

CONSOLIDATED HEARINGS BOARD

IN THE MATTER OF Sections 2 and 3 and 6 (3) of the Consolidated Hearings Act, 1981, S.O. 1981, c.20;

— and —

IN THE MATTER OF Section 12(2) of the Environmental Assessment Act, R.S.O. 1980, c.140;

— and —

IN THE MATTER OF Sections 30, 35 and 38 of the Environmental Protection Act, R.S.O. 1980, c.141, as amended;

— and —

IN THE MATTER OF Sections 24 and 61 (2) of the Ontario Water Resources Act, R.S.O. 1980, c.361, as amended;

— and —

IN THE MATTER OF Section 28 (3) of, and Regulation 164 under, the Conservation Authorities Act, R.S.O. 1980, c.85, as amended;

— and —

IN THE MATTER OF Section 40(12) of the Planning Act, S.O. 1983, c.1, as amended; in connection with site plan control of the sanitary landfill site;

— and —

IN THE MATTER OF Section 22(1) of the Planning Act, 1983 in connection with a referral to this Board by the Honourable Bernard Grandmaitre, Minister of Municipal Affairs, on a request by the Regional Municipality of Halton to amend the Official Plan for the Town of Milton to redesignate a parcel of land comprising Part Lots 3 and 4, Concession 2 N.S. in the Town of Milton from "Agriculture" and "Conservation and Hazard Lands" to permit the construction, operation and maintenance of a landfill site, Minister's File No. 24-OP-0208-A01;

— and —

IN THE MATTER OF Section 34(11) of the Planning Act, 1983 in connection with an appeal to this Board by the Regional Municipality of Halton for an order directing an amendment to By-law 61-85 of the Town of Milton to rezone the lands situated at Lot 3 and part of Lot 4, Concession 2 N.S., in the Town of Milton from "Agriculture" to permit a regional sanitary landfill site and ancillary uses;

— and —

IN THE MATTER OF Section 15(1) of the Planning Act, R.S.O. 1980 ch.379 in connection with a referral by the Honourable Claude F. Bennett, Minister of Housing on a request by Tremaine Britannia Citizen's Group for consideration of part of the Official Plan for the Halton Planning Area with respect to Sections 1 to 5 inclusive, 7, 9 and 10 of Part III D3 Solid Waste Management, Minister's File No. OPC-0026;

— and —

IN THE MATTER OF Section 64 of the Ontario Municipal Board Act, R.S.O. 1980, c.347 as amended in connection with an application by the Regional Municipality of Halton for an order approving:

a) the acquisition of land for the construction, operation and maintenance of a sanitary landfill site to contain 7.96 million cubic metres of waste in the Regional Municipality of Halton and to do so by one of 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 commonly referred to in Halton's Environmental Assessment as Site D in the Town of Milton

at an estimated cost of \$12,775,000.00, 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 issuance of necessary debentures to a maximum of \$12,775,000.00 for a term not to exceed fifteen years;

— and —

IN THE MATTER OF Section 193(5) and Paragraph 84 of Section 210 of the Municipal Act, R.S.O. 1980, c.302, as amended;

— and —

IN THE MATTER OF Sections 5, 7 and 8 of the Expropriations Act, R.S.O. 1980, c.148;

— and —

IN THE MATTER OF an undertaking of the Regional Municipality of Halton to provide facilities for the purpose of receiving, dumping and disposing of waste as required by section 137 of the REGIONAL MUNICIPALITY OF HALTON ACT, R.S.O. 1980, c.436, as amended, by acquiring the land for, constructing, operating and maintaining a landfill to contain 7.96 million cubic metres of waste in the Regional Municipality of Halton.

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BEFORE: H. H. Lancaster, Q.C. - Chairman

Dr. D.J. Kingham - Member

S. Tanner - Member



Nelhercut & Co. Ltd.

Toronto, Ontario

Hearing conducted at The Oakville
Granary Commercial Centre, 105 Robinson
Street, Oakville, Ontario, on
Thursday, May 28, 1987.

VOLUME 13

APPEARANCES:

T.R. Lederer and
H.D. Hodgson

for the Regional
Municipality of Halton
(Proponent)

J.R. Tidball

for the Ministry of the
Environment

T. Vigod
J.F. Castrilli

for the West Burlington
Citizens Group

D. Estrin,
F.E. Leitch and
H. Dahme

for the Corporation of the
Town of Milton

S.R. Garrod and
A. Nurvo

for the Milton Area Citizens
Coalition and several
affected Milton area
landowners

R.B. Tuer, Q.C.
E.A. Cronk and
F. Perrier

for National Sewer Pipe
Limited

L.F. Longo

for Azova Investments
Limited

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

for the City of Burlington

C. Mansfield

for the Ministry of Natural
Resources

P. Renaud

for Cumis Limited



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APPEARANCES (Cont'd):

1	C. Stevenson	for Framgard Holdings,
2	P. Hancock	Fosseri Investments
3		Limited, Seriphos
4		Investments Limited and
5		Topic Investments
6		
7	J.H. Olah	for the Halton Region
8		Conservation Authority
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Per: C.F. Nethercut, C.V.R.



Oakville, Ontario.

May 28, 1987.

--- Upon commencing at 9:30 a.m.

THE CHAIRMAN: Good morning. Please
be seated.

PAUL ALEXANDER MacLEOD, resumed:

CROSS-EXAMINATION BY MR. CASTRILLI (cont'd):

Q. Could I refer you to Exhibit
H-8A, which includes the witness statements?

A. I have it with me.

Q. Could you turn to the part that
deals with transfer stations and container
facilities, and again the page numbers are not
numbered consecutively, but in the part dealing
with transfer stations, and that is tab 6 of the
binder...

A. There is no page number?

Q. They start again, but there is
your main witness statement with respect to
transportation and then there is an addendum statement
dealing with the transfer facilities?

A. I don't have a copy of that.

MRS. TANNER: The one past the red
divider?

MR. CASTRILLI: Yes.



1 MRS. TANNER: Bear with us, but
2 what page number are we on?

3 MR. CASTRILLI: Page 1 of that portion
4 of the witness statement and the heading at the
5 top of the page is Background.

6 Q. On that page in the first
7 paragraph you refer to the transfer station at
8 Georgetown as having been in continuous operation
9 as well as the container facilities at Burlington
10 and Georgetown.

11 Is it your understanding that the
12 transfer station continues to operate at Georgetown
13 at this time?

14 A. Yes.

15 Q. I would like to refer you to
16 your recommendation in paragraph 3 of the same page
17 where you indicate that Halton should consider
18 establishing a permanent container facilities in the Region as
19 part of a future waste handling and disposal system.

20 Is it your understanding that Halton has accepted
21 this recommendation?

22 A. I am not aware that they have.
23 They haven't had it up until this point in time.

24 Q. So, to your knowledge, that
25 is not in fact part of the Halton proposal before



1 this Board; is that correct?

2 A. It is a recommendation I have
3 made.

4 Q. It's a recommendation you have
5 made, but it is not in fact part of the proposal of
6 the Region of Halton at this hearing, of which they
7 are seeking approval?

8 MR. HODGSON: My friend knows what
9 the undertaking is and everyone else in the room
10 knows what the undertaking is and it's not a proper
11 question to put to the witness.

12 MR. CASTRILLI: Mr. Chairman, it is part
13 of Mr. MacLeod's witness statement and I think it
14 is important it be clarified for the purposes of
15 understanding what in fact the context of Mr.
16 MacLeod's transportation assumptions were.

17 THE CHAIRMAN: It is his recommendation
18 and do you know anything further than that, as far
19 as the Region is concerned?

20 THE WITNESS: Insofar as the Region's
21 position on container stations, I don't know if
22 they have considered what I have recommended.

23 MR. CASTRILLI: Q. You are saying you are
24 not aware if the Region has considered your
25 recommendation?



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3003 MacLeod, cr-ex (Castrilli)

1 A. Or acted on it.

2 Q. Could I ask you to turn to page 3?

3 A. Yes.

4 Q. You indicate all container
5 facilities in Halton are temporary. I presume that
6 is still your understanding as of this date?

7 A. Yes.

8 Q. Page 4, the same document, and
9 that is several pages after the series of tables
10 and the heading on the page is Traffic Characteristics?

11 A. Yes.

12 Q. You note in item 3 at the
13 bottom of the page:

14 "Without a transfer station operating
15 in Georgetown, a maximum number of 35 trucks
16 that now deliver waste locally
17 (during a busy week day) would have
18 to travel to Burlington or to alternative
19 sites."

20 Mr. MacLeod, to your knowledge, is
21 the transfer station in Georgetown going to close?

22 A. I don't know that. I believe
23 they are applying for a renewal of their licence.

24 Q. Page 5 of the same document.
25 You indicate in the first paragraph that in 1996,



1 without the Georgetown transfer station, 44 more
2 trucks a day would go to the new site and without
3 the Halton Hills transfer station, 23 more trucks
4 a day would go to the new site, wherever that might be.
5 To your knowledge is the Halton Hills transfer
6 station going to close? Perhaps you could
7 indicate its location on H-33-3 for the Board.

8 A. The transfer station is
9 located in Georgetown.

10 Q. There is only one?

11 A. There is only one. There is
12 one transfer station in the entire region.

13 Q. It must be a reference to the
14 container facility and there is one in Halton
15 Hills, is there not?

16 A. Yes. If I can refer to this
17 map, H-8A-6-1, it shows the facilities I referenced
18 in the report and the Halton Hills or Georgetown
19 transfer station contains a container facility also.

20 Q. That is fine. The total number
21 we are talking about in terms of trucks that would
22 have to be diverted elsewhere at both the container
23 facility at Halton Hills and the transfer station
24 at Georgetown, if it were not in existence in 1996,
25 would be approximately 63 trucks a day?



1 A. I'm not sure where that figure
2 came from.

3 Q. From your first paragraph on
4 page 5 and your second paragraph on page 5. I am
5 asking you to add 44 and 21?

6 A. No. The 21 is arrived at by
7 subtracting 23 from 44 and the total number of
8 trucks that would have to go to a landfill site
9 if the transfer station were not in place is 44, and
10 in our study we assumed there were approximately 23
11 trucks coming from that zone and so the difference
12 would be 21 trucks and that wouldn't be accounted
13 for if the transfer station was not in place.

14 Q. So those two paragraphs are
15 not saying the addition of some sixty odd trucks
16 would have to be diverted to the new landfill site,
17 but in fact 44 minus 21?

18 A. It's a total of 44 and in our
19 transportation impact assessment, we assumed from
20 this area that approximately 23 trucks would be
21 delivering waste to the new landfill site. So
22 that the difference, the non-accounted for
23 difference is 21 if the transfer station were not
24 in place.

25 Q. I would refer you to page 6



1 and you are referring there to container facilities?

2 A. Yes.

3 Q. You indicate that without the
4 other three container facilities, an additional 448
5 vehicles would go to the new site in what I guess
6 you call August, or I presume you mean that's the
7 situation now, August of '86, or what was in '86?

8 A. I am using figures from the
9 busiest period on record and that is August of last
10 year.

11 Q. Your conclusions on that page;
12 you assume the facilities such as this were in
13 place in the future and if they were not part of
14 Halton's future waste handling, then traffic safety
15 would be affected?

16 A. Yes, container stations are
17 quite effective in reducing vehicular volumes at
18 the landfill site.

19 Q. To what degree in this case?

20 A. Well, using a busy month of
21 August as an example, the conclusion is that the
22 existing facilities, the three not including the
23 Burlington landfill container station, are effective
24 in reducing the number of cars travelling to the
25 site by about 450 a day.



1 Q. I would refer you to Exhibit
2 E-109, page 47, and this is the Government of
3 Ontario Review?

4 A. Page 47?

5 Q. 47.

6 A. Yes.

7 Q. Item 5 on that page?

8 A. Yes.

9 Q. I will read the paragraph into
10 the record:

11 "5. The Ministry feels that since
12 a transfer station may form part
13 of the solid waste management system
14 should Site F be chosen the analysis
15 for the transfer station should be
16 included as a supplement to this
17 Environmental Assessment. We
18 recommend that the definition of
19 the undertaking include a transfer
20 station or stations."

21 As a transportation expert, Mr.
22 MacLeod, do you agree with that statement?

23 A. No. The undertaking, as the
24 team has defined it, does not include a transfer
25 station and if it is required as a mitigation measure,



1 and in my case to mitigate transfer station effects,
2 we would recommend it, but it's not required to do
3 that.

4 Q. I would refer you to Exhibit
5 E-110?

6 A. Yes.

7 Q. Page 20, the second quoted
8 paragraph on that page which is again the Government
9 of Ontario Review, supplementary review?

10 A. The same basic comment.

11 Q. Let me read that into the
12 record. This is again in regard to the issue of
13 transfer stations:

14 "It has consistently been the
15 Ministry's position that the need
16 for and location of transfer
17 stations (both large facilities and
18 container stations) should be dealt
19 with in the Environmental Assessment
20 process."

21 I would ask you again if you agree
22 with that statement?

23 A. I think that the Region of
24 Halton will have to consider transfer stations
25 and container stations; they are part of a system



1 of waste handling. I think the issue here is
2 whether they include it as an integral part of the
3 study and I don't think that that is required.

4 Q. Can you advise the Board why
5 that is your opinion?

6 A. Well, we are looking at a
7 landfill site and there are many components that
8 make up an entire system of waste handling. The
9 issue of a transfer station, I think, is valid
10 if in our analysis we determined that it would be
11 effective in reducing a perceived impact or potential
12 impact and, in this case, from the viewpoint of
13 traffic safety, I don't see it and it's not required,
14 so it is not recommended as part of the undertaking.

15 Q. Just project for the moment to,
16 I believe it's 1996. I believe you indicated in
17 your report and in the witness statement part of
18 your material, that in 1996 there will be
19 approximately 190 trucks going to the landfill site per
20 day, 193 I think to be exact, and if none of the
21 facilities we have just been talking about were in
22 operation at that time, there would be 44 additional
23 trucks per day going to that site?

24 A. Twenty-three additional.

25 Q. I think one of the numbers in



1 the first paragraph of that page I read to you
2 indicated 44?

3 A. Yes, if the Georgetown transfer
4 station was not in place.

5 Q. That's right.

6 A. Then we would have 44 additional
7 trucks and the 190 some odd includes approximately
8 21, I believe, that have been assigned to the
9 Georgetown zone and that is accounted for.

10 Q. Are we not talking about a
11 20 per cent increase in trucks per day going to
12 whatever site is chosen?

13 A. It's not that high.

14 Q. Whatever the percentage is of
15 44?

16 A. There will be additional trucks.

17 Q. You don't regard that as a
18 factor for this Board to consider in your
19 transportation assessment?

20 A. No, it wouldn't affect the
21 assessment. The predominant zones that affect
22 the vehicles are from the south, and approximately
23 80 per cent of the vehicles that arrive are from
24 the south, and the Georgetown trucks are a much
25 smaller percentage.



1 MR. CASTRILLI: Those are all my
2 questions. Thank you.

3 THE CHAIRMAN: Thank you, Mr. Castrilli.
4 Mr. Tzekas.

5 CROSS-EXAMINATION BY MR. TZEKAS:

6 Q. Mr. MacLeod, I believe I will
7 be referring to the same documents you already have,
8 but if I get to one that isn't there, please let me
9 know.

10 A. Yes.

11 Q. May I begin with Exhibit H-9,
12 the Consolidation of the Waste Needs and Systems
13 Analysis?

14 A. Yes, I have that.

15 Q. My understanding, Mr. MacLeod,
16 was that at this stage you were conducting a very
17 very broad brush analysis?

18 A. Yes, what we did was provide
19 travel times and distances to Cam Watson.

20 Q. I take it -- you said in your
21 examination-in-chief that your report was not a
22 traffic study per se but it was really more of an
23 input into the economic analysis?

