUNICIPALITY
OF
HALTON



B-348

THE FOLLOWING RESOLUTION WAS APPROVED BY REGIONAL COUNCIL
AT ITS MEETING HELD March 4, 1987

THAT the Report prepared by Walker, Wright, Young Associates Limited:
"Comparative Analysis of Alternative Sites for Sanitary Landfilling in the Regional Municipality of Halton Site D and Site F, January 1987," ("Comparative Analysis") be approved and adopted.

That the Regional Municipality of Halton recommends that both Site D and Site F are viable and safe as future sanitary landfill sites, but that Site F is marginally preferred as a future landfill site for the reasons set out in the Comparative Analysis Report, January, 1987.

That the Regional Clerk submit the Comparative Analysis to the Minister of Environment for information.

CERTIFIED A TRUE COPY
REGIONAL MUNICIPALITY OF HALTON

.....
Regional Clerk

B-349

Regional CAO Report 44/87 re: Adoption and
Approval of Comparative Analysis

Fr B-349

R. Swm. C/PLG/
Feb. 25/87

REGIONAL MUNICIPALITY OF HALTON

The Chairman and Members of the ~
Report to Solid Waste Management Committee and the
Planning and Public Works Committee

From John E. Fleming, Chief Administrative Officer,

Date 1987 02 02

Report No. CAO 44/87

Re: Approval and Adoption of the Comparative Analysis
Study: Proposed Site F in Burlington and Proposed
Site D in Milton

RECOMMENDATION

1. THAT the Report prepared by Walker, Wright, Young Associates Limited: "Comparative Analysis of Alternative Sites for Sanitary Landfilling in the Regional Municipality of Halton Site D and Site F, January 1987," ("Comparative Analysis") be approved and adopted.
2. That the Regional Municipality of Halton recommends that both Site D and Site F are viable and safe as future sanitary landfill sites, but that Site F is marginally preferred as a future landfill site for the reasons set out in the Comparative Analysis Report, January, 1987.
3. That the Regional Clerk submit the Comparative Analysis to the Minister of Environment for information.

Report:

On November 5, 1986, Regional Council authorized the work program presented by Walker Wright Young and Associates to prepare a Comparative Analysis Study of the relative merits of the two proposed landfill sites in the Region of Halton, Site D and Site F.

On January 29, 1987, Regional Council members received a copy of the study prepared by Walker Wright Young Associates Limited, entitled "Comparative Analysis of Alternative Sites for Sanitary Landfilling in the Regional Municipality of Halton, Site D and Site F".

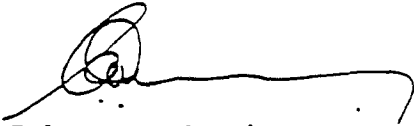
P84

On February 10, 1987 at 7:00 p.m. Mr. Peter Walker presented the Comparative Analysis to a joint committee of the Solid Waste Management Committee and Planning and Public Works Committee, interested members of Council and the public, and answered questions relating to the Report.

It is now recommended that this report be approved and adopted. Thus recommendation number 1 is put forward.

In order for Halton's position to be very clear at the upcoming Landfill Consolidated Hearing, it is also recommended that the conclusions of the Comparative Analysis be clearly stated and endorsed by Regional Council. Thus recommendation number 2 is put forward.

Respectfully submitted;



John E. Fleming,
Chief Administrative Officer,

JEF/sdr/rad



Nehercut & Co. Ltd.

Toronto, Ontario

29566

1 based solely on piezometer response and
2 triaxial testing results would be overly
3 optimistic'

4 I would suggest that would be a very apt statement?

5 A. I also note you would find
6 statements like that in Dr. Cherry's textbook and I am
7 not the first one to make those statements and I would
8 be most surprised if I were.

9 Q. You agree we could do that and
10 apply that to Site D?

11 A. Those are your words. I have not
12 been provided with evidence of fracturing at Site D in
13 any way, shape or form. Obviously if evidence were
14 provided by yourself or the proponent, one would have
15 to consider that fracturing with respect to assessing
16 Site suitability, but I am only going on the data that
17 has been provided to me.

18 Q. Let's read your next sentence on
19 page 36:

20 "The Maryhill Till was not previously
21 recognized as a fractured medium."

22 You are telling us at Site 2 the unweathered upper till
23 has not been recognized to this point in time as a
24 fractured medium?

25 A. That is my understanding of it.



Nethercut & Co. Ltd.

Toronto, Ontario

38906

Bowen
ex (Vigod)

1 that all of the investigators, including Trow,
2 Conestoga-Rovers, and Dr. Charlesworth, are in
3 agreement with what I would call the general
4 stratigraphic characterization of the site. By that I
5 mean they identify the same zones, the same strata
6 within the site and that the concern of the discussion
7 has only arisen concerning perhaps the extent of those
8 strata or to some degree their hydraulic properties.

9 The discussions about extent and
10 hydraulic properties have not been nearly as extensive
11 nor nearly as variable let us say as those same
12 discussions were at Site F.

13 Just in summary, the stratigraphy that
14 is presented for Site D consists of weathered upper
15 till and following along on page 10 of my report at
16 this time, followed by an unweathered upper till, a
17 lower till, an upper and lower granular unit, shale
18 bedrock and a thin bed of silt. I think all parties
19 are in agreement that those units are present at the
20 site and can be characterized in that way.

21 It is my feeling that disagreement
22 occurs as a result of again the lithology of Site D.
23 The significant strata at Site D consist of soil or
24 overburden materials and those sorts of materials can
25 be readily identified on a visual basis. It is very

additional benefit to the addition of a liner, consequently, it is my opinion that a liner is not required at Site F.

CONCLUSIONS

50. It is my opinion that Site F is suitable for landfilling. There should be no significant impact on the groundwater or surface water environments due to landfilling at Site F. In the event that subsurface conditions differ from my interpretation of the site and these conditions allow the migration of groundwater contaminants off-site, no water supply wells would be threatened and there would be ample time for implementation of contingencies if they were required.
51. It is my opinion that Site D can be made suitable for landfilling. For conditions when the hydraulic trap is functioning, there will be no leakage of leachate from the landfill. In the event of failure of the hydraulic trap, leachate will escape the landfill and could result in contamination of the private wells believed to draw water from the granular units underlying the landfill. If the unweathered upper till is unfractured, travel times for contaminants to reach the private wells will likely be many years. Either failure of the hydraulic trap or migration of contaminants would be detected by monitoring before the occurrence of contamination at the private wells. Within this timeframe, contingencies such as the pumping of leachate from the landfill to re-establish the hydraulic trap or the purging of contaminated groundwater from the granular units could be readily implemented.
52. If the unweathered upper till is fractured, travel times for contaminants from the landfill to the private wells may be less than a year. In this event, it is unlikely that a typical landfill monitoring program could identify the failure of the hydraulic trap and permit timely implementation of appropriate contingencies before the private wells might be contaminated. It is my opinion that it is a reasonable possibility that fractures exist in the unweathered upper till. Given the threat to the private wells, it is my opinion that this possible eventuality should be avoided by alternatives such as design, installation and testing of the purge well system prior to landfilling, the connection of the residences to piped municipal water supply, or construction of a liner of re-compacted native clay silt till on the base of the landfill.
53. The existence of fractures in the unweathered upper till and possible rapid contamination of the UGU also magnifies the importance of even short-term (seasonal) failures of the



Nethercut & Co. Ltd.

Toronto, Ontario

44505

Tidball, arg.

1 The tendency is to put as much information as can be
2 humanly gathered before the Board and then say "See, it
3 is acceptable." We would like to suggest that there is
4 in fact an objective way of looking at this which
5 applies across the board and it applies beyond Sites D
6 and F and we would like to propose that in fact there
7 are three criteria against which you should evaluate
8 both Sites D and F. The three criteria are set out in
9 paragraph 19 and they are:

10 "(1) It should be demonstrated that any
11 predicted leachate migration from the
12 landfill will not impair the reasonable
13 use of ground water on adjacent
14 property.

15 (2) It should be demonstrated that a
16 monitoring program can be developed
17 which will be capable of identifying any
18 movement of landfill-derived
19 contaminants."

20 (3) It should be demonstrated that
21 feasible contingency measures will be
22 available to mitigate any impact on
23 adjacent property that is identified by
24 the monitoring program."

25 I put those three criteria or fairly close versions of



Nethercut & Co. Ltd.

Toronto, Ontario

27571 -

Crutcher, Petrie,
cr-ex (Hodgson)

1 is there is a very large change in the permeabilities
2 between the liner and the underlying material.

3 DR. KINGHAM: Okay. I don't intend on
4 behalf of the Board to pursue this any further now. I
5 wanted to make sure at least we knew where we were with
6 the information that had been provided to date. I
7 think we understand where we are with regard to the
8 change in gradient and the assumed conductivity in the
9 original design, the Trow/Hydrology Consultants Limited
10 design. I think we understand from what you are saying
11 that you would have us consider your hydraulic gradient
12 of unity combined with the hydraulic conductivity of
13 10^{-8} to be considered as your worst case rather than an
14 optimum case but you cannot give us a most reasonable
15 or best case as of now?

16 MR. CRUTCHER: I would like to but I
17 would like to work on the numbers to make sure we are
18 comfortable with those numbers.

19 DR. KINGHAM: It's in your hands,
20 Mr. Hodgson.

21 MR. HODGSON: Thank you.

22 Q. Mr. Petrie, could I go back to
23 asking you some questions, please? Mr. Petrie, would
24 you flip the flip chart up to a clear page, please?
25 Okay. Now, would you draw me a hypothetical flow



Nathercus & Co. Ltd.

Toronto, Ontario

27572 -

Crutcher, Petrie,
cr-ex (Hodgson)

1 system, et cetera, for a hypothetical landfill and
2 would you start by constructing for me a liner that is
3 1.2 metres deep?

4 MR. PETRIE: A. What sort of scale do
5 you want on the drawing?

6 Q. Let me draw one. Now, can we give
7 this a number, please, Mr. Chairman?

8 MR. LANCASTER: H-653.

9 --- EXHIBIT NO. H-653: Flip Chart, Drawing of
10 landfill with 1.2-metre deep
liner

11 DR. KINGHAM: Although after your
12 admonition of yesterday we wonder if Mr. Tidball's
13 eyesight has improved dramatically overnight.

14 MR. HODGSON: I'm sorry, Mr. Tidball, I
15 did not have you in mind. I was too close. I'm not
16 used to performing.

17 DR. KINGHAM: The numbers are 1.2 metres
18 on the bottom, 1.9 metres beneath the curve and 50
19 metres across the top.

20 MR. PETRIE: Can we label these?

21 MR. HODGSON: Q. The middle layer is
22 the liner and you can give it a K, a vertical K of
23 1×10^{-8} . Now, imagine the situation, the hypothetical
24 situation that goes like this: somewhere in the world
25 we have got a bed of shale with an average vertical



Nehercut & Co. Ltd.

Toronto, Ontario

27573

Crutcher, Petrie,
cr-ex (Hodgson)

1 hydraulic conductivity, just for the sake of
2 discussion, of 1×10^{-5} . So perhaps you could label
3 that bed of shale 1×10^{-5} .

4 MR. PETRIE: A. Sorry, which is the
5 shale?

6 Q. Underneath the liner it is a K_v of
7 1×10^{-5} . I want you to imagine that before a landfill
8 was built at this liner this bed of shale had hydraulic
9 characteristics that permitted it to accept
10 infiltration of 100 millimetres per annum. Could you
11 write that down at the bottom, 100 millimetres per
12 annum infiltration of the shale in its natural state
13 before anybody landfilled at the site?

14 MR. McQUAID: Before we go too much
15 further, Mr. Chairman, I think I am correct when I say
16 that if there is going to be an assumption given to a
17 witness either the assumption has to be agreed to in
18 some way by that witness or by some subsequent witness
19 or by the evidence that is being presented because if
20 we just have assumptions of Mr. Hodgson, without
21 connection to evidence, we really don't have anything
22 that is going to be of probative value to the Board.
23 So, I would like to have it somehow connected to the
24 evidence instead of just a theoretical, hypothetical
25 assumption, "Assume this somewhere."



Nathaniel & Co. Ltd.

Toronto, Ontario

27574 -

Crutcher, Petrie,
cr-ex (Hodgson)

1 MR. HODGSON: Mr. Chairman, given the
2 difficulties we are having working with first
3 principles to figure out mathematical relationships I
4 would have thought that I would be permitted some
5 leeway by the Board to just construct a hypothetical.
6 For the purposes of this objection at this point in
7 time can I please go back to the witness and see if I
8 can in fact nail this one down?

9 MR. LANCASTER: Proceed.

10 MR. HODGSON: Q. Mr. Petrie, in your
11 calculation at page 156 on Exhibit B-617 you have
12 hypothesized a horizontal hydraulic conductivity of $2 \times$
13 10^{-4} for fractured shale?

14 MR. PETRIE: A. That number was derived
15 from pumping tests. I did not hypothesize.

16 Q. You would like the Board to accept
17 that as a reasonable number for the horizontal
18 conductivity of the fractured shale at the proposed
19 Site F?

20 A. That could be.

21 Q. Am I correct that I heard you say
22 last week in your evidence that if the horizontal
23 conductivity is 2×10^{-4} , that the vertical
24 conductivity of the same shale could be anywhere from
25 one to two orders of magnitude lower?



Nethercut & Co. Ltd.

Toronto, Ontario

27575 .

Crutcher, Petrie,
cr-ex (Hodgson)

1 A. I don't recall making that
2 statement.

3 Q. You said it at least twice. Do we
4 now have to go back to the record?

5 A. I recall Mr. Tidball asking that
6 question. He asked would I consider the rock as
7 anisotropic and my answer to that was yes. He then
8 asked if I would consider an order of magnitude an
9 appropriate number for the degree of anisotropic and my
10 recollection was yes. He then asked if I would
11 consider two orders of magnitude and I'm not sure -- I
12 did not give a definitive answer.

13 Q. You would agree to one order of
14 magnitude lower?

15 A. It was not unreasonable.

16 Q. In fact it's possible in a shale
17 environment, an anisotropic shale environment that the
18 vertical conductivity could be as much as two to three
19 orders of magnitude lower than the horizontal hydraulic
20 conductivity?