24 A. Yes. We did no transportation
25 siting or impact...



1 Q. Am I also right in assuming
2 throughout this process, beginning with this report
3 or perhaps even earlier, you were providing Mr. Watson
4 with certain assumptions that he incorporated into
5 his cost figures and, conversely, he was providing
6 you with certain assumptions that would impact
7 on your studies?

8 A. I provided Cam Watson with
9 travel time and distance figures and any road
10 improvement requirements associated with any site
11 or candidate area assessment.

12 Q. Did he provide you with any
13 assumptions that you incorporated or used as part
14 of your transportation studies?

15 A. I don't recall that he did;
16 it was mostly information I supplied to him.

17 Q. Now, the general nature of
18 your work at this stage I think is recognised in
19 Section 1.4.4 at page 28 of the report?

20 A. Yes.

21 Q. That is a section you authored?

22 A. Yes, that is correct.

23 Q. At page 29 in the second
24 paragraph you state:

25 "The requirements of the Environmental



1 Assessment Act would require a more
2 detailed a definitive approach in the
3 later stages of the analysis."

4 You then go on to say, and I would
5 like to read this to you if I may and then ask you
6 some questions on it:

7 "The requirement to accurately identify
8 and document the impacts of haulage
9 traffic involves the identification
10 of more defined sources of all
11 municipal waste. This is particularly
12 important in the urban areas of the
13 Region where a relatively accurate
14 trip starting location is required
15 to identify intersection loading
16 requirements, potential truck
17 traffic noise, possible road upgrading
18 requirements and possible vehicular
19 delays that increase trip times."

20 Now, I took from that, Mr. MacLeod,
21 that in order to properly assess the impacts from
22 a traffic point of view, the first step in any
23 process is to determine the generation points for
24 waste?

25 A. Yes, or what we have been



1 calling trip starts.

2 Q. You have to be accurate in
3 identifying those sources because this allows you
4 to accurately calculate the haulage routes that
5 become a part of your study?

6 A. Yes.

7 Q. Once you have identified those
8 haulage routes, you can assess the haulage routes
9 and you look to factors such as upgrading requirements,
10 potential truck traffic noise and that kind of
11 thing.

12 Now, I got from that, and I think it
13 is consistent with everything else you have done,
14 that a change in a proposed generation point or a
15 change in a proposed hauling route, might well affect
16 the analysis?

17 A. Certainly a change in the
18 haulage route. The sensitivity of the analysis to
19 the start of trips I don't think is that great.
20 The truck circulation pattern in the areas of waste
21 generation I think are not influenced to a great
22 degree by any site under consideration. Those trucks
23 would still be there.

24 Q. The most important thing, I
25 take it then, is the haulage routes and the change



1 to those might well affect the analysis?

2 A. That's right and those are
3 influenced more by the end point or where the trucks
4 are going.

5 Q. Do I take from the paragraph I
6 just read to you that this is particularly important
7 in urban areas?

8 A. Well, that statement really
9 springs from the consideration that in the urban
10 areas more waste is generated and you are dealing
11 with many more trucks.

12 Q. May I go to Exhibit H-10, and
13 that is the Phase 2, Stage 2A General Overview
14 Analysis?

15 A. Yes, I have that.

16 Q. I would like to refer you to
17 page 21 of that report. There mention is made of
18 a factor which you title Traffic Service and Safety?

19 A. Yes.

20 Q. At this stage of your thinking,
21 Mr. MacLeod, was this considered to be a single
22 factor?

23 A. Yes, it was.

24 Q. Am I right that the purpose
25 of the analysis was to use that factor in assessing,



1 and I will quote here from page 21, the second last
2 paragraph of your report. It was:

3 ".... used to assess the changes
4 that are likely to occur on the
5 Region's road network (existing
6 and planned) as a result of
7 landfill activities."

8 A. Yes, that was the general
9 rationale for that factor.

10 Q. I took it at this stage that
11 the evaluation was essentially based on your
12 classification of the various roadways, their
13 conditions and their proximity to any particular area?

14 A. Yes, road standard and
15 classification.

16 Q. The heavy emphasis in that
17 particular methodology, as I understood it, was the
18 proximity of the site to provincial highways and
19 arterial roads?

20 A. That is correct.

21 Q. Just so we are reminded where
22 we are, at this stage you were looking at four
23 municipal generation centroids and thirty candidate
24 zones?

25 A. That is correct.



1 Q. Eleven of which were excluded
2 because of incompatible land use?

3 A. That's right.

4 Q. Those were generally the ones
5 along the urban corridor at the south of the region?

6 A. Yes.

7 Q. If I understand this portion of
8 it correctly; for each of these thirty zones or
9 for the remaining zones, what you did was establish
10 a primary haulage route and you do mention in the
11 report the possibility of optional routes, that is
12 noted, but am I right in thinking that those
13 optional routes were never analyzed?

14 A. We looked at the main access
15 routes to each of the zones.

16 Q. Am I right in thinking, and I
17 don't mean this in any disparaging way, Mr. MacLeod,
18 but the establishment of these primary haulage
19 routes was essentially a paper exercise? You sat
20 at your desk and looked at where the highways
21 and the arterial roads were and you mapped out
22 what you thought would be the logical routes?

23 A. At this stage we had available
24 plans in the region, and we used those plans to
25 map out the routes and then we drove the routes in



1 the field to make sure they were logical and made
2 sense and actually worked, and I recall that some
3 of the routes we identified required adjustments
4 because of our field review.

5 Q. Having established those
6 primary routes, you considered a number of factors
7 and those are set out at page 93, if I can find
8 page 93.

9 A. Yes.

10 Q. You are ahead of me. Is that
11 the beginning of your long list of tables?

12 A. Yes.

13 Q. So, taking the analysis to
14 this point, you established the primary routes as
15 you had indicated and then you considered each
16 route as it was impacted by these various factors,
17 A, B, C, D and E?

18 A. Yes, we looked at each zone
19 and looked at the routes that accessed each zone.

20 Q. Two of those factors, D and E,
21 related to possible disruptions of local traffic
22 and possible or potential vehicle-pedestrian
23 conflicts?

24 A. Yes.

25 Q. Once the impacts were assessed



1 as you set them out at table 27, and that is at
2 the end of your long collection of tables....

3 A. Yes.

4 Q. You gave various zones a rating
5 which went from either low or moderate or high?

6 A. Yes.

7 Q. In the notes you have on that
8 page, Mr. MacLeod, I take it those notes were
9 intended to be read and be of some assistance to
10 the reader of your report?

11 A. Yes.

12 Q. Is it fair for me to say that
13 with respect to zone 19, or where Site D is now
14 located, you were flagging what you perceived to
15 be a very positive feature from a transportation
16 viewpoint?

17 A. Yes.

18 Q. With respect to zone 6, where
19 Site F is located, you are actually expressing
20 a cautionary note?

21 A. There was a component of the
22 route that involved urban travel and we noted
23 that.

24 Q. That urban conflict potential,
25 I take it, related back to those two factors I



1 mentioned; that is the possible disruptions to local
2 traffic and the potential for vehicle-pedestrian
3 conflicts?

4 A. Generally, yes.

5 Q. The reader, of course, could
6 see that both areas are rated low?

7 A. Yes.

8 Q. He would also see that zone 19
9 has a positive feature noted and zone 6 has a
10 potentially negative one. I take it that at this
11 stage the zoning wouldn't shift, or you weren't
12 particularly interested in the range within that
13 particular zone?

14 A. No, it's just four broad
15 categories we looked at and we found no unacceptable,
16 so we are dealing with three, and the concern
17 relative to Plains Road and Brant Street was not a
18 serious one.

19 Q. Am I right in thinking that
20 transportation was not at this stage a significant
21 factor in the selection of candidate sites?

22 A. It was a factor, but I don't
23 recall its ranking. I think certainly the
24 hydrogeology at this point was the prime factor.

25 MR.HODGSON: I think Mr. Chairman,



1 that's a question that must be addressed to Mr. Walker.

2 MR. TZEKAS: I thought you were part
3 of this process including making input on trans-
4 portation features?

5 MR. HODGSON: Mr. MacLeod obviously is
6 part of the process, as his name is on the front of
7 the report and his data is inside it, but you are
8 going to have to ask Mr. MacLeod if he considered
9 that and I would think that would form the proper
10 basis of your question.

11 MR. TZEKAS: Q. Can you explain it
12 because I understood from your examination-in-chief
13 that you did have an active role?

14 A. At this point in the study I
15 supplied this information to Peter Walker for
16 incorporation into the overall.

17 Q. I take it by that answer you
18 are telling me you weren't part of the selection
19 process?

20 A. Not in this vein, no.

21 Q. May we go to Exhibit H-11,
22 please? This is the Consolidation Report for the
23 Phase 2, Stage 2B?

24 A. Yes, I have it.

25 Q. At page 118 of the report



1 you refer to two factors, safety and service?

2 A. Yes.

3 Q. I take it there was some change
4 in your thinking at this stage as to how the factors
5 should be dealt with?

6 A. We have always dealt with
7 the service and safety factors and it became apparent
8 at this point in the study that traffic safety was
9 by far the prime factor relative to transportation
10 and so we separated them out, but we felt that the
11 service aspect was a worthwhile consideration
12 relative to the haulage routes, so we kept it in
13 the analysis.

14 Q. In dealing with safety, am
15 I right in thinking that you looked at what you
16 called haulage route characteristics?

17 A. Yes.

18 Q. This included things such as
19 the frequency of entrances, road conditions and so
20 on?

21 A. Yes.

22 Q. Mr. MacLeod, why are these
23 factors important to any safety analysis?

24 A. Well, they can be used to
25 indicate potential for conflicts with other vehicles.



1 Q. I take it that is a transportation
2 expert's way or euphemism for potential for
3 accidents?

4 A. Some of these features contribute
5 to slower moving vehicles and when you get a mixture
6 of slow and faster vehicles, the potential for
7 conflict is high.

8 Q. You were looking at a series
9 of factors that measure or help evaluate potential
10 for accidents; is that correct?

11 A. General traffic safety, yes.

12 Q. To assist in this analysis,
13 various field inventories were prepared, I take it?

14 A. Yes.

15 Q. They included analysis of
16 grades and pavement widths and all sorts of things.
17 Now, I was really very surprised actually at
18 the effort that went into that at this stage in
19 the process. Am I right in thinking that it was
20 an effort on your part to quantify the potentials
21 for conflict in some objective way?

22 A. Yes.

23 Q. I think this is reflected as
24 well in the evaluation at page 138, if we could
25 turn to that, under the topic or heading Evaluation?



1 A. Yes, I have that page.

2 Q. I am looking at the second
3 sentence:

4 "Utilizing the data summarized in
5 Appendix M, each municipality was
6 separately assessed in terms of
7 transportating waste to each
8 candidate sub-area."

9 Now we are dealing with sub-areas,
10 and I take it the utilization of data summarized
11 were your field inventories?

12 A. Those charts that I showed.

13 Q. At page 39 of this report,
14 and I am sorry to have to bounce you back there,
15 but your methodology for ranking is explained.

16 MR.HODGSON: I am sorry, what page
17 was that?

18 THE WITNESS: I am lost.

19 MR. TZEKAS: Thirty-nine.

20 MR. HODGSON: I have Biophysical
21 Analysis.

22 MR. TZEKAS: So do I. Obviously my
23 notes are incorrect. It may be 139 I was referring to.
24 There is no specific quote that I am interested in,
25 Mr. MacLeod, but perhaps I could paraphrase what I



1 think you were doing and you can tell me if I
2 am right or wrong. There were a series of
3 qualitative ratings that were assigned numerical
4 scores, and that was part of the process as I
5 understood it?

6 A. That is from table 20 to table
7 21.

8 Q. So you had -- to backtrack a
9 little so we are clear, when you looked at the
10 field inventories you characterized a particular
11 section on a particular factor as having a good or
12 fair rating?

13 A. Yes.

14 Q. Then you gave each of those
15 ratings a number and those numbers are explained
16 at page 139?

17 A. What I did was look at the
18 route from each area municipality, the four in
19 total, to each sub-area and came up with a good,
20 fair, poor or unacceptable rating for each of
21 those and then used this point system to combine
22 those for a total region-wide.

23 Q. One more note of importance
24 I take it in this analysis is that all municipalities
25 were given an equal weighting?



1 A. At this point, yes, that is
2 correct.

3 Q. I interpreted this as a
4 continuation of your efforts to create some kind
5 of objective basis for your analysis, some kind
6 of statistical or quantitative basis for it?

7 A. What we were trying to do was
8 determine a ranking for each of the sub-areas that
9 we were considering and in order to rank them, I
10 developed this numerical method of trying to
11 discern differences -- I think it's forty-one areas
12 that we were dealing with.

13 Q. We see the results of your
14 efforts on tables 20 and 21?

15 A. Yes.

16 Q. They are located on pages 140
17 and 141. May I just use an example so we understand
18 the process. You looked at sub-area A1 and the
19 good ranking under the heading of Burlington, I
20 take it, would result in ten points being assigned?

21 A. Yes.

22 Q. To this particular sub-area
23 a fair rating would be a six and a poor would be
24 a two and, under Halton Hills, poor would also be
25 a two, so that particular sub-area would be given a



1 numerical rating of twenty?

2 A. That's right.

3 Q. Looking at the sub-areas where
4 the current sites are located, the D4g area is the area
5 that contains Site D?

6 A. That's correct.

7 Q. If I add correctly, that's
8 four times six, so you would give it a numerical
9 ranking of twenty-four?

10 A. Yes.

11 Q. With respect to the P1 area, where
12 Site F is located, the numerical ranking would be
13 twenty?

14 A. Yes.

15 Q. Though both of those were
16 labelled M or moderate?

17 A. Yes.

18 Q. I take it that that ranking
19 was set out at the bottom of page 141 and it
20 explains where your cut-off points were or where
21 your stratification points were?

22 A. True.

23 Q. One more note, Mr. MacLeod.
24 Some of these areas have the same point total?

25 A. Quite a few of them do, yes.



1 Q. I take it that you resolved
2 that in the way you described at the top of page 142,
3 and that is, if I look at that with you, you look
4 at the data you collected on the field inventories
5 and you determined relative rankings for sub-areas
6 with similar scores by looking at, for example,
7 routes with less stop conditions, lower entrance
8 densities, fewer railway level crossings and that
9 sort of thing?

10 A. Yes.

11 Q. Where there was a tie, you
12 took those sites and looked at your field inventory
13 notes, and I take it you went down that list of
14 factors contained in the field inventory notes and
15 you said this had more railway crossings and this
16 had more entrances and that kind of thing, and is
17 that the way the ties were broken?

18 A. Yes.

19 Q. Now, I have prepared a little
20 table using the information contained in your
21 report, but on table 21, the sub-areas are just
22 listed alphabetically, are they not?

23 A. Yes, they are.

24 Q. I have done a little report
25 which lists them according to their ranking and



1 perhaps I could distribute this and you could look
2 at it and tell me....

3 DR. KINGHAM: While he is distributing
4 that, perhaps you could help the Board understand
5 your mathematics here, Mr. MacLeod, because this
6 line of questioning led me to wonder about the
7 mathematics. Would it be the case that for table 20,
8 if an area had four goods, it would score forty
9 points?

10 THE WITNESS: Yes.

11 DR. KINGHAM: According to your
12 ranking, the impact would be very severe, and would
13 it not be the other way round on table 21 or have I
14 misunderstood what you are trying to tell us? The
15 higher the number from table 20....

16 THE WITNESS: Oh, yes. What we did
17 was the scoring was used to develop a ranking and
18 then the lower rankings, rankings of one to seven,
19 in other words the ones that scored the best.....