21 A. It could be when we are dealing
22 with a highly heterogeneous media.

23 Q. For the purposes of our discussion
24 would it be reasonable to assume that shale with a
25 horizontal K of 2×10^{-4} has a vertical K of 2×10^{-5} ?



Nathaniel & Co. Ltd.

Toronto, Ontario

27576 .

Crutcher, Petrie,
cr-ex (Hodgson)

1 A. It is not unreasonable.

2 MR. HODGSON: Does that satisfy you,
3 Mr. McQuaid? Can we relate that to the document?

4 Q. Now would you change the shale up
5 there to 2×10^{-5} and would you note that that is K_v ,
6 please?

7 MR. PETRIE: A. The entry on Exhibit
8 653.

9 Q. Just to nail down everything for
10 Mr. McQuaid would you agree that 1.2 metres is the
11 design thickness of the liner, Mr. Petrie, Mr. Crutcher
12 is proposing for Site F?

13 A. That is as he has presented it,
14 yes.

15 Q. Will you agree with me that 1.9
16 metres is the maximum height that the leachate will
17 reach between drains spaced 50 metres apart over that
18 liner?

19 A. As per the calculations you
20 provide on Exhibit H-648, yes.

21 Q. You will? Thank you. All right,
22 back to the hypothetical garbage dump on the
23 hypothetical bed of shale somewhere in the world.

24 Your evidence at this hearing is that it
25 is not unreasonable to think that the infiltration into



Nethercut & Co. Ltd.

Toronto, Ontario

27577 .

Crutcher, Petrie,
cr-ex (Hodgson)

1 the shale at Site F could be as high as a hundred
2 millimetres per year?

3 A. Under conditions of landfilling.

4 Q. With the landfilling. Would you
5 agree with me that the infiltration rate without
6 landfilling would be approximately the same amount?

7 A. The head characteristics in the
8 system will definitely be different.

9 Q. Well, all right. For the purposes
10 of this discussion I don't think we need to go -- more
11 than go back to page 156 to your Example A. Your
12 Example A is Site F without landfill; right?

13 A. That is correct.

14 Q. You have got an infiltration of
15 56.8 as the highest infiltration without a landfill --
16 sorry -- 45.4?

17 A. That is correct.

18 Q. Can we make the assumption on
19 there that the infiltration rate is 45.4 millimetres
20 per annum without a landfill, change the hundred
21 millimetres to 45.4 millimetres per annum? Now,
22 Mr. Petrie, would you agree with me that if you have
23 shale with a vertical conductivity of 2×10^{-5} capable
24 of receiving annually 45.4 millimetres per annum of
25 recharge and you slap over top of it 1.2 metres of very



Neithercus & Co. Ltd.

Toronto, Ontario

27578 .

Crutcher, Petrie,
cr-ex (Hodgson)

1 tight clay material with an average vertical hydraulic
2 conductivity of 1×10^{-8} , that that will have an effect
3 on the amount of water that reaches that shale?

4 A. Yes.

5 Q. In fact, is it not the case that
6 the shale underneath will start to dry up a little bit?

7 A. This is similar to the question
8 you put to me with respect to Site D such that if you
9 removed one of the layers, what would that do to the
10 system. You are now imposing a layer and changing the
11 amount of fluid flow through that area. You then have
12 to consider the inflow from the side in some fashion
13 because the hydraulic heads or the gradients within the
14 system, this system being the shale bedrock will
15 change.

16 Q. Thank you. Would you take a blue
17 pen, please? Would you draw an imaginary water table
18 that is, say, an inch below that liner?

19 A. You mean a physical inch on this
20 piece of paper?

21 Q. Yes. Do you need a heavier pen?
22 I have a heavier pen.

23 A. It would help, yes.

24 Q. So, let us assume for our
25 discussion that that was the original water table in



Nehercat & Co. Ltd.

Toronto, Ontario

27579 -

Crutcher, Petrie,
cr-ex (Hodgson)

1 the shale before anyone came along and plunked down a
2 liner. Is that a fair assumption?

3 A. That is your assumption. Yes, I
4 can agree with it.

5 Q. Would you agree with me that after
6 a liner was constructed over that shale at this
7 imaginary landfill that that water table would in fact
8 start to decrease?

9 A. If the sole input to the system
10 was from the top it would definitely decrease. I would
11 imagine it would decrease in some fashion. The balance
12 would be flow contributed in some fashion from the
13 side.

14 Q. It wouldn't increase, would it?

15 A. I have trouble imagining it
16 increasing.

17 Q. Would you then give us what you
18 say would be the change in water level of the water
19 table underneath the liner after the landfill is
20 constructed?

21 A. I did not say what the change
22 would be.

23 Q. I know you didn't but would you
24 draw up there either the same or a very slight change
25 lower? You told us it wouldn't be higher.



Nehercut & Co. Ltd.

Toronto, Ontario

27580 .

Crutcher, Petrie,
cr-ex (Hodgson)

1 A. I am agreeing it is unlikely to be
2 higher.

3 Q. So it could be the same?

4 A. I suspect it would have to be
5 lower.

6 Q. Would you draw something that is
7 just slightly lower or whatever amount lower you would
8 like the diagram to be?

9 A. We are not implying a scale on
10 this drawing of any fashion?

11 Q. I am not worried about the scale.
12 We are not going to win or lose this hearing by the
13 scale on Exhibit H-653. I am just trying to get an
14 illustration of the principle. Could you label the
15 first water level before landfilling and the second
16 water level after landfilling?

17 Now, we have a situation here, you would
18 agree, where the liner sits over the water table and
19 the water table doesn't rise up to the level of the
20 liner?

21 A. In the situation you have
22 described here that is what we have.

23 Q. Now, in that situation would you
24 please tell the Board what will the vertical gradient
25 be across the liner of the landfill with 1.9 metres of



Nathercal & Co. Ltd.

Toronto, Ontario

27581 .

Crutcher, Petrie,
cr-ex (Hodgson)

1 head and a water table that is below the bottom of the
2 landfill?

3 A. The water table below the bottom
4 of the liner indicates to me that we have unsaturated
5 conditions in some fashion in this area, this area
6 being between the water table and the base of the
7 liner. Under those conditions I have difficulty
8 conceiving of a hydraulic gradient greater than one
9 across this liner. Mr. Crutcher made reference to a
10 flow discontinuity. One way of dealing with saturated
11 flows of a portion of this liner and we are dealing
12 with unsaturated flow immediately at the base of the
13 liner and above the water table, one cannot apply the
14 Darcy equation to unsaturated flow.

15 Q. Would it simplify things for you
16 to bring the water table to the bottom of the liner?

17 A. To answer the question you put to
18 me it would make a simplification, yes.

19 Q. Make the assumption the water
20 table is at the bottom of the liner and calculate for
21 us, please, the gradient across the liner.

22 A. For the assumptions you are
23 requesting the change in head would be 1.9 metres
24 divided by the length of the flowpath, 1.2 metres.

25 Q. If the water table is at the



Nethercut & Co. Ltd.

Toronto, Ontario

27582

Crutcher, Petrie,
cr-ex (Hodgson)

1 bottom of the liner what is the head at the bottom of
2 the liner?

3 A. If the water table is at the
4 bottom of the liner ...

5 Q. Yes?

6 A. ... then the head at the bottom of
7 the liner is equivalent to the elevation of the water
8 table.

9 Q. Can we use zero for the purposes
10 of this calculation?

11 A. If you wish, yes.

12 Q. What is the head at the top of the
13 liner?

14 A. The head at the top of the liner
15 as indicated by the pressure head in the middle of this
16 system of drains is the 1.9 metres.

17 Q. Let me just understand. How do
18 you calculate head differences? Do you have to
19 calculate them based on a difference from the same
20 point, the same datum?

21 A. Yes.

22 Q. We are trying to calculate the
23 head difference at the bottom of the liner -- the top
24 of the liner, sorry?

25 A. You have lost me. I don't



Nethercut & Co. Ltd.

Toronto, Ontario

27583

Crutcher, Petrie,
cr-ex (Hodgson)

1 understand how you calculate a head difference at the
2 top of the liner.

3 Q. Doesn't the head at the top of the
4 liner have to be measured from the base to compare it
5 to the head at the bottom of the liner?

6 A. There are two terms I think
7 implicit in your assumption; elevation head and
8 piezometric head. I am indicating a pressure head at
9 this point is 1.9 metres. Sorry, should I go on?

10 Q. Yes.

11 A. The pressure head at the top of
12 the liner is 1.9 metres in the mid-point between these
13 drains. At the base of the liner we are saying it has
14 a zero pressure head. There is a change across this
15 liner of 1.9 metres in elevation head, in piezometric
16 head.

17 Q. Just a second. Can you pretend
18 that the base of the liner is at sea level?

19 A. It has a zero here if that assists
20 in your pretensions.

21 Q. What is the elevation of the top
22 of the mound with respect to sea level?

23 A. That would again be 3.1 metres in
24 elevation.

25 Q. Isn't that the head difference



Nahernd & Co. Ltd.

Toronto, Ontario

27584 -

Crutcher, Petrie,
cr-ex (Hodgson)

1 between the top of the mound and the bottom of the
2 liner?

3 A. Could you repeat your statement,
4 please?

5 Q. Isn't the head difference between
6 the top of the mound and the bottom of the liner 3.1
7 metres -- I'm sorry -- the top of the mound and the
8 bottom of the liner, isn't it 3.1 metres?

9 A. The top of the mound ...

10 Q. Just a second, my prompter is --
11 I'm sorry. The head difference between the top of the
12 liner and the bottom of the liner is 3.1 metres?

13 A. The pressure head at this point is
14 1.9 metres.

15 Q. Doesn't the elevation at that
16 point have to be measured with respect to the base?

17 A. You are looking at elevation head.
18 I was indicating you had a change in head from 1.9
19 metres, that being the pressure head at this point in
20 the top, at the top of the liner relative to the head
21 that you have acquired by putting a water table at the
22 base of the liner, at the bottom of the system. So
23 over that flowpath of 1.2 metres we have a change in
24 water level of 1.9 metres.

25 Q. Just give me a moment.



Nethercal & Co. Ltd.

Toronto, Ontario

27585 .

Crutcher, Petrie,
cr-ex (Hodgson)

1 Mr. Petrie, to calculate the gradient don't we have to
2 relate everything to the same point and to calculate
3 the gradient across the liner don't we have to relate
4 everything to the base of the liner?

5 A. I would calculate the gradient by
6 the change in pressure indicated by delta H over delta
7 L. Delta H being the change in head across the system,
8 having a length of delta L.

9 Q. Isn't what we're calculating the
10 change in piezometric head, not pressure head?

11 A. Pressure head at this point is 1.9
12 metres.

13 Q. What is the piezometric pressure
14 at that point?

15 A. The elevation head at this point
16 is 3.1 metres.

17 Q. Yes. So the piezometric pressure
18 is 3.1 metres and the distance across the liner is 1.2
19 metres and the gradient is 3.1 divided by 1.2; is it
20 not?

21 A. I hear what you're saying. I have
22 a little difficulty in understanding what you're
23 getting at.

24 Q. I'm getting at the gradient across
25 the liner so we can figure out the flux across the



Nethercut & Co. Ltd.

Toronto, Ontario

27586 ·

Crutcher, Petrie,
cr-ex (Hodgson)

1 liner.

2 A. That I know, that is the next
3 step. It's the steps you take to arrive at the
4 gradient that we are discussing now. I beg your
5 pardon, I believe I am in error.

6 Q. All right. Now, you explain it to
7 us and the Board, will you, please?

8 A. Let us back up. If the water
9 level was at this point here, this point here being the
10 top of the liner, now I have the gist of your question
11 correctly, we would have a 1.9-metre head change
12 between the top of the liner and the base of the liner
13 with a flowpath length of 1.2 metres. That is what
14 I've indicated up there. You are quite correct, we
15 ought to be looking at the elevation head difference.
16 The elevation head difference as you have described
17 this hypothetical situation is 3.1 metres over flowpath
18 length of 1.2 metres.

19 Q. And that is the gradient across
20 the liner?

21 A. For the system that you have
22 proposed recognizing that the head of 1.9 metres occurs
23 at the mid-point between the drains, yes.

24 Q. Thank you. All right. Now, can
25 someone use their calculator to divide 3.1 by 1.2,



Nelburt & Co. Ltd.

Toronto, Ontario

27587

Crutcher, Petrie,
cr-ex (Hodgson)

1 please? That 2.58 is the gradient across the liner in
2 this hypothetical scenario where the water table is at
3 the base of the liner?

4 A. That is the number I've
5 calculated, correct.

6 Q. Thank you. If the Board wanted to
7 know how much leachate could escape this hypothetical
8 landfill by going across that liner they would multiply
9 the vertical hydraulic conductivity of the liner by the
10 vertical gradient across the liner, would they not?

11 A. That is correct.

12 Q. Would you do that, please?

13 A. I have units of centimetres per
14 second.

15 Q. Why don't you give us an answer
16 first? That is the Darcy flux now?

17 A. Correct.

18 Q. I have forgotten, Dr. Rowe had a
19 notation for Darcy flux, V_a , let us keep -- $V_a =$
20 1×10^{-8} cm/sec x 2.58 equals?

21 A. Two point five eight x 10^{-8}
22 cm/sec.

23 Q. Just so we can have apples and
24 apples, to use that awful metaphor maybe for the last
25 time, can you convert that to millimetres per annum,



Nehercul & Co. Ltd.

Toronto, Ontario

27588 -

Crutcher, Petrie,
cr-ex (Hodgson)

1 please?

2 A. I get 8.14 millimetres per annum.
3 I get 8.1363 to four decimal places.

4 Q. So now ...

5 A. Sorry, was it 8.14, is that what
6 you're saying?

7 Q. No, that's what you said. That is
8 acceptable.

9 A. Equals 8.14 millimetres per annum.

10 Q. Thank you. Now, I am sure we will
11 have an opportunity to discuss this subject in the
12 future but perhaps we could go back to where it is we
13 left off this morning at 12:30.