20 DR.KINGHAM: It's an inverse that's
21 brought in here and it's not straight?

22 THE WITNESS: Yes.

23 MR. TZEKAS: I think that shows on
24 the chart I had prepared, because I had some
25 difficulty with it myself and I think that's the



1 reason why this chart is useful.

2 THE WITNESS: The whole thing was geared
3 to developing a ranking.

4 MR. TZEKAS: Q. Could I ask you to
5 put this on the overhead projector. That is a copy
6 of what I submitted. Just to take you through
7 this so you understand what I did, the column to
8 the left is where I listed the sites, but I did not
9 do so alphabetically as you did, and then in the
10 second column I set out the rankings from 31 to 1
11 and, as you can see from the third column, the
12 rankings are inverse order to the various scores.
13 I take it the lower a site's score was, the more
14 severe its transportation impacts?

15 A. Yes.

16 Q. In the final column we have
17 your level of impact and I have drawn lines to
18 distinguish between the severe, high, moderate
19 and low ratings. May I ask you first of all about
20 what I think is an anomaly on the chart, and it
21 may just be a small error, but Site B4.

22 A. I noticed that, I have it
23 scored as twenty.

24 Q. When I added it up, it seemed
25 to be a series of fairs and I guess it was similar



1 to the Site D area and I had it added up as twenty-
2 four.

3 A. On table 20 it's twenty-four
4 and I summarized our scores from our working papers
5 and it scored twenty, so it could be just a typing
6 error there.

7 Q. If in fact it is a twenty-four
8 and if the typing error is that way, I take it B4
9 would move down on the list of thirty-one sites?

10 A. I have it as a twenty.

11 Q. I will leave it at twenty then.
12 I would then ask you to look at the sites that did
13 score twenty and that includes the P1 site; do you
14 see that?

15 A. Yes.

16 Q. You also see that those areas
17 that had a twenty score, if we now include the
18 four, some of those were given a high ranking and
19 some of them were given a moderate ranking and so
20 the rankings came mid-way in that class or went
21 through that class?

22 A. Yes.

23 Q. I take it you stratified
24 those particular groups by looking at the field
25 studies you did for each of those?



1 A. We were trying to, yes.

2 Q. And the process is the one we
3 discussed at page 142, comparing numbers of railway
4 crossings and that kind of thing?

5 A. Yes.

6 Q. Then I would like to ask you to
7 look with me at the area of P1 and compare it to
8 the one you have ranked highest within that group,
9 the El.a area. I have taken from Exhibit 68, H-68
10 Schedule 15, photocopies of your inventory notes and
11 perhaps you can confirm that that is a copy of the
12 inventory note for the P1 area?

13 A. Yes.

14 Q. Is this a copy of the note for...

15 A. El.a, yes.

16 MR. TZEKAS: While I am distributing
17 this, may I ask that the last chart we have been
18 discussing be entered as an exhibit.

19 THE CHAIRMAN: B-146.

20 --- EXHIBIT No. B-146: Summary of Table
21 20 and 21 from
22 Exhibit H-11.

23 MR. TZEKAS: Q. Okay. I think I
24 am all set. We are looking at sub-area P1 and
25 trying to compare it with sub-area El.a. Now, as



1 I understand the process, Mr. MacLeod, because you
2 rank each of these areas or give it equal weight,
3 what we should be doing in each category is adding
4 up the various scores?

5 A. Yes.

6 Q. So we produce a total. Under
7 travel time for area P1, I have a total score of
8 127 and all of this is subject to my arithmetic
9 errors, but to save some time, perhaps you could
10 just assume that that number is correct?

11 A. You are adding travel times?

12 Q. Yes, 10, 22, 41 and 54. I am
13 going left to right across the first column.

14 A. Okay.

15 Q. The total travel time to the
16 P1 sub-area, as I understand it from looking at all
17 these four areas, was 127?

18 A. Okay.

19 Q. Approximately, and always subject
20 to my mathematics?

21 A. Okay.

22 Q. If I look across at the E1.a
23 sub-area and do the same analysis, I get 105?

24 A. Okay.

25 Q. Am I right in thinking....



1 MRS. TANNER: Are we supposed to have
2 another sheet for El.a?

3 THE WITNESS: I have two sheets.

4 MR. TZEKAS: I am sorry. Pardon me.

5 MR. HODGSON: Where did this come from?

6 MR. TZEKAS: H-68 and for the record
7 that is the appendices to the Phase 2 Stage 2B
8 process, Appendix M, and I think it is the appendix
9 referred to in the report where you say "utilizing
10 the data summarized in Appendix M," and this is the
11 same appendix?

12 THE WITNESS: Yes.

13 MR. TZEKAS: Q. So, just looking at
14 Pl and sub-area El.a, looking at the travel time, I
15 get by adding those various scores that sub-area Pl
16 has a greater travel time component than El.a?

17 MRS. TANNER: And the total was....

18 MR. TZEKAS: 105 as opposed to 127.

19 Q. Am I right in thinking that
20 following the procedure which you set out and
21 describe on page 142, that that would, for that
22 category, make E a preferred site from a transportation
23 point of view?

24 A. No, no. We didn't sum the travel
25 times. We looked at each of those categories from



1 each of the municipalities and realizing that the
2 Burlington and Oakville areas were by far the major
3 distributors, we tried to balance the data in that
4 respect. Although P1 had overall greater travel
5 times, the Burlington and Oakville numbers were quite....

6 Q. May I take you back to page 139
7 please, in the report?

8 A. Yes.

9 Q. In trying to understand this
10 analysis I was careful to ask you whether each of
11 these sites was given or each of the municipalities
12 was given an equal rating in your report, and in
13 your testimony a few moments ago you said to me that
14 for the purposes of this analysis they were?

15 A. Yes, and to go from table 20
16 to the ranking on table 21.

17 Q. Right, but that ranking in
18 this particular case, we have a class of areas that
19 all have the score?

20 A. That is correct.

21 Q. In order to break that tie, I
22 asked you whether you went through the process out-
23 lined at page 142 and whether you compared site to
24 site on the basis of these various factors set out
25 in your inventory list?



1 A. When there was a similar score,
2 we did go to these sheets, yes, and we looked at
3 what the data was telling us and we tried to juggle
4 the numbers and rationalize what was happening with
5 each zone. We didn't add all these numbers together.

6 Q. I take it that that additional
7 step you are now describing is something that is not
8 part of the text of your report and so a reader
9 reading this wouldn't know that?

10 A. I don't believe I explained the
11 procedure of going between the ranking or developing
12 the ranking of the scores that were the same.

11B

13 Q. Now, given that, Mr. MacLeod, I
14 will speed through this process, but would you
15 agree with me....

16 A. I'm sorry to interrupt, but
17 it's generally described on page 142 when there was
18 a tie.

19 Q. I took it that that description,
20 based on all the assumptions which preceeded it,
21 you looked at the two sites as I am doing with you
22 now and you looked at things such as entrance
23 densities, stop conditions, time travelled, distance,
24 and you compared them?

25 A. That's right, yes.



1 Q. What you are saying is that
2 after that comparison you injected a subjective
3 element and you tried to bring back into the
4 weighting the fact that waste is being generated
5 from the southern portion of this region?

6 A. I think we looked at what was
7 happening and if areas were tied and tried to
8 focus on what are the differences and what are the
9 things that would separate those sites. We used
10 each of those pages for those particular sites and
11 just utilized them.

12 Q. At this stage, Mr. MacLeod,
13 was there any portion in your report that tried to
14 relate the analysis to the volumes of trips to and
15 from each zone? I thought what you were doing was
16 simply looking at a generation point, taking it to
17 a sub-area and analyzing the route and I didn't
18 think this was an attempt to inject into the analysis
19 some kind of factoring based on the actual quantum of
20 generation?

21 A. That was a general consideration
22 when we were developing the rankings.

23 Q. Where is that set out in this
24 report?

25 A. We indicate that if the scores



1 were similar, then we utilized this data and that
2 is just one of the considerations behind utilizing
3 the data.

4 Q. I hear what you are saying and
5 I can speed through this. Can you look quickly please
6 at the data for P1 and E1. Would you confirm for
7 me, if you would, that for every category on that
8 page with the exception of entrance density, and
9 I didn't have the courage to try and compare it,
10 but E1.a is the preferred or would be the preferred
11 area from a transportation point of view?

12 A. Again it would depend upon how
13 you put this data together and I think that that's
14 where we differ.

15 Q. If you put it together as I
16 thought you were putting it together when I read
17 your report, and that was comparing the various
18 categories, each category would score higher on
19 E1.a than it would on P1?

20 A. Based on your method of
21 combining this data.

22 Q. I would like to test my method
23 out on another area which seemed -- actually I
24 thought it might have a higher rating after we
25 moved B4 down, but you say B4 should be where it is



1 so I won't go through this analysis. The
2 significance of all of this; do I understand
3 correctly that for those sub-areas that you gave
4 a high ranking to or a high level of impact to,
5 and that includes the one we have just talked about,
6 the El.a area, that those particular candidate sites
7 were excluded from further consideration?

8 A. No.

9 Q. May I read you please page 151
10 of Exhibit H-11?

11 A. Page 151?

12 Q. 151 of Exhibit H-11 and I am now
13 in that section of the report that deals with the
14 selection of candidate sites, and I take it it is
15 this process that got us down to the six candidate
16 sites, Mr. MacLeod?

17 A. Oh yes, okay.

18 Q. I am reading the second last
19 paragraph on the page and it reads as follows:

20 "The second sub-factor in Category A...."
21 and I think that is public health and safety?

22 A. Yes.

23 Q. ".... Traffic Service and
24 Safety, was applied in order to
25 reject candidate sub-areas with



1 'severe' or 'high' impact ratings.

2 As a result, several of the smaller
3 potential multi-sites were dropped as well
4 as candidate sub-areas..."

5 and the areas are listed and you will see there
6 we have area El.a?

7 A. Yes.

8 Q. That is the area we just
9 discussed, and I took from that paragraph the reason
10 it was rejected was because you had given it a high
11 level of impact?

12 A. That was the reason during
13 the evaluation that it was rejected, and I did not
14 suggest in my analysis that because of that factor
15 only it had to go in.

16 Q. I appreciate that and I apologise
17 if I was misleading. The only point I was making was
18 having done your analysis and having given it to the
19 selection team, whoever was responsible for doing
20 this, they seemed to, based on what I just read,
21 they seemed to eliminate areas to which you had
22 given a high ranking?

23 A. Yes.

24 Q. Now, can we then get to the Stage
25 2C part of the process, and I would like to refer to



1 Exhibit H-31. The page I am interested in, Mr.
2 MacLeod, is page 4-2.

3 A. Yes.

4 Q. You speak of existing arrival
5 and weight statistics. I take it that the basis
6 of your analysis at this stage was the year 1983?

7 A. Yes.

8 Q. Am I correct in thinking that
9 you looked at the 1983 statistics and developed
10 from those vehicle and weight relationships?

11 A. That's right.

12 Q. Based on those vehicle and
13 weight relationships you developed tables 7 and 8?

14 A. Yes.

15 Q. Those tables follow a few
16 pages on. Just so I can understand these tables,
17 because I am not sure I always do, but could you
18 please explain how the number of haulage vehicle
19 trips per day was determined for each zone?

20 A. We had table 6 supplied to us
21 from C.N. Watson which gave a split of the Region's
22 wastes into the ten zones we were dealing with, and
23 we took that same split to represent the split in
24 the total numbers of arrivals, the same percentage
25 from each zone.



1 Q. You took Mr. Watson's total
2 waste figures, and I take it you divided that by
3 the average truck capacity to get a number of trips.
4 Is that the way the thing worked?

5 A. In essence it worked that way,
6 yes. We arrived at a total number of vehicles we
7 would expect to go to the site in those years and
8 we used the percentage of waste generated by each
9 zone as the same percentage of the number of vehicles
10 generated by each zone.

11 Q. This was one of those pieces
12 of information I earlier suggested you were relying
13 on Mr. Watson for, and I take it this was something
14 specific that came to you from him?

15 A. Yes, the waste quantities,
16 certainly.

17 Q. In order to establish an average
18 truck capacity, what did you do?

19 A. We simply looked at the
20 relationship between the numbers of vehicles
21 arriving on any day or on a critical day and the
22 total number for waste.

23 Q. I see. The number of vehicles
24 arriving on any particular day, I take it, would
25 include more than just big trucks but pick-ups....



1 A. All kinds of vehicles, yes.

2 Q. In order to get at this final
3 figure, you took all the vehicles coming in and
4 divided it into the total waste?

5 A. We got an average, an average
6 number for all the vehicles that delivered waste.

7 Q. I think I understand it now.
8 Can I turn you to the time and distances section
9 which is Section 5 at page 5-2, if I can find page
10 5-2.

11 A. 5-2?

12 Q. It comes after table 8.

13 A. Yes.

14 Q. Here you describe the development
15 of something called a service and operations index?

16 A. Yes.

17 Q. Would I be correct in
18 characterizing this as another effort on your part
19 to quantify or measure the various factors that
20 might impact on driver convenience?

21 A. We are trying to get a relative
22 indication of service to haulers.

23 Q. Could I then refer you to the
24 results of that particular process in table 13 and
25 it precedes page 6-1?



1 A. Yes.

2 Q. You are ahead of me. I have
3 that now. As I understood it, the higher the number
4 shown on that page, the poorer the rating that that
5 particular site had from a transportation perspective?

6 A. We set the lowest number at
7 one and then the other numbers are a percentage
8 greater than that, yes.

9 Q. Just looking at Sites D and F
10 on that particular page, as I read the table, D seems
11 to be better than F, both with respect to the time
12 and the distance index?

13 A. Yes. I don't think the
14 difference is very significant, but F is higher.

15 Q. I will talk to you about the
16 difference in just a moment, but am I also right
17 in thinking that the difference between these two
18 sites becomes more pronounced with the passage of
19 time?

20 A. Yes, in 2008, the differences
21 are slightly greater.

22 Q. By my rough calculations, and
23 I am not asking you to agree with these specifically,
24 but does it appear that with respect to the time
25 index that Site F is approximately 5 per cent poorer



1 and with respect to the distance index, approximately
2 8 per cent poorer than Site D?

3 A. Yes, it is a low figure, but
4 in that range.

5 Q. Does this mean, if I understand
6 this correctly, that the selection of Site F would
7 result in longer and lengthier trips on average?

8 A. Yes, marginally longer.

9 Q. As a general principle, Mr.
10 MacLeod, can we agree that longer, lengthier
11 trips would probably have a more severe impact on
12 environmental factors than shorter, quicker trips?

13 A. No, I don't think so. It
14 would depend upon where those trips are and what
15 roads they use.

16 Q. I understood in this particular
17 analysis the various roads you were using were selected
18 on the basis of their ability to facilitate this
19 kind of haulage?

20 A. Yes, but there are differences
21 in the routes.

22 Q. All right. Those differences
23 get injected at this point in the process?

24 A. We were looking at this as not
25 an environmental measure or impact, it was directed



1 specifically at looking at the kind of service
2 these routes would offer to drivers; how quick
3 the routes and how convenient they were to use and
4 how direct they were.

5 Q. Is cost a factor in this analysis
6 and when you speak of driver convenience, do you
7 also look to the costs that might be incurred by
8 drivers in making these routes?

9 A. No, not in the transportation
10 system.

11 Q. Let me put one more proposition
12 to you. As a general rule, would you agree with me
13 that someone who has to drive a longer distance has
14 to be on the road for a longer period of time and
15 is more subject to potential for accidents?

16 A. Again I would say it depends
17 on the road travelled.

18 Q. I take it you would make the
19 same comments to me on this issue as you did on
20 the others, your selection of roadways didn't
21 completely obliterate the differences that exist
22 between the routes, the haul routes?