14 Now, would you go back through the flip
15 charts until you get to the last one I drew for you
16 before the break this morning?

17 A. Is this the one?

18 Q. Yes, it is. That is H-650?

19 A. Correct.

20 Q. Now, Mr. Petrie, we are now
21 looking at a situation, another hypothetical situation
22 which has some elements of the flow model which you
23 have set out on page 156. Namely, it has got shale
24 with a horizontal hydraulic conductivity of 2×10^{-4} .

25 A. It is a schematic.



Nethercut & Co. Ltd.

Toronto, Ontario

41728 Hughes, cr-ex (McQuaid)

1 statement for landfills that you should use best
2 available technology?

3 A. Not that I know of and I'll go one
4 step farther. I'm not even sure what best available
5 technology means because there are a number of
6 definitions for it, but taken quite literally it means
7 the best available technology. Some people worry about
8 whether it's best available practical technology or
9 best available -- it gets confusing after a while.

10 Q. I understand that that term has
11 been used in what is called the MISA program which is
12 designed as it indicates to address water pollution,
13 particularly concerns with toxic discharges?

14 A. If you say so.

15 Q. Are you not familiar with that?

16 A. I don't deal at all with MISA.

17 Q. Have you never looked at the
18 document itself?

19 A. I should be ashamed to admit it,
20 but to be honest, no.

21 Q. No?

22 A. No. I have lots of things to do
23 without reading things that are not directly related to
24 my job. I'm ashamed to say so and I suppose I should
25 have read MISA or been acquainted with it and I know



Nethercut & Co. Ltd.

Toronto, Ontario

41766 Hughes, cr-ex (McQuaid)

1 A. Not process. That's the wrong
2 word. When I was with the Water Resources Branch I
3 spent a great deal of my time reviewing proposals for
4 landfills and assessing the hydrogeology of the sites
5 and I was part of the review team and so forth and I
6 have been involved in dozens of those.

7 Q. How long ago was that?

8 A. How long have I been with the Waste
9 Management Branch? About five years. It would be
10 about five years ago. I stopped doing it. I still
11 give opinions, but by no stretch of the imagination
12 could you consider any appreciable part of my work is
13 in landfill site proposal review. Not now.

14 Q. It's very clear, is it not, that
15 the guidelines for engineered facilities are to apply
16 to engineered facilities no matter where they are
17 located in the province?

18 A. That is correct.

19 Q. This is not a case-by-case
20 situation, this is general guidelines for the entire
21 province?

22 A. That's right.

23 Q. Are you aware of who it is who
24 determines for the Ministry what the contaminating
25 lifespan of an engineered facility is?



Nethercut & Co. Ltd.

Toronto, Ontario

8933

Sobanski, Beechinor,
re-ex (Hodgson)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Q. Are you aware of any pressure transducers in any other landfill sites presently in Ontario?

A. I am not sure about the Maple liner. They may be using that type of a device at Maple, but I am not aware of any sites that are using that type of device.

Q. Whether or not a leachate mound is monitored by use of a well or a pressure transducer, should monitoring detect a buildup, a substantial buildup of a mound at one of the sites. Are there any engineering methods available to reduce a mound?

The assumption is that the under-drains have failed and clean-out at this point isn't effective and the mound can't be reduced by that method. Is there any other engineering solution to reduce a mound in the middle of a landfill?

A. I would think that it may be possible to pump the cells. This has been undertaken at one site by Mr. Beatty, was to physically put a well in and pump the liquid level down in the cell, using a pumping well within the waste.

Q. If there should be a failure to the point that, say you as the person in charge



Nethercut & Co. Ltd.

Toronto, Ontario

34838

Crutcher, Mereu,
cr-ex (Estrin)

1 Q. I want you to assume for a moment
2 in this exercise that the granular pad has gone to a K
3 of 10^{-4} at that location.

4 A. So now I have -- we are getting
5 into realms that don't make any sense to me. I can do
6 the calculations but I want to make it clear I don't
7 agree with them.

8 Q. I'm going to give you a chance to
9 talk about the granular pad.

10 A. Being cognizant of the discussions
11 we had in the hydrogeology, what you are indicating to
12 me is I have failure of eight tiles.

13 Q. Really, four locations.

14 A. Failure of eight tiles at four
15 locations and it is complete failure. That means the
16 whole tile is clogged, there is no flow within the tile
17 itself and you're also indicating to me that I have
18 complete clogging and failure of my granular pad.

19 Q. At that location.

20 A. At that location. So I have what
21 essentially is equivalent to, and you're also asking me
22 to assume that that is to a permeability of the waste
23 of 10^{-4} ?

24 Q. Which is your K.

25 A. Which would be equivalent to



Nethercut & Co. Ltd.

Toronto, Ontario

34839

Crutcher, Mereu,
cr-ex (Estrin)

1 saying I have no granular pad and I have no French
2 drains at that location.

3 Q. Yes, that is what I am asking you
4 to calculate.

5 A. First of all, I'll put on the
6 record I do not agree with that. To do the
7 calculations, that is the same calculation as presented
8 on Exhibit B-874, it is essentially the same
9 assumptions. On B-874 we did not have the granular pad
10 so I didn't have to make the one extra assumption. So
11 therefore the average head under that particular case
12 would be 3.4.

13 Q. We could find out what the total
14 head is by adding that to the average base elevation of
15 180.4?

16 A. And that comes up to 183.8.

17 Q. Again we are still more than
18 enough to cause a reversal of the hydraulic trap at
19 that location?

20 A. Yes.

21 Q. Now, Mr. Crutcher, let us come
22 back and discuss the granular pad for a moment. We
23 heard earlier in cross-examination of Mr. Mereu by
24 Mr. Leitch the clarification that the granular pad, as
25 I understand it, is really, as you have specified it



Nethercut & Co. Ltd.

Toronto, Ontario

34840

Crutcher, Mereu,
cr-ex (Estrin)

1 for purposes of pricing at least, and as Mr. Mereu
2 described it, really conceived of as a sand blanket,
3 not a gravel blanket?

4 A. We left that quite nebulous and I
5 think it's becoming obvious that we left it nebulous.
6 We did that on purpose. We did it because we want to
7 be what I call responsible and be able to assess what
8 the local resources are and the best source and most
9 economical source for the pad. What we specified was
10 the permeability of the pad being 10^{-3} or greater. My
11 preference would be that it is greater than 10^{-3} but I
12 consider 10^{-3} acceptable. We used that permeability
13 for the head calculations.

14 Q. So what is the governing
15 criterion, Mr. Crutcher, in your view? Is it the
16 permeability of the 10^{-3} or greater and the cost?
17 Those two will make the decision as to what is ...

18 A. And the ability. We have to
19 consider ourselves with fines within the material and
20 transport of the fines to the leachate collection
21 system. It is a design consideration that you will
22 have to take a look at but I was trying to leave as
23 many doors open for the economical use of material.

24 Q. The door you certainly leave open
25 is sand?



Nethercut & Co. Ltd.

Toronto, Ontario

34841

Crutcher, Mereu,
cr-ex (Estrin)

1 A. Sand is one option.

2 Q. Let us think about sand,

3 Mr. Crutcher. I think you agreed with Mr. Hodgson

4 yesterday that sand can clog up and in fact it would

5 clog up more easily than gravel; fair enough?