23 A. No.

24 Q. Could I look to the chart at
25 page 5-3, please, and that is the ranking you gave.



1 A. Yes, I have it.

2 Q. The ranking you gave to these
3 various sites. Am I right in thinking that with
4 respect to this one factor, or at least this one
5 element of your factor, whichever you prefer,
6 Site D is clearly preferred in your opinion?

7 A. I think I mentioned in the text
8 that I don't consider these differences that
9 significant, and certainly Site D comes out better
10 than Site F, it's a 5 to 8 per cent using your
11 number, and that's fairly marginal, fairly marginal
12 an increase.

13 Q. In this report you go on to deal
14 with the issue of safety and I would like to contrast
15 your approach on that issue with what we have just
16 been talking about and that is the issue of driver
17 convenience or service, as you call it.

18 Am I right in thinking that, first
19 of all you recognise, and I will refer you to page
20 6-2, but you recognised that there would be possible
21 impacts to your study from any deviation from your
22 main haulage routes, or there might be. I am looking...

23 A. I indicated that there will be
24 trips, and not all the trips will utilize the routes
25 I have identified and there are bound to be variations.



1 Q. The quote I would like to read
2 to you is from the last sentence of that particular
3 paragraph, the second paragraph:

4 "With any of the six Site Plan Areas,
5 the use of alternatives to the
6 identified main haulage route could
7 place truck traffic on roads with
8 greater potential vehicle and
9 pedestrian conflicts...."

10 A. Yes.

11 Q. Am I right in thinking that of
12 the sites that had this potential to be impacted in
13 this way, the one you thought had the greatest
14 potential was Site F?

15 A. I think so, in general, and those
16 were concerns that were expressed at this level,
17 particularly as it related to Brant Street. However,
18 we looked further into that and did not really
19 identify it, that concern.

20 Q. Is that confirmed by the very
21 first sentence of that paragraph?

22 A. Yes, where we mentioned Site F,
23 yes.

24 Q. One of the mitigating factors
25 to the use of other routes was your suggestion that



1 there would be a relatively low number of trucks
2 using these other routes and therefore the
3 alternatives were not considered to be very
4 significant in your process?

5 A. Yes.

6 Q. Can I assume from that that
7 if it could be shown that a relatively high number
8 or a relatively high percentage of trucks were using
9 the so-called alternative route, this might in fact
10 impact on an analysis such as yours?

11 A. Relative to Site F, we looked
12 at the use of Brant Street to the north by trucks.
13 We talked to haulers and discussed with them what
14 their routings were. We didn't see any problems
15 related to what is occurring presently on Brant
16 Street, which would be similar to the conditions
17 after the establishment of Site F, if that is
18 selected. So, if there is a component on an optional
19 route, you have to look at that route in detail and
20 assess it.

21 Q. I didn't at this stage, just
22 reading the text, I didn't get the impression that
23 that is what you are doing. I was looking at the
24 final sentence on that page where you make the
25 statement:



1 "However, the majority of haulage
2 trucks accessing each Site, will
3 utilize the identified main haulage
4 routes and the relatively low numbers
5 of trucks on other possible routes,
6 although potentially a concern, are
7 not considered significant enough
8 to increase traffic or pedestrian
9 conflicts."

10 A. Yes.

11 Q. I took it your general point
12 at this stage was I have got my main routes
13 established, I recognise there may be others and
14 potentially more for Site F than any of the other
15 sites, but that number is relatively low and
16 therefore not of significance?

17 A. Or the route is insensitive to
18 the numbers.

19 Q. Now, in light of the detailed
20 work that was done at the earlier stage, Mr. MacLeod,
21 and I am thinking of the inventories prepared for
22 each of the various routes, I was surprised that
23 there was no similar information at this stage of
24 the report. Is there any reason for your decision
25 not to attempt an inventory of the routes at this



1 stage?

2 A. Well, we were concentrating on
3 the routes we had identified and we were looking at
4 what factors would play in a comparative assessment
5 and so we were looking at general road conditions,
6 the types of roads that were used and the detailed
7 inventory was not considered warranted.

8 Q. Just to summarize, am I fair
9 in characterizing the assessment that you did on the
10 traffic and service and operations component of this
11 study as essentially being an objective, quantitative
12 analysis and what you did on safety issues was
13 essentially subjective and qualitative?

14 A. I would say so. The fact that
15 we generated numbers for the service index I don't
16 think makes it totally objective as it still must
17 be considered in a subjective sense, although we
18 were reacting to numbers in this case.

19 Q. Am I also right in thinking
20 that having done your qualitative analysis on the
21 safety component of this issue, you came to the
22 conclusion there was no distinction between Sites
23 D and F?

24 A. That is correct.

25 Q. On safety?



1 A. Yes.

2 Q. In that case, Mr. MacLeod,
3 why wouldn't the difference between the sites on
4 the service and operation components have led you
5 to prefer Site D?

6 A. Those differences were very
7 slight and I didn't think there was enough to sway
8 one in favour of the other.

9 MR. TZEKAS: Mr. Chairman, if the
10 Board is planning a morning break, this would be
11 a convenient time.

12 THE CHAIRMAN: All right, you have
13 persuaded us. Fifteen minutes.

14
15 --- Recess

16
17 THE CHAIRMAN: Thank you, please
18 be seated. Mr. Tzekas.

19 MR. TZEKAS: Mr. Chairman, Mr. Hodgson
20 seems to be lost.

21 MR. LEITCH: Maybe he fell in this
22 time.

23 MR. HODGSON: I am sorry, Mr. Chairman.

24 MR. TZEKAS: Q. Mr. MacLeod, I would
25 like to continue with the report you prepared and



1 which we were looking at at the break, the Stage 2C
2 report?

3 A. Yes.

4 Q. I would like to refer to a
5 comment made on page 6-8 of that report?

6 A. Yes.

7 Q. Under Site F, you looked to
8 what various features of imposing a landfill site at this
9 location are and one of the points you make is that
10 it maintains the general existing haulage truck routing,
11 creating the least amount of change to existing
12 conditions?

13 A. Yes.

14 Q. Just to jump ahead for one
15 minute, that specific little comment is one that
16 is actually referred to or listed in Exhibit H-13,
17 the evaluation and summary report, as one of the
18 advantages of preferring Site F over Site D and
19 the reference there is to table 5, which is found
20 between pages 19 and 20. Can we look at that
21 just for a moment, if you could turn to that?

22 A. Which report?

23 Q. The evaluation and summary
24 report, Exhibit H-13, and between pages -- I am
25 sorry, it may be between pages 18 and 19. There is



1 a table titled Table 5, The Effects of Selecting
2 Site F in Preference to Site D.

3 MRS. TANNER: What document and page
4 are you on?

5 MR. TZEKAS: H-13, The Evaluation
6 and Summary Report, and the table I am referring to
7 is Table 5 and it precedes what I think is page 19.

8 THE WITNESS: Yes, I have it.

9 MR. TZEKAS: Perhaps we could give
10 the Board a moment to find it.

11 Q. I understood this particular
12 table, Mr. MacLeod, as being an attempt to summarize
13 the differences that might exist between Sites D
14 and F and under traffic safety there are advantages
15 listed and I read that chart as meaning advantages
16 in the selection of Site F in preference.....

17 A. Over Site D.

18 Q. The second factor is Site F
19 creates the least amount of change to the existing
20 haulage route trucking. That is obviously something
21 that the study team or the evaluators took into
22 account when weighing these various sites under
23 the transportation component?

24 A. Yes.

25 Q. Now, I had understood that the



1 purpose of your particular exercise, Mr. MacLeod,
2 was to assess the changes that are likely to occur
3 on the Region's road network as a result of this
4 proposal. Is that a fair statement or a fair
5 summary?

6 A. It's to look at traffic safety
7 changes as a result of any one of the sites.

8 Q. In order to do that, I take it
9 your focus was the impact that either of these
10 sites would have on the road network during the
11 anticipated life of the landfill operation?

12 A. Yes.

13 Q. During that time, Mr. MacLeod,
14 wouldn't the existing site have been closed?

15 A. Yes.

16 Q. Is it fair for me to assume
17 at least some of the residents in this area might
18 have an expectation that the level of truck traffic
19 would actually be reduced when that event happened?

20 A. Yes, it would, if the site
21 was no longer there.

22 Q. If you are trying to compare
23 these sites by focusing on the future, the timeframe
24 when this new landfill operation was in effect,
25 wouldn't it be fair or wouldn't it have been fairer



1 to assess the sites by accepting the reality that
2 the existing site will be closed during this period?

3 A. Yes, and I think we did that
4 throughout our report. This comment pertains to the
5 fact there is an existing site adjacent to the
6 proposed Site F and the truck haulage characteristics
7 are established for that area and so they are somewhat
8 of a known quantity and so it is an area that is
9 right now presently subjected to truck traffic.

10 Q. That truck traffic would cease,
11 would you agree with me, during the period that
12 you were considering?

13 A. Yes.

14 Q. If it's not there during that
15 period, what is the fairness of injecting it into
16 your analysis?

17 MR.HODGSON: Can we establish whose
18 analysis appears in table 5?

19 MR. TZEKAS: Q. The analysis in
20 table 5 is the selection team's, as I understand it,
21 and it's based on the comment Mr. MacLeod makes
22 on page 6-8 of his report, Exhibit H-31. Now, I
23 take it, Mr. MacLeod, that it was not a part of
24 your function to actually study or assess the
25 specific impacts and characteristics of the existing



1 site and its haulage routes?

2 A. We did talk to haulers about
3 the operation of the existing site and we looked at
4 conditions in the vicinity of the existing site and
5 accidents and the conflicts that would be occurring.

6 Q. Yes. I understood that exercise
7 as really being a way of testing or confirming your
8 own conclusions. It wasn't intended as a specific
9 study of the existing site?

10 A. No. I think the nature of this
11 comment is such that when you are dealing with
12 items that potentially may affect traffic safety,
13 and we are looking at entrances and pedestrian activities
14 and land use, the statement meant to suggest that
15 the existing site is there and the high levels of
16 trucks are already in existence and it's something
17 that has to be kept in the background in a
18 consideration of Site F, but there are no serious
19 problems and we had not found any serious problems
20 in relation to its existing conditions. We tried
21 to divorce ourselves from that when we were generating
22 numbers and things, per cent change.

23 Q. Let's talk about the generation
24 of numbers, specifically the generation of traffic
25 counts. In doing your particular analysis for the



1 period of the proposed site, did you try and factor
2 out from your traffic counts the impact the existing
3 site might have?

4 A. No.

5 Q. You speak there about maintaining
6 existing conditions. Now, I take it, sir, that if
7 it were to be determined that the existing conditions
8 were something that were not worth preserving, that
9 is actually a factor that would work the other way?

10 A. I don't understand.

11 Q. You seem to suggest there is
12 something positive to maintaining the existing
13 conditions?

14 A. No. That addresses change to
15 what is occurring at the present time in terms of
16 with Site F, the change that would be perceived
17 locally would be slight or lower than the other site.

18 Q. I see. Do you think, and you
19 may or may not be able to answer this, but do you
20 know whether it was that perspective that the
21 selection study team was incorporating by their
22 comment?

23 A. I don't know that.

24 Q. Now, if an existing condition
25 involved travelling over a dangerous stretch of



1 roadway, I take it you would agree with me that there
2 would be every reason to try to eliminate that
3 condition from a traffic point of view?

4 A. Yes, in that case.

5 Q. Is it fair as we go through
6 this analysis, to remember that if Site D is in
7 fact selected as the preferred site, that this will
8 have the effect of ridding this particular area,
9 the area around Site F, of this kind of haulage
10 traffic at the close of the existing operation?

11 A. Yes.

12 Q. Can I now refer you to the
13 technical reports for Sites D and F. What I would
14 like to do is just deal with these two reports, so
15 if you could have both of them in front of you?

16 A. I do.

17 Q. I would like to deal with them
18 on an issue-by-issue basis. First of all, looking
19 at the report for Site D at page 61?

20 A. Yes.

21 Q. Mention is made of the fact
22 that schools have routed their transportation
23 vehicles along this stretch of highway and that is
24 Highway 25?

25 A. Yes.



1 Q. For the purpose of collecting and
2 dropping off students. I take it that this was a
3 factor which in your view distinguished Site D in
4 some way from Site F?

5 A. I think the bottom line on the
6 school bus routes is that the transportation officers
7 with both of the school boards expressed no concern
8 regarding either of the sites. This was just a
9 summary of conditions.

10 Q. If it could be shown that there
11 were in fact bus routes along Brant Street in that
12 critical section you were describing, I take it that
13 wouldn't influence your assessment?

14 A. Well, it would depend upon
15 the extent of what was happening.

16 Q. I can accept that, so it might
17 influence the balance?

18 A. Perhaps. In this case it
19 doesn't seem to be that much of a concern to the
20 school boards themselves. The school bus routes are
21 changing constantly as students move in and out
22 of the area and they are not fixed in time.

23 Q. That is one thing I was going
24 to speak to you about because I compared that
25 situation to what exists with respect to Site F



1 and the descriptions there are at pages 58, 59 and 60
2 of the Site F report. It's a rather long section
3 describing the school situation and that was one of
4 the points I was interested in. I do understand
5 that bus routes change and I guess, as a traffic
6 consultant, that is something you would be aware of
7 since you are obviously concerned about where these
8 things happen to be from time to time, but do I
9 understand correctly that in the vicinity of
10 Site F, there are actually schools located on the
11 east side of Brant Street?

12 A. Yes.

13 Q. And the residential population
14 and the anticipated growth in that area is to the
15 west of Brant?

16 A. I don't know where the split
17 is in terms of the number of students walking to
18 the schools, but there is a fair movement from the
19 west side of Brant to the east side.

20 Q. My question was taken from this
21 comment you made at page 59 of the Site F report,
22 and I am quoting from the last sentence from the
23 middle paragraph, or perhaps to go back a little
24 earlier where you talk about much of the development
25 on the east side of Brant Street having been in



1 existence and the number of public school-aged
2 children is likely relatively low and you talk about
3 the west side and you say:

4 "In addition, the area to the west
5 of Brant Street has a number of higher
6 density multi-unit developments and
7 the area therefore likely has many
8 young families with public school-
9 aged children."

10 Do I also understand that in addition
11 to the schools being located on the east side of
12 Brant Street, that the east side of Brant Street
13 contains as well the commercial development, the
14 little stores that might attract people and require
15 them to cross the street?

16 A. I think generally it does,
17 but I am not certain as to the east-west split,
18 but, as I recall, there is a bit more activity on
19 the east side.

20 Q. One of the mitigating factors
21 you mentioned in the report to deal with this
22 situation is the fact that there are crossing
23 guards at various locations up and down Brant Street?

24 A. Again they are signalized
25 intersctions.



1 Q. Did you do a study, Mr. MacLeod,
2 to determine how long or during what hours those
3 crosswalks were manned by guards?

4 A. We talked to the school boards
5 and, as I recall, they are manned in the morning,
6 at noon and in the late afternoon when students
7 would be returning or going to school.

8 Q. Do you know who has jurisdiction
9 over the crossing guards and who actually pays them?

10 A. I believe it's the city.

11 Q. Would you know from your
12 discussions, Mr. MacLeod, as to whether or not
13 guards would be there either in the evenings or on
14 Saturdays or during the summertime?

15 A. I don't know that.

16 Q. May I then deal with you and
17 deal with one thing you said yesterday about Site D,
18 and that relates to again a permanent situation, a
19 school building as opposed to a bus route. You
20 indicated there was a school, I believe it was at
21 the hamlet of Palermo?