6 A. It depends on the situation. It
7 has the potential too, yes.

8 Q. But everything else being equal it
9 will clog more easily than gravel?

10 A. Yes.

11 Q. So that is why I was suggesting,
12 Mr. Crutcher, that it was not unreasonable for you and
13 I to discuss, as we did a moment ago, the potential for
14 the so-called granular pad which we would now call
15 optionally a sand pad clogging up in calculating what
16 the mound would be under the four yellow areas
17 illustrated on Exhibit B-860-D2R?

18 A. I disagree.

19 Q. Do you have anything else to say
20 as to why you disagree?

21 A. You are envisioning a failure over
22 a significant portion of the site all at one particular
23 location. That failure is broken in very coarse stone
24 and in a granular pad. The proper terminology is
25 granular pad. Sand is a granular material. I refer to



Nethercut & Co. Ltd.

Toronto, Ontario

34842

Crutcher, Mereu,
cr-ex (Estrin)

1 stone in granular or I will get confused. I don't
2 consider that as a feasible scenario.

3 Q. It is not one that you even
4 considered and rejected before I asked you about it?

5 A. I don't understand what that
6 means.

7 Q. Before this exercise right now I
8 take it you never considered that your sand pad or your
9 granular pad could in any way clog or did you?

10 A. I have indicated on several
11 occasions that I would anticipate that there would be
12 localized failure at portions of the site. In fact I
13 put in an exhibit when we were in hydrogeology, dealing
14 in hydrogeology what I thought were reasonable failure
15 scenarios.

16 Q. Would you agree with me that it
17 would be reasonable to assume that the granular or sand
18 pad could clog over portions of the site?

19 A. Yes. I have just not considered
20 superimposing the clogging of the sand and the clogging
21 of the French drains to that extent as being
22 reasonable.

23 Q. Take each one of them as a
24 separate element. That could be reasonable? The sand
25 pad could, in areas of the cell, clog up? You just



Nethercut & Co. Ltd.

Toronto, Ontario

34843

Crutcher, Mereu,
cr-ex (Estrin)

1 said you would agree with that.

2 A. You are dealing with areas of
3 probability and I would say the probability is
4 extremely low.

5 Q. Mr. Crutcher, can you deal with my
6 question? The question is: you agreed it is a
7 reasonable failure scenario to consider portions of the
8 sand or gravel pad clogging?

9 A. Yes.

10 Q. You also agreed with me I think
11 that French drains can and do clog?

12 A. Yes, French drains can clog.

13 Q. Thank you. Now, Mr. Crutcher, I
14 take it that your basic position is that if mounding of
15 the kind that we have talked about did occur you would
16 have to -- you would find out about it because you
17 would be monitoring the site?

18 A. Yes.

19 Q. If I can ask you to turn to your
20 report, Exhibit B-860, at the bottom of the page we
21 have ...

22 A. What page?

23 Q. Page 29, I am sorry. We have the
24 heading "Monitoring Contingency Plan".

25 A. Part A which is essentially the



Nethercut & Co. Ltd.

Toronto, Ontario

34844

Crutcher, Mereu,
cr-ex (Estrin)

1 landfill design criteria.

2 Q. These are your landfill design
3 criteria or objectives, your landfill design
4 objectives?

5 A. Yes.

6 Q. Would you read, please, beginning,
7 the last paragraph beginning with the sentence:

8 "In the case of Site D ..."?

9 A. Would you like me to read that out
10 loud or read it to myself?

11 Q. Read it out loud, if you would.

12 A. "In the case of Site D, failure
13 specifically refers to failure of the
14 hydraulic trap. Given the possibility
15 of failure, monitoring of leachate
16 mounding is required to track the
17 possible egress of leachate from the
18 site."

19 Q. Right. Stop right there. Now,
20 could you please put up -- look behind you at Exhibit
21 B-860-D2R? Take some colour that you don't already
22 have on it.

23 A. How about purple?

24 Q. Would you please indicate on that
25 plan, D2R, where you would put your monitors?



Nethercut & Co. Ltd.

Toronto, Ontario

34845

Crutcher, Mereu,
cr-ex (Estrin)

1 A. Where I would place the leachate
2 monitors?

3 Q. Yes.

4 A. Let me explain the rationale.
5 It's called thinking out loud. I would be looking at
6 where the site is most vulnerable for failure and try
7 to assess where I also have information. I have
8 information at the present time from the manholes along
9 the site itself, along the boundaries of the site,
10 already have leachate heads within the site, so I can
11 assess the monitoring within that particular location.
12 If I had a mounding occur, the mounding would manifest
13 itself within the site itself and I have three separate
14 cells or three separate flow locations. Essentially
15 off the top of my head I think I would somewhat evenly
16 space them, three monitors along each of the portions
17 of the cell. I don't know how you would refer to each
18 section.

19 Q. Can you mark those locations?

20 A. I would like to obviously give it
21 more thought.

22 Q. Think about it over lunch in any
23 event. Anywhere else? Do you do the same in each
24 cell?

25 A. It would be a total. For each



Nelhercat & Co. Ltd.

Toronto, Ontario

34846

Crutcher, Mereu,
cr-ex (Estrin)

1 cell there would be a total of nine monitors that we
2 are looking at in addition to the periphery monitors.
3 I also note that we do not have head monitoring along
4 the boundaries so we would take a look at that as well.

5 Q. Perhaps over the lunch break I
6 would appreciate it if you would mark all locations
7 where you would monitor, including any manholes that
8 you say you would monitor.

9 A. I would monitor all the manholes.

10 Q. If you would mark those as well
11 where you would monitor for a leachate mound, that is
12 really what I'm asking.

13 A. When we're talking about
14 monitoring we're talking about occasionally measuring
15 the leachate levels, having the ability to measure
16 leachate levels.

17 Q. Maybe I had better understand
18 this. Am I hearing you say that you would look at the
19 manholes to monitor the amount of leachate levels,
20 leachate flow, leachate levels within the manholes? Is
21 that why you look at them?

22 A. It's an easily accessible point
23 and you can monitor the manhole itself and there is
24 also testimony I believe from Mr. Hiraishi or
25 Mr. Sobanski, I don't recall which, in which they would



Nethercut & Co. Ltd.

Toronto, Ontario

34847

Crutcher, Mereu,
cr-ex (Estrin)

1 strap a monitor to the manhole so you can measure your
2 leachate level just outside of the manhole.

3 Q. I guess what I want you to think
4 about over lunch and mark for us when we come back is
5 those locations where you would say to this Board "Site
6 D ought to be monitored in order to detect leachate
7 mounding."

8 A. Certainly I can do that. Would
9 you like me to mark the exhibit over the break or would
10 you like me to do that when we come back?

11 Q. If you can do it over the break it
12 would save time.

13 Mr. Chairman, I know it's a bit early
14 but perhaps this would be a convenient time to take a
15 break. Mr. Crutcher could do that and we could resume.
16 My questions will follow from that.