22 A. Yes.

23 Q. Can you tell me where that
24 building is located?

25 A. As I recall, it is located



1 east of Highway 25 and south of Dundas Street.

2 Q. Do you know if that building
3 is still being used as a school?

4 A. I'm not certain of that.

5 Q. If it were not, would it be
6 something that might affect your analysis?

7 A. I think the issue of the school
8 activity was not a major item.

9 Q. Well, let's look at accidents
10 now, which I take it is something of concern. Just
11 to give us some perspective on this, Mr. MacLeod,
12 am I right in thinking that in the earlier reports,
13 the Stage 2B reports, what you were considering were
14 the factors that might potentially create or cause
15 accidents?

16 A. Yes.

17 Q. And in this report you actually
18 list the number of accidents?

19 A. That's right.

20 Q. We have moved from the factors
21 to the actual events. The description of the
22 accidents that occur in the proximity of Site D,
23 at least those you analyzed, appear at page 62
24 of that report, the Technical Studies report?

25 A. Yes, I have that.



1 Q. We see there a total of nineteen
2 accidents?

3 A. Yes.

4 Q. I tried to find in the accident
5 reports something which would tell me whether
6 trucks were involved in those accidents. Is it
7 possible for me to determine that?

8 A. The particular summary that
9 appears there, no, it does not include the indication
10 of trucks.

11 Q. But we do know that 40 per cent
12 of these accident occurred at night and I take it
13 it is reasonable to assume from that that haulage
14 trucks were not involved?

15 A. Yes. I would make that
16 assumption.

17 Q. All right. Now, let's compare
18 that to Site F for a moment. The reference there
19 is to page 60 of the Site F report?

20 A. Yes.

21 Q. In the middle paragraph it
22 says:

23 "A summary of all accident records is
24 contained in Appendix C. On Brant
25 Street, a total of 235 accidents



1 occurred during this time period."

2 I take it the reference to Brant
3 Street there does not include that little strip of
4 the North Service Road because I did see some
5 accident reports relating to that?

6 A. That's right. This section of
7 the report is dealing specifically with Brant.

8 Q. There were other accidents on
9 the North Service Road and the summary of vehicle
10 accident reports lists that in the very first
11 column where it says Roadways Analyzed?

12 A. Yes.

13 Q. Of these, we do know that there
14 were a number that involved large trucks?

15 A. Yes.

16 Q. Five of them?

17 A. Yes.

18 Q. And twenty-three involved
19 small trucks?

20 A. Yes.

21 Q. I think you said yesterday
22 that there was no known connection between those
23 particular accidents and haulage trucks?

24 A. I couldn't find a direct
25 relationship.



1 Q. You couldn't find a direct
2 relationship. Do you know, Mr. MacLeod, and did you
3 investigate whether any of these accidents in fact
4 involved haulage trucks or is this something that
5 wasn't apparent to you from what you did?

6 A. We looked at the actual police
7 records and they don't in all cases record the
8 type of trip or the specifics of the vehicle and in
9 most cases they are just checking a box, large
10 truck, and so you don't really know.

11 Q. I remember those reports because
12 I used to do that kind of thing. You will agree
13 with me that there are many, many cases when looking
14 at accident reports, you would not be able to tell
15 what kind of truck was involved and where it was
16 going and really the purpose of its trip?

17 A. That's right.

18 Q. You also said yesterday when
19 these absolute numbers were put to you that from
20 a traffic expert's point of view, it was dangerous
21 to do so because there were different stretches of
22 roadway involved, different distances and different
23 traffic volumes?

24 A. I think the main one is the
25 different lengths of road looked at is quite small.



1 Q. Could you scale off for me the
2 length of Brant Street you were looking at in this
3 report and compare it to the length of roadway that
4 was being considered at Site D?

5 A. Well D looked at the section
6 between Britannia and Lower Baseline and the Brant
7 Street accidents were in the area of Plains Road
8 down here to Dundas Street, and so I don't know, a
9 third more?

10 Q. One-third more?

11 A. Approximately.

12 Q. Is it possible by looking at
13 that map to scale off and can you tell me what
14 that critical difference in roadway length was?

15 A. If I can get a scale I can do
16 that.

17 Q. We are all of us without our
18 scales. While we are waiting for that, Mr. Ramsay
19 indicates he will get one. While we are waiting
20 for that, am I right in thinking, Mr. MacLeod, that
21 these differences in roadways and the number of
22 vehicles and so on can all be distilled, or the
23 differences can be eliminated by looking at what
24 traffic experts call the accident rate of a
25 particular strip of roadway?

A. An accident rate is an



1 indication of a general accident level, and I think
2 you can get into difficulties using it.

3 Q. Sure, but I take it that is
4 why you as an expert in this area also look at not
5 only the accidents that do occur, but the potential
6 for accidents that exist because of road conditions
7 and so on?

8 A. Yes.

9 Q. Is it fair to say that by
10 looking at the accident rate, it gives you one way
11 or one handle on comparing one strip of roadway
12 with another?

13 A. I think you can generalize
14 that in urban areas you would expect the accident
15 rate to be higher than in rural areas, such as
16 Highway 25.

17 Q. Just to make sure I have
18 this point -- before I get into that, let's see
19 if we can scale this off.

12A

20 A. The Brant Street section is
21 about four miles.

22 Q. Okay.

23 A. And the other is about three
24 miles.

25 Q. You may be high in your estimate



1 on Brant Street, as I don't think it's four miles.

2 I am prepared to accept three miles.

3 A. That is what it scales.

4 Q. It may be you are looking at
5 a longer area on Brant Street. Now, once an
6 accident rate is established, I will ask you for
7 the purposes of this series of questions to assume
8 that the accident rate along Brant Street is a
9 significant amount, is significantly higher than
10 the accident rate on Highway 25. Just make that
11 assumption for the moment.

12 A. I don't know if I agree with
13 it, the significance of it.

14 Q. You have nineteen accidents
15 over a three-mile strip of road in one case and
16 235 accidents over a strip of roadway that may be
17 a mile longer in the other case.

18 A. That is significantly more.

19 Q. Significantly more vehicles,
20 but I am not dealing with the absolute numbers,
21 I am trying to get it to a figure we can compare
22 and that figure, as I understand it, is the accident
23 rate and that takes into account these differences
24 in length and volume and everything else?

25 A. Yes.



1 Q. For the purpose of these questions,
2 please make the assumption I have given to you and
3 tell me if I am right in thinking that if you are
4 going to run a set number of vehicles along one or
5 the other of those roadways, that you would prefer,
6 as a driver, to be on the one with the lower accident
7 rate?

8 A. I would say generally that would
9 be the case.

10 Q. Sure. The reason for that is
11 that by being on the roadway with the higher
12 accident rate, you are exposing yourself to a
13 greater danger?

14 A. Yes.

15 Q. That is the general rule. I
16 take it that unlike noise or some of the other
17 disciplines we have been studying, that the background
18 effect isn't weeded out in the process. Do you
19 understand my question?

20 A. I don't.

21 Q. The fact there are X number
22 of vehicles on one road and Y on another shouldn't
23 matter to me if I know the accident rate. In
24 other words, does the rate take into account the
25 volumes of traffic?



1 A. Yes, it does.

2 Q. I think in a little brochure
3 you gave us recently you cite the accident rate for
4 Brant Street and the North Service Road?

5 A. Yes.

6 Q. Was one developed for Highway 25?

7 A. No.

8 Q. I take it then that we can't do
9 in a specific way what you and I have been doing in
10 a general way, and that is make comparisons of the
11 two strips of roadway using an accident rate?

12 A. We just did that specialized
13 study for Site F.

14 Q. And you were reacting to, I
15 take it, the city of Burlington or others' suggestions
16 that this should be studied?

17 A. Yes.

18 Q. Other than listing the accidents
19 as described in this particular report, Mr. MacLeod,
20 how is that information used in your analysis? What
21 do you actually do with these figures you have listed?

22 A. We looked into the accidents
23 to see if there were any trends apparent or any
24 connection with trucks, any indication of unsafe
25 conditions or things such as that.



1 Q. So I take it that the analysis
2 was somehow -- I am sorry, that information was
3 somehow injected into your analysis and you used
4 your professional judgment to do that?

5 A. Yes, the accident statistics.

6 Q. There is no quantitative way
7 I can measure what you did or try to assess the
8 weight?

9 A. No.

10 Q. Just to bring this to a
11 conclusion, you begin by having you indicate that
12 safety is the key concern?

13 A. Yes.

14 Q. In your earlier report, that
15 is the Stage 2B report, in considering safety you
16 looked to the factors which might cause accidents
17 or that accident potential, if I can call it that.
18 At this stage then you look at the absolute
19 number of accidents?

20 A. Yes.

21 Q. And through some subjective
22 process you incorporate that into your analysis?

23 A. Yes.

24 Q. But you never look at the
25 accident rate which would take into account the



1 differences between these two roadways in terms
2 of volume and length and you never try to compare
3 the two roadways on that basis?

4 A. Well, if I was going to do that,
5 I would have to, I would say, concentrate on the
6 section of Brant Street that the vehicles would be
7 concentrating on, and that would be from the Brant
8 Street/QEW interchange up to the North Service Road.

9 Q. That goes back to your theory
10 that that is where most of the trucks will be?

11 A. I would assume the accident rate
12 there is quite low.

13 Q. But that assumption, I take
14 it, isn't something that you are giving me on the
15 basis of any particular examination?

16 A. Other than knowing that stretch
17 of road. It has virtually no entrances on it and
18 the adjacent land use is vacant and it is very clear.

19 Q. If safety is the primary
20 concern in your analysis, why wouldn't you have
21 attempted to consider the fact of the accidents as
22 opposed to just the causes that might potentially
23 create accidents?

24 A. I am not sure I understand.
25 The fact they exist?



1 Q. Why didn't you look at the
2 accident rate? I thought that was a very common
3 thing for a traffic expert to do?

4 A. Well, the accident rates
5 are very generalized indications of expected
6 occurrences and I would call them the rate that
7 would be expected on a rural road which would be
8 perhaps a quarter of what would be expected on an
9 urban road. But it in itself doesn't tell you that
10 much. We were looking at the specific accidents
11 and what occurred there and if there was any
12 indication of unsafe conditions and a great percentage
13 of the accidents on Brant Street occurred down at
14 the Plains Road intersection, for example. The
15 accidents occurring in the section that will be
16 used by the majority of haulers was virtually nothing.

17 Q. Did you just tell me the
18 majority of the accidents or a good percentage of
19 the accidents occurred at the intersection of
20 Plains Road and Brant?

21 A. A fair number, as I recall.

22 Q. I was going to point that out
23 to you. I thought that was one of the intersections
24 these trucks passed by?

25 A. Yes.



1 Q. Could I take you to your Site D
2 report and ask you a question about your mitigation
3 measures?

4 A. Yes.

5 Q. I am looking at the diagram
6 that appears opposite page 65?

7 A. The entrance treatment?

8 Q. Yes. My understanding, Mr.
9 MacLeod, was that most of the traffic in and out
10 of that site would be coming from the south, or,
11 on this diagram, from the right?

12 A. Yes.

13 Q. I would have expected there
14 to have been an acceleration lane to allow those
15 vehicles to get back onto Highway 25 safely and
16 I note that there isn't such a lane provided for
17 in your diagram.

18 A. That is correct.

19 Q. Can you comment on that?

20 A. We met with MTC, the Ministry
21 of Transportation and Communications, and asked
22 them what they would like to see at this entrance
23 and we reviewed our sketch with them and they
24 considered it acceptable.

25 Q. I take it their considerations



1 and yours were related to the amount of traffic on
2 Highway 25 and the impact that such haulage vehicles
3 might be anticipated to have on that?

4 A. Yes.

5 Q. You concluded there wasn't a
6 need for an acceleration lane?

7 A. That is correct. I think it's
8 something that might help traffic flow, but it wasn't
9 identified as a serious problem.

10 Q. I would like to deal now with
11 your selection of haulage routes and turn you to
12 your appendix which contains the various surveys
13 and interviews?

14 A. Yes.

15 Q. Can you remind us please how
16 these surveys were important to you in your analysis?

17 A. We used them to get a general
18 idea of haulage practices and movings and the
19 influences that might exist in drivers selecting a
20 particular route.

21 Q. Could I take you to some of the
22 comments received please? I don't have page numbers
23 for you so I will simply have to begin by asking you
24 to refer to the second page of the City of
25 Burlington report?



1 A. Yes. It's the first report.

2 Q. Yes. You will see there under
3 the heading of B Existing Haulage Characteristics
4 to the Present Landfill Site No. (3):

5 "From Brant St. West 90% of the
6 time trucks use Plains Rd. to
7 King Rd. to N. Service Road...."

8 Can you point out where that is?

9 A. King Road is in this area here
10 and this indication is travelling north, going
11 King Road and then west on the North Service Road.

12 Q. We have heard there is a large
13 apartment complex at King Road near Plains. Are
14 you aware of that, sir?

15 A. No, I'm not.

16 Q. Could I take you to the comment
17 made by the town of Oakville?

18 A. The third report in?

19 Q. Yes.

20 In order to give us a focus, could
21 I ask you to look at the first page?

22 A. Yes.

23 Q. You were asking whether there
24 were any trends apparent and the city of Oakville
25 gave you an indication that most of the growth is



1 planned to the north?

2 A. Yes, that is what they have said.

3 Q. I guess that is logical because
4 the southern part of this municipality is pretty
5 developed already.

6 Now, on the next page the Town of
7 Oakville reports to you:

8 "There are two principal routes to
9 the existing landfill site. The
10 first along Q.E.W....."

11 and they say that 60 per cent of their traffic goes
12 along that route. The second route is along Highway
13 5 and they indicate there that that is used for
14 almost all the trips on Tuesday and many of the trips
15 on Wednesday?

16 A. Yes.

17 Q. I was going to ask you to
18 draw out the route on the maps, but I see it is?

19 A. I have it there.

20 Q. I couldn't see it until I
21 was right up to it. Could I ask you to go through
22 your green marker in a different colour just to
23 highlight that because I will be asking you questions
24 about a number of areas.

25 A. You were speaking of this



1 routing (indicating)?

2 Q. Yes.

3 A. I don't know if that helps much.

4 Q. I guess it's a little hard to
5 see. So, we have Oakville suggesting that 60 per
6 cent of their traffic uses the QEW and the balance
7 would use this alternative route along Highway 5 and
8 then down Brant Street?

9 A. They are talking about their own
10 municipal trucks.

11 Q. I think if we read the comments,
12 the suggestion that was made was that the trucks in
13 the north, the northern part of the municipality,
14 tend to use that route and the ones to the south
15 tend to use the QEW?

16 A. I would surmise that also.

17 Q. Do you know from their comments
18 and can you accept them as true for the moment, the
19 growth in this area is going to be in the north
20 and that is where Oakville tends to expand?

21 A. Yes.

22 Q. Would it be fair for me to say
23 that the comments made by Oakville in their inter-
24 view, might well apply to the position -- is that
25 a generation point, Nos. 4 and 6?



1 A. Yes.

2 Q. Four and six?

3 A. They were talking, I believe,
4 mostly restricted to the area in the east part of
5 Oakville, east and north. I am not sure about the
6 northwest zone. In any event, these two zones are
7 fairly small in relation to the total weight
8 generated.

9 DR. KINGHAM: Can you clarify the
10 language for the Board on that point because it could
11 be taken two ways. You say the traffic using the
12 QEW accounts for about 60 per cent of the trips and
13 then you say it is used for almost all of the trips
14 on Tuesday and many of the trips on Wednesday, and
15 is that part of the 40 per cent that is not in the
16 60 per cent above or are you saying on any given
17 day it's a 60/40 split and in addition on Tuesdays
18 and Wednesdays?