17 MR. LANCASTER: How long do you think it
18 would take to do that?

19 MR. CRUTCHER: Fifteen minutes.

20 MR. LANCASTER: We will return at 1:30.

21 --- Luncheon recess at 12:20 p.m.
22
23
24
25



Nethercut & Co. Ltd.

Toronto, Ontario

34848

Crutcher, Mereu
cr-ex (Estrin)

1 --- Upon resuming at 1:45 p.m.

2 MR. LANCASTER: Please be seated.

3 MR. ESTRIN: Q. Mr. Crutcher, over the
4 lunch break you took the opportunity to mark on Exhibit
5 B-860-D2R in purple, at least for one cell I believe,
6 cell 1, the location where you felt it would be
7 appropriate to monitor within the cell for leachate
8 mounding?

9 MR. CRUTCHER: A. I added a number of
10 notes.

11 Q. Do you want to point out the
12 locations, first of all? They are denoted by purple
13 X's?

14 A. I put X's within the cell No. 1
15 depicting where I would initially take a look for
16 leachate monitoring points within the cell. Then I
17 added a number of notes. When I was doing this over
18 the break I was trying to rationalize in my own mind
19 how I would go about doing this. I felt that well,
20 since the landfill site would be developed with time I
21 would gain knowledge from what I would learn from cell
22 1 which I would like to apply to cell 2 and likewise to
23 cell 3. So I added a number of notes that will help
24 try to delineate that. I added the title to it as
25 "Leachate Level Monitoring". The first note says



Nethercut & Co. Ltd.

Toronto, Ontario

34849

Crutcher, Mereu
cr-ex (Estrin)

1 "Monitor cell 1 to determine effectiveness with time.
2 Use knowledge gained to design program for cells 2 and
3 3." We put the wells in, see how well they operate and
4 see if we're seeing differentials and see if we can
5 actually monitor, see if there are other means of
6 monitoring. For instance, there are vibrating
7 piezometers that could be installed, different means
8 could be used. I was just envisioning when I was doing
9 this physically monitoring a well but there are a
10 number of means of going about that. In fact it would
11 be wise probably to experiment within cell 1 the
12 various means.

13 Then I added another note that says
14 "Monitor leachate levels in all manholes two times per
15 year" and the third one says "Monitoring of leachate
16 levels to be correlated to piezometric levels." There
17 is a monitoring program, groundwater monitoring. The
18 two would have to be correlated together.

19 DR. KINGHAM: I don't quite understand
20 the point you just made. Monitor leachate in all
21 manholes two times a year. Weren't you recommending
22 continuous pumping?

23 MR. CRUTCHER: That is correct, but you
24 would have to go physically on the site to open up the
25 manhole covers or the wells to see if there is any



Nethercut & Co. Ltd.

Toronto, Ontario

34850

Crutcher, Mereu
cr-ex (Estrin)

1 buildup or any clogging within the system itself. You
2 would not know that because you would just be pumping
3 from four single points.

4 DR. KINGHAM: You are suggesting that
5 you would examine the manhole to assure yourself that
6 there is no leachate in it but you are continuously
7 pumping?

8 MR. CRUTCHER: If I have leachate I
9 obviously have a failure. This whole monitoring is
10 very simple. It is just a level monitoring aspect.

11 MR. HODGSON: Mr. Estrin, would you
12 mind? Could the witness repeat slowly the whole note
13 again? I can't read it from here and I would like to
14 have it down.

15 MR. CRUTCHER: The title was "Leachate
16 Level Monitoring." The first note: "Monitor cell 1 to
17 determine effectiveness with time, use knowledge gained
18 to design program for cells 2 and 3."

19 The second point: "Monitor leachate
20 levels in all manholes two times per year" and point
21 No. 3: "Monitoring of leachate levels is to be
22 correlated to piezometric levels."

23 I should note that when I was looking at
24 this, at the monitoring, I felt it would be wise to add
25 a number of manholes and maybe I will just add them to



Nethercut & Co. Ltd.

Toronto, Ontario

34851

Crutcher, Mereu
cr-ex (Estrin)

1 the drawing. I will put them in a red dot and these
2 manholes would serve two purposes. Firstly for
3 monitoring and I will put them on.

4 MR. ESTRIN: Q. Mr. Crutcher, can you
5 make those circles a bit bigger?

6 MR. CRUTCHER: A. I added three
7 additional manholes, one in cells Nos. 1 and 2 and one
8 in cell No. 3. The purpose of those manholes was
9 firstly to provide a bit better monitoring along the
10 periphery of the site. There were no manholes, for
11 instance, along the northern portion of cell No. 1 and
12 it would also provide access to the pipe at that
13 location should the need arise. I felt that would be
14 an improvement to the design. When I was looking for
15 monitoring purposes, that came to me.

16 Q. Mr. Crutcher, I wanted to put the
17 context of your monitoring locations -- I wanted to
18 put the monitoring locations which you have provided
19 for us on that plan into context and I wonder if you
20 could turn back to your hydrogeological report where
21 this topic was discussed. That is Exhibit B-618 at
22 page 100. You see that page begins with the topic of
23 "Monitoring". In the first paragraph it says, among
24 other things:

25 "Given that the hydraulic trap is a

Table 1. Environmentally Sensitive Area's Criteria Summary

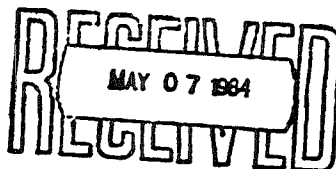
ESA No.	Name of E.S.A.	Approx. Area-Hectares	ESA Criteria Fulfilled (by Criteria #)									Total # Criteria Met
			1	2	3	4	5	6	7	8	9	
1.	Clappison Escarpment Woods	40.5	x					x		x	x	4
2.	Bridgeview Valley	44.5				x		x				2
3.	Grindstone Creek Valley	290	x	x			x	x				4
4.	Sassafras Woods	99				x		x				2
5.	Waterdown Escarpment Woods	138		x	x			x		x	x	5
6.	Nelson Escarpment Woods	91	x		x		x	x				4
7.	Lake Medad and Medad Valley	229	x	x	x		x	x				5
8.	Mount Nemo Escarpment Woods	215	x	x		x		x			x	5
9.	Lowville-Bronte Creek Escarpment Valley	350		x	x		x	x			x	5
11.	Bronte Creek Valley	526		x	x		x	x	x	x	x	7
12.	Fourteen Mile Creek Valley	44.5		x			x	x				3
13.	Iroquois Shoreline Woods	73	x		x		x	x			x	5
14.	Wildflower Woods	30				x	x	x				3
15.	Joshua Creek Valley	45	x		x	x	x	x				5
16.	Sixteen Mile Creek Valley	973		x	x		x	x	x			5
17.	Milton Heights	130	x	x							x	3
18.	Crawford Lake-Rattlesnake Point Escarpment Woods	593	x	x	x		x	x		x	x	7
19.	Calcium Pits	290	x				x	x		x	x	5
20.	Guelph Junction Woods	411		x		x	x	x	x			5
21.	Moffat Swamp	138		x	x			x				3
22.	Brookville Swamp	152		x				x				2
23.	Knatchbull Swamp	243		x				x				2
24.	Blue Springs Swamp	183		x	x			x				3
25.	Hilton Falls Complex	2818	x	x	x	x	x	x	x		x	8
26.	Blue Springs Creek Valley	395		x	x			x			x	4
27.	Fairy Lake Marsh				x	x		x				3
28.	Acton Swamp	144		x				x				2
29.	Speyside Escarpment Woods	498	x	x	x		x	x	x		x	7
30.	Waterfall Woods	320	x					x			x	3
31.	Limehouse Cliffs and Woods	152	x		x	x		x				4
32.	Silvercreek Valley	527	x	x			x	x	x		x	6
33.	Ballinafad Pond	16	x			x	x	x				4
34.	Snow's Creek Woods	122		x			x	x				3
35.	Terra Cotta Woods	304	x	x				x		x		4
36.	Georgetown Credit River Valley	230		x	x		x	x		x	x	6
37.	Hungry Hollow Ravine	212			x		x	x			x	4
38.	Ballinafad Esker	26	x									1
	Site F/NSP (Potential)	20	x		x	x	x	x				5
	TOTAL AREA	11,073*										

ADAPTED FROM: Environmentally Sensitive Area Study.
Regional Municipality of Halton, 1978

* Does not include Site F.



Ontario



H 982

WW8301

Ministry of
Agriculture
and Food

416/965- 9433 --

Legislative Buildings
Queen's Park
Toronto, Ontario
M7A 2B2

FOODLAND PRESERVATION BRANCH

May 2, 1984

Mr. R. Mohammed
Director of Planning and Development
Regional Municipality of Halton
P. O. Box 7000
1151 Bronte Road
Oakville, Ontario
L6J 6E1

Dear Mr. Mohammed:

Re: Environmental Assessment for the Landfill Component
of Halton's Solid Waste Management System
Phase 2, Stage 2B Report
Work Program - Phase 2, Stage 2C Report

Thank you for providing us with the above-noted reports. We are pleased to see the emphasis the agricultural component is given in the selection of candidate sites.

We feel the methods and techniques for data gathering, the sub-factors for evaluation and the relative impact weighting of sub-factors used in the agricultural resources analysis is appropriate in determining a list of candidate sites. It is our preference that the selected site have the least impact on agriculture, in terms of loss of existing and potential agricultural land and in terms of impact on surrounding agricultural operations. At this point in the process, it would appear that of the six sites selected for further analysis, the National Sewer Pipe pit and quarry would have the least impact on agriculture. However, we appreciate that factors other than agriculture must be considered, and that a further analysis of the agricultural resource for the six sites must be undertaken before a final site is recommended.

....2

With regard to the work program for phase 2, stage 2C, it is unclear what direction the agricultural analysis will be taking. Will the six sites be analyzed in terms of the rating criteria utilized in phase 2, stage 2, or will these criteria be further refined to determine the agricultural impact? Is this analysis going to look at mitigation measures that will be incorporated to minimize the impact on surrounding agricultural operations? We feel mitigation measures should be addressed and the criteria should be refined, if required. Nevertheless, we would appreciate a clarification of these matters.

Should you have any questions on the above, or should you wish to meet to discuss the points we have raised, please contact Neil Smith at 965-9433.

Very truly yours,



Donald Dunn
Director

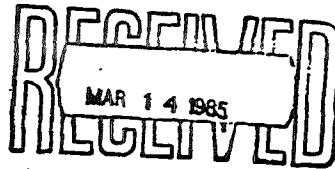
NS:hm

c.c. H. Flaming

→ c.c. Robert J. Brenner
Ecological Services for Planning Ltd.
530 Willow Road, Unit 10
Guelph, Ontario
N1H 7G4



Ontario



Ministry of
Agriculture
and Food

416/965-9433

Legislative Buildings
Queen's Park
Toronto, Ontario

Foodland Preservation

M7A 2B2

March 8, 1985

Mr. R. Mohammed
Director of Planning & Development
Regional Municipality of Halton
P. O. BOX 7000
1151 Bronte Road
OAKVILLE, Ontario, L6S 6E1

Dear Mr. Mohammed:

Re: Halton Landfill Environmental Assessment/
Selection of a Preferred Landfill Site/Draft
Stage 2C Reports 1, File No: 3708-437

We have reviewed the above noted reports in view
of the Food Land Guidelines and based on present
knowledge;

We feel the methodology and site comparisons and
ranking of the Agricultural Assessment report are
appropriate and well thought out. Moreover, we
support the conclusions of this report.

We regard to the Draft Summary Report we support
the recommendation of Site F as the preferred
alternative, as it most clearly has the least
impact on agriculture.

As a general comment, we feel the inclusion of maps
indicating the official plan designations and zoning
of the six sites would help clarify Report #12 on
the Land Use and Planning Assessment.

Should you have any questions on the above, please
contact Neil Smith at 965-9433.

Very truly yours,

DONALD DUNN
Director

cc: H. Flaming

→ R. Brenner

Mr. ...



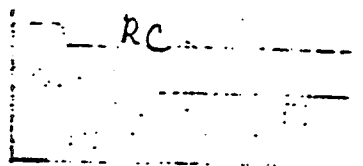
Ontario

Ministry of
Agriculture
and Food
Foodland Preservation Branch

416/965-9433

Legislative Buildings
Queen's Park
Toronto, Ontario
M7A 2B2

November 1, 1985



Mr. Roger Clarke
Review Coordinator
Environmental Assessment Branch
Ministry of the Environment
135 St. Clair Avenue West
Suite 100
TORONTO, Ontario
M4V 1P5

Dear Mr. Clarke:

Re: Regional Municipality of Halton
Waste Management Environmental Assessment
EA File No: 1-82-0006-000

We have reviewed the above noted environmental assessment in view of the Food Land Guidelines, which is the Provincial policy on planning for agriculture. Our review also takes into account the previous reports and documents we received that led to the preparation of this final report.

In response to the questions you have raised, we provide the following comments:

1. We are satisfied with the data and analysis provided in the EA. With regards to conclusions, we recommend Site F as the preferred alternative for landfilling, as it clearly has the least impact on agriculture.

With regards to agricultural mitigation measures for Site D, we feel the report should clearly indicate that if this site is chosen for a landfill, agricultural rehabilitation will occur. Presently, the EA states that "agricultural use of the site may be restored by concurrent rehabilitation of the site or following the site closure".

2. ~~We feel the proponent has chosen an~~
appropriate range of alternatives ~~to~~
investigate in the EA.
3. We have no comments to offer with
regard to the monitoring and contingency
plans specified by the proponent.
4. As stated previously we feel the EA
should definitively indicate Site D
will be rehabilitated to agriculture,
should it be chosen as the landfill
site.
5. It is not clear what this question means.
6. We are satisfied that agriculture was
given a high priority in the EA process.
7. Our agency was well consulted throughout
the process as a technical resource and
as a reviewer.

I trust the above addresses the questions you have
raised. Should you have any questions, please
contact Neil Smith, District Manager, at 965-9433.

Yours very truly,



for DONALD DUNN
Director

cc: Mr. D. Perlin
Chief Administrative Officer
Region of Halton

Harold Flaming
Land Use Specialist, Fergus

NS/rac