19 THE WITNESS: These aren't my words,
20 but the words of the person interviewed, and I
21 interpret this to mean that approximately 60 per cent
22 overall trips are on the QEW and there are certain
23 imbalances during the week, depending upon the
24 routes.

25 MR. TZEKAS: Q. While we are on



1 Oakville and we have our pages open here, I would
2 like to finish this up because I don't want to have
3 to try and find Oakville again. Do you see the
4 comment made under Section 3, the number 3?

5 A. Yes.

6 Q. "Hwy.5 is preferred by the
7 municipality, especially in bad
8 weather conditions."

9 Is it fair for me to assume that
10 whatever routes are being used, this particular
11 municipal official stated a preference for Highway 5?

12 A. Yes, he did. The actual route
13 is left much to the individual drivers, but he
14 expressed a preference to Dundas Street.

15 Q. Looking at his comment under
16 paragraph 4, I took from that that whatever the
17 routes getting to the site were, Highway 5 was the
18 best route for returning to the yards and so the
19 last run of the day was via Highway 5?

20 A. Yes, and I think their yard
21 is on Trafalgar north of Highway 5.

22 Q. I interpreted that as meaning that
23 even those trucks that use the QEW to get there are
24 coming back by that route we have marked in pink?

25 A. They may and it's not clear if



1 it's totally on Highway 5 or utilizing a portion of
2 Highway 5. They may use Highway 25 to access Dundas
3 Street, but they certainly are using this portion
4 some and I suspect most of them would be going
5 directly to Brant, but some of them could be using
6 Highway 25 or a component on Highway 25.

7 Q. I don't get that from reading
8 his comment, but you interpret that as meaning that
9 that possibility exists. Now, look to the bottom
10 of the next page where you ask or put the question
11 to this Oakville official about Site D and the
12 comment is,

13 "Site D is good from a haulage point
14 of view.

15 Drivers avoid Q.E.W."

16 I take it that means by selecting Site D,
17 the drivers can avoid going onto the QEW?

18 A. Yes, that's what he said.

19 Q. He goes on to say:

20 "Drivers can avoid driving fully
21 loaded through residential areas
22 such as Brant St. in Burlington."

23 Is that what you have been talking
24 about, that portion of Brant Street?

25 A. He is referring to Brant Street



1 in the vicinity of Site F.

2 Q. That is the portion you considered
3 critical and which we have been discussing today. I
4 don't want to be surprised there is some other
5 portion of Brant Street?

6 A. These comments are the comments
7 which came directly from the people interviewed and
8 I think that that particular comment is assuming
9 everything remains the same and it's a concern
10 relative to Site F, which I think is perhaps not
11 recognising the new facility at Brant Street and the
12 QEW, and I expect that that particular facility is
13 going to greatly increase the attractiveness of the
14 QEW.

15 Q. Who are you interviewing here?
16 I thought you were talking to people in the Works
17 Department of the city of Oakville?

18 A. Yes.

19 Q. Are you saying that they would
20 not be aware of the construction program for that
21 particular interchange?

22 A. It's likely they are not.

23 Q. It's likely they are not aware?

24 A. Well, this is a person in
25 charge of the waste haulage practices, and I don't



1 know if they are aware or not.

2 Q. If you don't know, then let's
3 not speculate.

4 Turning to the last page of that
5 exhibit where he is making general comments, he says:

6 "Q.E.W. is not a favoured route
7 because of traffic, accidents, etc."

8 A. Yes.

9 Q. I take it, Mr. MacLeod, that
10 this particular official is disagreeing with one of
11 your very basic theories, and that is that provincial
12 highways or major highways are generally to be
13 considered preferred routes for haulage?

14 A. He is not a fan of the QEW.

15 Q. Isn't that the point. Whatever
16 the general theory is about provincial highways and
17 how they might impact on haulage, the fact of the
18 matter is that this official doesn't like this road
19 and one of the reasons he cites is because it is a
20 busy road and there is traffic on it?

21 A. Yes.

22 Q. Let's go to Milton's comments.

23 I am looking at the second page under the heading
24 B, Existing Haulage Characteristics to the Present
25 Landfill Site?



1 A. Yes.

2 Q. You asked what the principal
3 route of travel is and the answer is:

4 "From the collection areas, trucks
5 take Hwy. No. 25 south to Hwy. 5...."

6 Can you point out where that is?

7 A. Here.

8 Q. ".... travel west to Brant Street...."

9 So Milton's trucks use that pink
10 route?

11 A. Milton's collection vehicles.

12 Q. Looking at paragraph 2, there
13 is an indication that the drivers aren't restricted to
14 that route but that they use it 95 per cent of the
15 time, right, and in paragraph 4, if we accept what
16 this official says is correct, they seem to be
17 returning along the same route?

18 A. Yes.

19 Q. May we look at paragraph C of
20 this particular document?

21 A. Yes.

22 Q. You have some comments being
23 made there by the Milton official to the effect
24 that Site D is closer and then he goes on to say:

25 ".... as such would likely result



1 in lower transportation operating
2 costs.

3 Less wear and tear on the vehicles.
4 Shorter trip time...."

5 I would like to relate this back
6 to the theory of trying to get you to agree with,
7 Mr. MacLeod, and that is the longer you are on
8 the road the worse it is and the longer you must
9 drive, the worse it is. Would you agree with me
10 that at least this Milton official accepted the
11 general proposition I was putting forth?
12

13 A. I think he is relating it to
14 costs and I believe Cam Watson uses time and
15 distance in his calculations on haulage routes.
16

17 Q. Going to the general comments
18 of the town of Milton under paragraph 1, it says:

19 ".... Hwy. 5 is a preferred route
20 because the lower speed limit
21 results in safer driving conditions
22 for the drivers - Q.E.W. is not
23 a desired route because traffic
24 flow is considerably faster."
25

I take it that to some extent that



1 particular municipal official agrees with what
2 his counterpart in Oakville has said?

3 A. Yes.

4 Q. Now, can we deal with Halton
5 Hills?

6 A. Yes.

7 Q. Looking at the second paragraph
8 -- the second page, paragraph 1, and the comment
9 I am interested in is the last one:

10 "The transfer station is very
11 rarely not in operation; however,
12 if it is shut down, municipal
13 vehicles access the regional landfill
14 in Burlington via Trafalgar Road,
15 Hwy. 5, Brant St. and the North
16 Service Road"?

17 A. Yes.

18 Q. Can you look at Exhibit 33-3
19 and sketch out what is being described?

20 A. That is south on Trafalgar
21 Road and Highway 5 over to Brant Street and then
22 south.

23 Q. Those drivers when they have



1 to go to the regional landfill site, are also using
2 that pink route?

3 A. Yes, and that is for the
4 municipal collection vehicles.

5 Q. So....

6 A. And that happens very rarely.

7 Q. I don't want to mislead the
8 Board as to quantities, but municipal collection
9 vehicles are not the only vehicles that carry waste?

10 A. No.

11 Q. So accepting that, can we
12 deal very, very briefly while we are on the comments
13 made by the Town of Halton Hills with what their
14 views were with respect to the maintenance of the
15 transfer station? Can you look to paragraph C-1?

16 A. Yes.

17 Q. It says:

18 "Maintaining a transfer station
19 within Georgetown will be necessary
20 if the landfill were located at
21 Site D?"

22 A. Yes.

23 Q. Over the page it would also be
24 necessary, apparently, if it were located at Site F?

25 A. Yes, that is correct.



1 Q. His opinion was, looking at
2 paragraph E-2.

3 "The transfer station in Georgetown
4 serves a very important function."

5 A. Yes.

6 Q. I surmise from that that the
7 function he was talking about was that this transfer
8 station gathered traffic in the Halton Hills area,
9 allowed it, the garbage to be compacted at a transfer
10 station and it had the result of moving garbage
11 down into the regional landfill site in a significantly
12 smaller number of hauls. That was one of the
13 advantages that this official was referring to?

14 A. I don't know if we can read that
15 into his answer. I believe he was referring to
16 general convenience in the area of Halton Hills,
17 that being how it expects that level of service in
18 use today.

19 Q. Just to try and bring this
20 section to a conclusion, we have seen, and not to
21 mislead, but we are only talking about municipal
22 vehicles. We have seen, have we not, from the
23 comments of the city of Oakville, something in the
24 order of 40 per cent of their vehicles use the pink
25 route and that development is expected to be to the



1 north where you would, I suggest to you, expect them
2 to continuing using that route. Am I summarizing
3 fairly Oakville's comments?

4 A. Yes. The significance of these
5 northern zones is slight and one is 1 per cent of
6 the total waste generated in the region and the other
7 is less than five, so it's not a significant factor.

8 Q. All of Milton's trucks -- I am
9 sorry, 95 per cent of their trucks appear to use
10 that route in pink?

11 A. Those are trucks operating within
12 the urban area of Milton in their collection areas
13 and their collection areas are not that extensive.

14 Q. We have also seen that where
15 trucks do come down from Halton Hills on those
16 occasions when they do they also use that route, that
17 particular route?

18 A. Yes, and that is a rare
19 occurrence.

20 Q. Now, if that transfer station
21 were to close, Mr. MacLeod, wouldn't you expect that
22 the truck drivers from Halton Hills would follow the
23 route they are using now and that is along Highway 5?

24 A. Most of the trucks are using this
25 routing we show here and also the Leferink operation,



1 they have indicated that is the route they take.

2 Q. Is there any reason to believe
3 that is not the route once that transfer station
4 closes?

5 A. The Trafalgar-Highway 5-25?

6 Q. Highway 5 right over to Brant
7 and down?

8 A. The Leferink people utilize
9 this route and they are the predominant hauler in
10 that area.

11 Q. And they are a hauler because
12 they happen to have at this particular time a
13 contract with the municipality to do that?

14 A. They have contracts with
15 individual residents also in the areas not provided
16 service by the municipality.

17 Q. I would like to deal with two
18 more matters very quickly and, first of all, your
19 treatment of the transfer station and how it affected
20 your analysis. I would like to get some understanding
21 from you as to the evolution of your thinking on
22 that. Am I right in suggesting that in the draft
23 2C report, not the one the Board has as an exhibit
24 but the draft 2C report, you recommended the
25 continuation of the Georgetown transfer station if



1 a landfill were to be located at F.

2 A. I don't have the draft in front
3 of me....

4 Q. I am not being fair to you so
5 let me put the draft in front of you. If the Board
6 doesn't mind, I wouldn't mind not having this as
7 an exhibit as I am only interested in one quote and
8 perhaps I could just ask the witness to read it into
9 the record. The second paragraph, the first
10 sentence of the second paragraph?

11 A. Okay. I recall this.

12 Q. So it is part of the record,
13 could you just read that sentence in?

14 A. It says:

15 "For haulage economics, it has been
16 recommended to continue the operation
17 of the Georgetown transfer station
18 if a landfill were to be located at
19 Site F."

20 And I believe that conditions between
21 the draft and the final change with respect to the
22 economic justification....

23 Q. Yes.

24 A. It wasn't a recommendation in
25 the transportation context.



1 Q. It is a comment of Mr. Watson's
2 you have highlighted or flagged in your draft report?

3 A. Yes.

4 Q. Then you say things changed
5 between January of 1985 and the preparation of your
6 final Stage 2C report in June?

7 A. At that point in time the
8 economic analysis by Cam Watson indicated, I assume,
9 that a transfer station was justified and then new
10 data or circumstances led him to change his mind.

11 Q. I take it

12 A. I accepted that.

13 Q. You accepted that assumption?

14 A. I did.

15 Q. In the technical report or
16 technical phase of this particular study you did,
17 was your work program -- did it contain any
18 suggestion that you look at the issue of transfer
19 stations?

20 A. No.

21 Q. Are you aware of whether or
22 not the Region of Halton was at that time
23 investigating transfer stations by way of another
24 independent study?

25 A. I was aware that there was a



1 committee formed to address transfer stations, but
2 I wasn't aware of what progress they had made.

3 Q. You have gone on most recently
4 to say that from a traffic point of view, you don't
5 see the need for a transfer station in the Halton
6 Hills area?

7 A. I looked specifically at the
8 Georgetown station and whether or not it would
9 influence the work I did at these sites. I concluded
10 that it didn't. I am not saying a transfer
11 station is a bad feature.

12 Q. That's what I wanted to get
13 clear. Your comment, as I took it, was really
14 related to your weighting of Site D versus Site F?

15 A. Or my dealing with each specific
16 site. We had assumed trucks from Georgetown, as
17 a matter of degree here, I think.

18 Q. Am I right in thinking that if
19 there were no transfer station in Georgetown/Halton
20 Hills, all of those lists of vehicles you gave us
21 going in and out of that site, that waste would
22 somehow have to find its way to either Site D or
23 Site F?

24 A. Yes.

25 Q. One last matter. You indicated



1 yesterday that it was your assumption in preparing
2 the analysis that the cover material on Site F
3 was sufficient and there would be no additional
4 cover material that would have to be hauled in?

5 A. I wasn't assuming this, but it
6 was the information supplied to me.

7 Q. May I take it from that, Mr.
8 MacLeod, that in your analysis, you also did not
9 consider the transportation impacts that would flow
10 from the efforts to rehabilitate Site F in its
11 after use?

12 A. No, that would -- the after use
13 wasn't considered.

14 Q. I take it you cut your analysis
15 off at the time you thought that particular site
16 would be filled?

17 A. I wasn't aware there was any
18 intensive traffic after use or any after use that
19 would be creating a lot of trips.

20 Q. If I were to say to you and
21 would ask you to accept for a moment
22 that there will be substantial traffic going
23 to Site F in order to bring in soil long after
24 this site is closed, would that have made a
25 difference to your transportation analysis or might



1 it?

2 A. I can't say. We stopped our
3 assessment at the closing year of the landfill or
4 concentrated on what was the busiest year, which was
5 much earlier.

6 Q. Now, in dealing with the
7 assumptions you were given on cover material, I
8 take it that this assumption also applied during
9 the life of the landfill operation. You were assuming
10 that during that time there wouldn't be any additional
11 haulage created by the possible need to bring in

12 A. Internal handling of all
13 materials.

14 Q. Just so we are clear, that
15 comment relates to not only the final covering but
16 also to the potential that might exist for
17 additional covering during the course of the
18 operation?

19 A. Yes.

20 Q. Can I take you back just for
21 one moment just to container stations?

22 A. Yes.

23 Q. In the environmental study,
24 Exhibit H-33 for Site F at page 67....

25 A. Yes.



1 Q. You note there that the
2 facilities are temporary, and that is the container
3 facilities are temporary. I take it your
4 recommendation was that these container facilities
5 be made permanent?

6 A. The basic recommendation I
7 believe is that Halton should reassess their entire
8 policy relative to container stations and I
9 suggested they were an important part of reducing
10 vehicular traffic, and so the whole issue of
11 container stations should be reassessed.

12 Q. It is that comment. Because
13 they are an important part of transportation
14 analysis, I was interested in your responses to
15 the earlier cross-examination. If they are an
16 important part of the analysis, wouldn't that whole
17 issue, containers, transfer stations, wouldn't
18 that be something you would have to know about in
19 order to do your assessment?

20 A. Well, we assumed that in
21 future years some waste haulage, or some waste
22 handling and collection system would be in existence
23 in the region and there are many influences on where
24 the trucks are going to and coming from and where
25 residents would be depositing their refuse and what



1 refuse would be deposited. We just said okay, let's
2 assume that the existing collection and disposal
3 system currently operating in the region is
4 representative of some kind of future system without
5 having any other better indication of where the
6 region was leading to and what their policy would be
7 with respect to transfer stations. We weren't
8 certain, and the same with containers. We just
9 assumed that a system would be representative and
10 with a number of components.

11 Q. Fair enough.

12 With respect to Site D, mention is
13 made in your reports a few times about trucks moving
14 leachate out of Site D?

15 A. Yes.

16 Q. You talked about that being
17 towards the end of the life cycle of that particular
18 landfill site. In making those comments, sir,
19 were you aware of the possibility that that leachate
20 might be removed from that site by way of piping?

21 A. I have heard that that's a
22 possibility.

23 MR. TZEKAS: If I may have just one
24 moment. Those are my questions. Thank you, Mr.
25 Chairman.



1 THE CHAIRMAN: Thank you. I think
2 Mr. Leitch, before we get into your cross-examination,
3 we will adjourn for lunch and will return at a
4 quarter to 2:00. Would that give you sufficient
5 time?

6 MR. LEITCH: Yes.

7 THE CHAIRMAN: Thank you.

8

9 --- Luncheon Adjournment (12:16 p.m.)

10

11 --- Upon resuming at 1:45 p.m.

12

13 THE CHAIRMAN: Thank you. Please be
14 seated. Mr. Leitch.

15 CROSS-EXAMINATION BY MR. LEITCH:

16 Q. Mr. MacLeod, I am sure you
17 have everything before you to deal with my questions,
18 but I will be basically dealing with the two
19 technical reports and the comparative analysis and
20 also with the two extra documents we received
21 yesterday, H-33A and H-33B?

22 A. I have those.

23 Q. Now, as I apprehend your work,
24 you narrowed your traffic safety concerns to,
25 in the case of Site D, Highway 25 basically between



1 the Queen Elizabeth Way on the south and Steeles
2 Avenue on the north?

3 A. Yes.

4 Q. Steeles Avenue being just south
5 of the 401 highway, which in turn runs just north
6 of urban Milton?

7 A. That's right.

8 Q. Perhaps you could take your
9 pointer and as you go along, indicate...

10 A. Steeles Avenue is located here
11 (indicating).

12 Q. In the case of Site F, you
13 narrowed your traffic safety concerns to Brant
14 Street in Burlington and the North Service Road in
15 Burlington?

16 A. That's right.

17 Q. In the case of Brant Street,
18 your concern ran from, at the south, Plains Road
19 as it intersects Brant Street to where Brant
20 Street intersections Highway 5 on the north?

21 A. Yes.

22 Q. In the case of the North
23 Service Road, your concern was where it intersected
24 Brant Street on the east and running westerly to
25 Waterdown Road?



1 A. Yes.

2 Q. There were other roads, of course,
3 which carried substantial portions of waste
4 generated traffic and the Queen Elizabeth was one,
5 Highway 5 was another, Plains Road east of its
6 intersection with Brant Street was another, and correct
7 me if I have made the wrong conclusion, but my
8 understanding of why you are not concerned with those
9 particular roadways is because they have a more
10 appropriate design to that type of function, haulage?

11 A. In general, that is correct.
12 Some of them are getting removed from the site and
13 there are fewer vehicles in relation to the general
14 traffic and the trips aren't as concentrated.

15 Q. There are different kinds of
16 highways as we have talked about them and the reason
17 for that is that they are designed for different
18 kinds of purposes?

19 A. Yes.

20 Q. In the case of the different
21 kinds of highways, their purposes overlap in certain
22 instances, but when you look at a highway and
23 determine it looks different from another highway,
24 there is a reason for that. Am I correct about
25 that?



1 A. In terms of the QEW, for instance,
2 and Highway 5, there is a basic difference in the
3 style of highway and one is a controlled access
4 facility with no entrances other than at well-spaced
5 interchanges, and on Highway 5 it has some control
6 of access in that they don't allow the frequency of
7 entrances you might find on an urban road. You would
8 have a varying degree of access control, I would say
9 is probably the main difference.

10 Q. The Queen Elizabeth Way is
11 a completely controlled access highway?

12 A. Yes.

13 Q. Its purpose is to carry a lot
14 of traffic and to carry it on through trips generally?

15 A. Yes.

16 Q. The reason why we have a thing
17 called a service road, which runs along the side
18 of something like the Queen Elizabeth Way, is
19 because the Queen Elizabeth Way won't serve the
20 abutting land uses?

21 A. It's for land access, yes.

22 Q. So when we look at what we
23 have identified as the North Service Road in
24 Burlington, its purpose is to serve the land uses
25 immediately to the north of the Queen Elizabeth Way



1 or 403, as it is there?

2 A. That is one of its functions.

3 Q. Just take H-32-3 down and

4 let's look at the photograph which shows those two

5 highways. 403, of course, is the larger highway

6 which is evident to the eye and the North Service

7 Road is the light strip immediately to the north

8 of that. Now, tell us what purpose the North

9 Service Road serves as you can see it in the

10 photograph between Kearn's Road on the east, if you

11 can point that out, and Waterdown Road on the west?

12 A. The primary function of the North

13 Service Road in this area is land access and it

14 also provides access to the Waterdown Road interchange

15 at the far end and is a general road link. The

16 trips that are on the North Service Road aren't

17 only there for land access, they are using that

18 section as a connecting point in a through trip, so they

19 are going between Brant and Waterdown and so

20 it's partially land access and partially a trip

21 component usage of the North Service Road.

22 Q. There is very little land access

23 purpose for that highway from Waterdown Road eastward

24 to the intersection of King Road?

25 A. Yes. We have an inventory of



1 that and there are very few entrances.

2 Q. They are essentially industrial
3 and field entrances?

4 A. Yes.

5 Q. And one of them is the entrance
6 to the existing landfill?

7 A. Yes.

8 Q. Eastward from King Road to
9 Kearn's Road, the same situation obtains?

10 A. In this stretch, yes (indicating).

11 Q. The first service to the land uses
12 to the north of any intensity occurs at the inter-
13 section of Kearn's with the North Service Road?

14 A. Yes.

15 Q. It would service the subdivisions
16 you can see along Kearn's Road; am I correct about
17 that?

18 A. Yes.

19 Q. So in terms of the traffic
20 safety factor, you would not say that that stretch
21 of the North Service Road between Waterdown Road
22 on the west and Kearn's Road on the east is a
23 problem?

24 A. We didn't identify it as a
25 problem.



1 Q. Can you point out on that or
2 your Exhibit H-33 -- H-32-3 where Plains Road, as
3 it leaves the Queen Elizabeth Way joins Brant
4 Street?

5 A. It's right in this area here
6 (indicating).

7 Q. That is the access to Brant
8 Street from the Queen Elizabeth Way that is going
9 to be replaced by the Brant Street interchange
10 which is on the books as far as the MTC is
11 concerned?

12 A. That is correct.

13 Q. You have assumed for the purposes
14 of your work and the purposes of the planning
15 period, that that interchange will be in place?

16 A. Yes, it is scheduled for
17 construction next year.

18 Q. Plains Road, as it presently
19 allows access from the Queen Elizabeth Way to
20 Brant Street, is like a long ramp from the highway;
21 is that a fair description?

22 A. It functions that way and there
23 are a number of entrances on it.

24 Q. But the number of entrances is
25 not large?



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1 A. No.

2 Q. For that distance?

3 A. They are fairly sparce.

4 Q. There is no significant traffic
5 safety problem in relation to landfill traffic
6 which may be passing along Plains Road, as far as
7 you are concerned?

8 A. I am not aware of any. The
9 number of accidents at Plains and Brant is fairly
10 high in terms of the years '83-'86.

11 Q. There is a very high background
12 traffic level there, would you agree?

13 A. Brant Street has very high levels
14 of traffic.

15 Q. And Plains Road running from
16 the Queen Elizabeth to Brant Street has very high
17 background traffic levels as well?

18 A. Yes.

19 Q. Because if you want....

20 A. Within the general area the
21 traffic is quite dense.

22 Q. As you travel towards Burlington
23 on the Queen Elizabeth Way, if you want to go to
24 the centre of Burlington, that is the most likely
25 way to get there; am I right about that?



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A. The Plains Road exit, yes.

Q. Let me then deal with some road characteristics as between Brant Street and Highway 25, because what we are trying to do is look at traffic in relation to these two proposed sites?

A. Yes.

Q. You would agree with me, I think, that Brant Street would be characterized as a wide, urban arterial road?

A. Yes.

Q. In places it is six lanes wide and mostly it is four lanes wide?

A. Correct.

Q. And that is the fact from its intersection with Plains Road on the south to its intersection with Highway 5 on the north?

A. Yes.

Q. When I say it's an urban arterial road, its purpose is to carry fairly large numbers of vehicles from points within the urban area of Burlington?

A. Yes.

Q. Its principal purpose is to move traffic from the centre of Burlington up to where it intersects with Highway 5?



1 A. Well, I am not sure in terms
2 of Brant Street specifically what its primary
3 function is, other than to accommodate the general
4 movement desire of the populus.

5 Q. The designers of Brant Street
6 as it runs north from its intersection with Plains
7 Road were obviously planning for a high volume road,
8 because there aren't many direct accesses to
9 residences or residential complexes from Brant Street?

10 A. Yes, I think most of the new
11 developments in particular are what we call reverse
12 frontage and they front on streets adjacent to the road.

13 Q. And the vehicles which eventually
14 will get to Brant Street from those developments
15 will find their way onto side streets and out to
16 Brant Street from those side streets?

17 A. That's right.

18 Q. They won't be coming out of
19 driveways?

20 A. Generally not.

21 Q. Generally speaking, at those
22 intersections you will find there are signal lights?

23 A. There are a number on Brant
24 that aren't signalized and I am not sure of the
25 percentage.



1 Q. There are a number that aren't
2 and a number that are?

3 A. It might be 50/50 and I have
4 the numbers in the text.

5 Q. I think 50/50 is about right
6 for these general purposes.

7 A. Yes, in that order.

8 Q. It has a posted speed limit of
9 50 kilometres?

10 A. Yes.

11 Q. And it presently has an annual
12 average daily traffic of 22,800?

13 A. That's from....

14 Q. That's from your work?

15 A. That's a representative volume
16 and actually the volume on Brant is quite variable
17 and it's much higher on the south part of Brant
18 Street and then it drops off a bit in the north, so
19 that's an average figure throughout all of Brant
20 Street.

21 Q. Yes.

22 A. So it's -- the traffic level
23 at the north end is fairly low and comparable, I
24 would say, to the Highway 25 level and it builds quite
25 significantly as you go further south.



1 Q. Of its daily traffic, about 1
2 per cent is the landfill component?

3 A. On which section?

4 Q. On the section from its inter-
5 section with Plains Road up to the intersection of
6 Brant Street with the North Service Road.

7 A. I am not sure of the exact
8 figure, but that sounds about correct, yes.

9 Q. And north from its intersection
10 with the North Service Road to Highway 5, the landfill
11 component is about a half a per cent?

12 A. Those are the figures that
13 relate to the large truck component and we made an
14 assumption regarding a split of trucks from the north
15 and the south arriving at Site F using Brant Street
16 and, yes, the one-half per cent figure is reasonable.

17 Q. We are talking about trucks
18 now carrying waste from various parts of Halton
19 to the existing landfill?

20 A. That's right. That was using
21 the heaviest day of the heaviest month of the busiest
22 year truck figures and it's a half a per cent to
23 the north of the North Service Road and a per
24 cent to the south of the total traffic numbers.

25 Q. As you project into the critical



1 year, 1996, those relations don't change if the
2 landfill is at Site F?

3 A. That is correct.

4 Q. Dealing with Highway 25, just
5 to cast it in the picture, it is a two-lane rural
6 highway?

7 A. Yes.

8 Q. It is a provincial highway?

9 A. Yes.

10 Q. I am now talking about Highway
11 25 from the Queen Elizabeth on the south to Britannia
12 on the north?

13 A. Yes.

14 Q. From Britannia north to Steeles
15 Avenue, it is again two lanes until it gets into
16 urban Milton when it is sometimes four lanes and
17 sometimes two lanes?

18 A. Yes.

19 Q. Until it intersections with
20 Steeles Avenue on the northern part of urban Milton?

21 A. Yes.

22 Q. It's not continuous north,
23 you have to make a jog?

24 A. To continue on 25 you must jog.

25 Q. It's about a kilometre along



1 there to continue north on Highway 25?

2 A. Yes.

3 Q. That is a "T" intersection?

4 A. Correct.

5 Q. Where it joins?

6 A. Yes.

7 Q. In terms of its annual average
8 daily traffic, I think your work discloses an
9 average number of 7,200 vehicles at the present time?

10 A. Yes. I am not sure about the
11 figure, but that sounds about right.

12 Q. You project that will go up
13 to 10,600 vehicles by the critical year 1996?

14 A. 10,600? Yes, that's correct.
15 That is Table I.

16 Q. I took that from page 52 of
17 Exhibit H-32, which is your Site D landfill technical
18 study, page 52?

19 A. Yes.

20 Q. The last two sentences?

21 A. Yes.

22 Q. And I think that you also
23 take from the traffic counts that the background
24 of haulage vehicles in that traffic presently on
25 Highway 25 is about 12 per cent, 12 per cent trucks?



1 A. Those are all truck trips
2 presently on Highway 25, about 12 per cent.

3 Q. Presently all truck trips?

4 A. Yes.

5 Q. I take that from your report,
6 H-32, page 62, just above the heading Site D entrance.
7 Is that where we find that?

8 A. On page 62?

9 Q. Yes. H-32, page 62?

10 A. Yes, it is there in the middle
11 paragraph.

12 Q. That is what presently obtains,
13 12 per cent of truck traffic on Highway 25?

14 A. 12 per cent of the trips
15 currently using Highway 25 in that section of road
16 are trucks, and based on the recent numbers.

17 Q. For that kind of highway, that
18 is in the high range of percentage?

19 A. It is slightly higher than
20 normal, not surprisingly higher, but a little bit
21 higher.

22 Q. What is normal in your opinion?

23 A. For a rural highway you could
24 expect eight to ten, or somewhere in that area.

25 Q. So 12 per cent would be, as you



1 say, slightly higher than normal?

2 A. That's right.

3 Q. I go back to page 52 of the
4 same report where you say in the critical year,
5 1996, there will be approximately 420 large truck
6 and leachate truck trips generated by the site if
7 it's there and that would add another 4 per cent
8 to the total two-way traffic volume; is that correct?

9 A. Yes.

10 Q. So then you would have total
11 truck traffic on Highway 25 in the critical year
12 of 16 per cent approximately?

13 A. I am not sure what the actual
14 figure would be and I don't think it would be
15 additive, those two percentages. It would be
16 approximately 16 per cent.

17 Q. Approximately 16 per cent?

18 A. Yes.

19 Q. That's high for a two-lane
20 rural highway?

21 A. It's not typical.

22 Q. It's higher than typical?

23 A. Yes.

24 Q. So there appear to then be
25 some fairly significant differences between the



1 two highways we are comparing?

2 A. Yes.

3 Q. In terms of their design function?

4 A. Yes.

5 Q. Am I correct that when a highway
6 begins to be used for a purpose which takes it out of
7 or beyond its design function, that is when the
8 problem begins?

9 A. Well, it really depends upon
10 what particular function it is being used for. A
11 highway is a general transportation facility that is
12 intended to serve many kinds of uses. I don't think
13 there is one specific use I can think of that it
14 would be intended for. It's built really to
15 acknowledge all kinds of trips.

16 Q. I understand that, but it is
17 also built with some design purpose in mind and
18 some highways as they are designed will take more
19 different kinds of traffic than other highways;
20 is that not fair?

21 A. The two kinds of traffic that
22 would utilize Highway 25 are higher speed through
23 trips and then there are also lower speed local
24 trips and there is a mix on Highway 25.

25 Q. I think we can see higher speed



1 trips are envisaged because the speed limit for
2 Highway 25 is 80 kilometres?

3 A. Yes.

4 Q. You have said in your report
5 that typical speeds along that highway would be
6 between 80 and 90 kilometres?

7 A. It's a wide open stretch of
8 road and so the design standards would be very high in
9 terms of the steepness of the grades and the
10 curvatures which allows for fairly high speed.

11 Q. So you have a significant
12 percentage of high speed journeys happening on that
13 highway at the present time?

14 A. Yes.

15 Q. So, as we look at the two
16 roadways, they are different kinds of roadways
17 and, as I look at them, I come to the conclusion that
18 Brant Street is a more suitable place for the numbers
19 of haulage vehicles we are talking about than Highway
20 5 is or Highway 25 is. Do you have trouble with
21 that conclusion?

22 A. I don't know that either of the
23 roads is inappropriate for that usage, because
24 they are different kinds of roads.

25 Q. My point is, is Brant Street



1 more appropriate than Highway 25?

2 A. I don't believe so. That's
3 a difficult -- difficult two roads to juggle in
4 this instance. I can see one as being more or less
5 appropriate for that kind of trip.

6 Q. You don't see any difference
7 in terms of introducing that kind....

8 A. The trips on Brant Street are
9 certainly slower, slower trips, but the Highway 25
10 corridor is used for very similar kinds of trips,
11 the haulage of trucks, meaning that it's a
12 distributor of trips going through the general area
13 and it is appropriate for that use also.

14 Q. It has two kinds of trips, it
15 has high speed or relatively high speed trips from
16 the two urban municipalities and it has local
17 functions for people who live along it?

18 A. Yes. There is a mix of local
19 and through trips on Highway 25 at present.

20 Q. It's a very different kind of
21 set-up from Brant Street, because being rural it
22 has a number of driveways to residences and
23 farms alongs its length?

24 A. That is correct.

25 Q. And indeed many more than are



1 on Brant Street?

2 A. Yes, in terms of the numbers
3 of entrances, yes.

4 Q. So the people who live along
5 Highway 25 to get to where they want to go will
6 actually have to take their vehicles out of the
7 driveway and try to get up to the prevailing speed
8 before something happens to them?

9 A. Yes.

10 Q. That of course is easier, the
11 less traffic there is and the harder the more
12 traffic there is?

13 A. In general, yes.

14 Q. Just leaving that for the moment,
15 I want to deal somewhat with the quantities which
16 will be going along these highways and in what
17 direction, the quantities of waste at the present
18 time and in the critical year, 1996. I looked at
19 Exhibit 32 and 33, the two technical reports, and I
20 don't think we have to labour with them, but the
21 trips and percentages are set out in 32, Exhibit H-32,
22 the Site D report at pages 48, 49 and 50?

23 A. Yes.

24 Q. There you describe the zones
25 and you describe the routes from the individual



1 zones to the landfill assumed at Site D?

2 A. Yes.

3 Q. At the present time, I conclude
4 from the description on those pages, that 80 per cent
5 of the waste by weight will be moving out of the
6 urban areas of Oakville and Burlington and north on
7 Highway 25. Am I correct about that?

8 A. Yes, that is the approximate
9 percentage that would be coming from the south.

10 Q. That particular waste is not
11 now moving up that highway?

12 A. That's correct.

13 Q. It presently moves along the
14 east-west access to the existing landfill?

15 A. Yes.

16 Q. Of course, the corollary of
17 that is that the other 20 per cent of the region's
18 waste will be coming from Milton itself and Georgetown,
19 Halton Hills?

20 A. Yes.

21 Q. And will be moving in some
22 fashion southward to Site D?

23 A. Yes.

24 Q. And that will be the case
25 with very little change in the critical year 1996?



1 A. Those figures don't switch
2 too much from year to year, that's right.

3 Q. In fact what happens is that
4 the percentages from Burlington go down slightly,
5 but that is picked up by the percentages from
6 Oakville going up the same amount, approximately?

7 A. Yes.

8 Q. In respect of Site F, Exhibit
9 H-33 at pages 45, 46 and 47, it goes through the same
10 kind of analysis?

11 A. Yes.

12 Q. And the conclusion after
13 reviewing that that I came to was that 100 per
14 cent, pretty well of the waste, if it continues to
15 go to the present location, or as we are calling the
16 intended site Site F, will go along Brant Street
17 either from Highway 5 south to the North Service
18 Road or from Plains Road or the new interchange
19 at Brant Street north on Brant Street to the
20 North Service Road?

21 A. There will be a component in
22 this zone here.

23 Q. But it's a fairly small
24 percentage?

25 A. A small volume.



1

Q. A couple of per cent?

2

A. Certainly the trips are focused

3

on Brant Street and the North Service Road and

4

it is fairly heavily concentrated.

5

Q. And indeed that is what is

6

happening now with the Region's waste?

7

A. Yes.

8

Q. At an earlier stage in your

9

study, dealing with the haulage routes to proposed

10

Site F, and Dr. Kingham picked that up, but you had

11

shown the most likely route as being south on

12

Trafalgar Road and then going west. I thought it

13

was on the 401 and wasn't that the first most

14

likely route that you picked?

15

A. Is this the Exhibit H-11-18?

16

Yes. To access Pl, I identified Trafalagar,

17

Highway 401, the 4th Line, Derry and then Highway 25

18

and we had a component on Highway 401.

19

Q. Subsequently when you got

20

deeper into your investigation, you discovered

21

that what in fact happens is that the Leferink

22

vehicles go right down Trafalgar Road to Highway 5

23

and then across to 25 and then down to the Queen

24

Elizabeth Way?

25

A. That is the more likely route



1 or more representative route for those trips, yes.

2 Q. Am I right that about 13 per
3 cent of the Region's waste comes from Halton Hills
4 and about 7 per cent comes from Milton?

5 A. Yes, I have the figures written
6 down here and it's 9 per cent from this zone, 3 per
7 cent from Zone 9 and 7 per cent from this zone.

8 Q. The fact of the matter is that
9 Zone 9's waste presently gets delivered over to
10 Zone 10 at the transfer station?

11 A. Some of it, yes.

12 Q. Most of it. Is that not so?

13 A. The municipal collection
14 vehicles that pick up in Acton go directly to the
15 transfer station and some of the other trips
16 probably would utilize the transfer station instead
17 of the existing landfill site.

18 Q. So, of the total 12 per cent
19 you identified there, at least 10 per cent of it
20 would be going down the Trafalgar Road route?

21 A. Yes, that's likely.

22 Q. That's conservative?

23 A. I don't know how attractive a
24 trip from Acton to Burlington would be for smaller
25 waste haulers.



1 Q. I want to take your projections
2 for the year 1996 and do some work with them in
3 relation to the proposed site or the entrance for
4 Site D. If you look at that, that is depicted in
5 your Site D report, H-32, at page 64, if I am not
6 mistaken. Do you have that before you?

7 A. Yes, I have that.

8 Q. Going back to the figures you
9 gave me for 1996, I think you told us there were
10 10,600 two-way trips over a twenty-four hour
11 period and that is your projection?

12 A. Yes.

13 Q. You also told us that in the
14 critical year on a critical day, if I can call it
15 that, there would be 420 large haulage trucks with
16 some leachate trucks to make up the total number
17 of 420; is that correct?

18 A. I believe that that's the figure,
19 yes.

20 Q. They would be, the trucks that
21 is, would be coming and going over a ten-hour
22 period from 8:00 in the morning until 6:00 at night?

23 A. Yes.

24 Q. The 10,600 passing vehicles
25 would be passing over a twenty-four hour period?



1 A. Yes.

2 Q. Just stopping for a moment,
3 these large trucks consist of, as I understand it,
4 basiclly two kinds, there is the one we are all
5 familiar with and love, the large packer truck
6 which comes to the front door and deposits your
7 refuse in a bin which has some sort of device to
8 compress it. Is that one of the trucks we are
9 talking about?

10 A. Certainly, yes. The
11 classification distinction for a large truck is,
12 I believe, anything with a double axle and some of
13 the trucks are fairly small, but some of them
14 are the large collection vehicles or the long haul
15 vehicles.

16 Q. The other kind of vehicle is
17 the type which goes from place to place picking up
18 those rather large steel containers that sit at
19 the back of commercial establishments and other
20 establishments?

21 A. Yes.

22 Q. They are a double axle vehicle?

23 A. Yes.

24 Q. They carry sometimes one or
25 two of those containers and they would be one of



1 the kinds of vehicles you were talking about in your
2 420?

3 A. Yes.

4 Q. Obviously they would be
5 arriving at the landfill gate full and weighing some-
6 where around 9 tons, the big ones?

7 A. I am not sure, but yes, loaded
8 down they are quite heavy.

9 Q. And they leave empty?

10 A. Yes.

11 Q. We hope.

12 A. Yes.

13 Q. What do you know, if anything,
14 about the acceleration capability of that class
15 of vehicle?

16 A. I didn't specifically look at
17 it, the acceleration ability, and it certainly is a
18 function of the kind of road they are accelerating
19 on and the size of the engine which I am sure varies.

20 Q. Would you agree with me that
21 they are slow to accelerate?

22 A. In relation to cars, certainly.

23 Q. Would you also agree with me
24 that if they are accelerating from zero to 80
25 kilometres, that they will have their slowest



1 acceleration at the beginning of that continuum
2 and, as they build up speed, they will accelerate
3 more quickly?

4 A. I don't know if the rate of
5 gaining velocity changes, and it may occur at the
6 same rate all the time, but certainly they are
7 going slower at the beginning.

8 Q. They are going slower at the
9 beginning of their trip out of the landfill site
10 and so the most dangerous period is in the initial
11 acceleration phase?

12 A. In terms of the difference
13 between the truck speed and the average travelling
14 speed on the highway, but there should be
15 sufficient gaps in the regular traffic flow on
16 Highway 25 to permit that move.

17 Q. I am coming to that, but I
18 take it that you agree with me that these are
19 relatively slow-moving vehicles and they don't
20 accelerate quickly in the same manner that cars
21 do and lighter trucks?

22 A. Yes, they would accelerate
23 slowly.

24 Q. I think that based on the
25 quantities we have identified from the south and



1 quantities from the north, that 80 per cent of these
2 vehicles on Highway 25 will be arriving from the
3 south?

4 A. Yes.

5 Q. And 80 per cent of the leaving
6 vehicles will be going to the south?

7 A. Yes. That is what I would say.

8 Q. And the same is true for the 20
9 per cent, 20 per cent will come from the north and
10 20 per cent will go back to the north?

11 A. That is generally the case
12 and there may be some slight differences.

13 Q. I did some calculations which
14 I would like to ask you to review with me. I was
15 trying to get at those gaps you talk about in terms
16 of how much time a vehicle has to get out on the
17 highway. The first thing I had to do was make
18 an assumption about how many of those 10,600 passing
19 vehicles would be passing by the site between the
20 hours of 8:00 in the morning and 6:00 in the
21 evening and I made the assumption that 75 per cent
22 of the traffic would be from 8:00 in the morning
23 until 6:00 in the evening. Is that a fair
24 assumption?

25 A. It sounds about reasonable.



1 Q. When I did my calculation, I
2 came to 7,950 vehicles passing in that ten-hour
3 period and I rounded that off to 8,000. Is that a
4 fair exercise on my part?

5 A. The make-up of trips on
6 Highway 25 I think is basically a 50/50 split in
7 directional volume and I would say that likely
8 75 per cent is a reasonable daytime total of the
9 twenty-four hour period.

10 Q. Now I am dealing with averages
11 and then I arrived at 8,000 vehicles going by in
12 ten hours and I broke that into equal segments and
13 I came to a figure of 800 vehicles an hour and that
14 is two-way traffic?

15 A. Yes.

16 Q. We are not talking about peak
17 hour, just averaging?

18 A. Yes.

19 Q. Then I went on to calculate
20 how many vehicles then would be passing the site
21 at any interval and divided 800 into 3,600 seconds
22 and came to one every 4.5 seconds. Would you
23 agree with that?

24 A. If your math is correct;
25 your figure sounds about right.



1 Q. So one every 4.5 seconds.

2 Then at the landfill entrance I went through the
3 same exercise and I had 420 trucks leaving and
4 arriving in the ten-hour period between 8:00 in
5 the morning and 6:00 p.m. and I broke it into equal
6 segments, so for each average hour I had 42 trucks
7 going in and 42 trucks going out. Is that
8 reasonable?

9 A. Yes, for the busiest period.

10 Q. Again, I am not talking peak
11 periods, but just averaging.

12 A. That's in the peak period, an
13 average in the peak period.

14 Q. That is 84 vehicles in 3600
15 seconds again, and so I had one either coming or
16 going every 43 seconds, and assuming my math is
17 correct does that sound reasonable to you?

18 A. Yes, that's about right.

19 Q. So at my site entrance in the
20 critical year on an averaging exercise, I have a
21 vehicle going by every 4.5 seconds and I have a
22 vehicle trying to get in or out every 43 seconds.
23 So, the windows of time that my southbound-leaving
24 vehicle has to get out of the gate would be 9
25 seconds. Would I be right about that?



1 A. In terms of not influencing
2 trips on the highway?

3 Q. Yes.

4 A. Yes. It's fairly busy in the
5 critical year at that location.

6 Q. These average figures I have
7 given you at that location, these are my figures
8 based on your basic numbers, but a vehicle which is
9 sitting at the site entrance waiting to get out and
10 go south to the urban municipality to the south,
11 and if we assume he will only affect traffic going
12 southbound, he has got a 9 second interval of time
13 if everything is evenly spaced to get out on the
14 highway and get safely up to speed?

15 A. To get out on the highway.

16 Q. If we do a peak analysis, it
17 is significantly different. If you look with me, I
18 think you did a peak analysis which I am trying
19 to understand, and perhaps you can assist me, but
20 it's at page -- the first page in Appendix D in
21 your Site D report?

22 DR. KINGHAM: While he is trying to
23 find that, perhaps you could help the Board with
24 where you found the 9 second number. I thought you
25 had worked at establishing 4.1/2 seconds?



1 MR. LEITCH: I should have spoken
2 more clearly about that. I doubled it because every
3 4.5 seconds, Dr. Kingham, one is going north, but
4 one may be going south ...

5 DR. KINGHAM: So you are arguing
6 that the average separation in one direction is 9
7 seconds?

8 MR. LEITCH: That is correct.

9 THE WITNESS: Yes, I have that diagram.

10 Q. Just to assist me again; in
11 traffic planning and analysis, as I understand it,
12 it is a correct principle to design for peak periods?

13 A. Yes, a certain peak period and
14 certainly not the average, but yes.

15 Q. And for what you would call
16 the critical year?

17 A. Yes.

18 Q. So when we are looking at the
19 design of the site entrance we shouldn't be looking
20 at what will happen in 1988, but rather what will
21 happen in 1996?

22 A. We don't take the worst case
23 either, we take some upper level of traffic and
24 if this is the worst case, we would normally gear
25 to about the the 85th percentile level of that.



1 Q. Of the worst case?

2 A. Yes.

3 Q. Let's go through that exercise
4 with your intersection, Highway 25 and the landfill site
5 entrance as I have identified it and let me try to
6 understand what it means. First of all, on the far
7 righthand side at the bottom in the roadway you have
8 a box of 1,498?

9 A. Yes.

10 Q. On the far lefthand side you
11 have a box with 1,552?

12 A. Yes.

13 MR.HODGSON: Where are we?

14 THE WITNESS: Appendix D, the first
15 page of Appendix D.

16 MR.LEITCH: Q. But as I look at
17 the diagram, those numbers on the right and left
18 appear to be two-way traffic numbers?

19 A. That is correct.

20 Q. Is what is happening you are
21 ranging the thing between a maximum of 1,552 an
22 hour and 1,498 an hour?

23 A. No, this diagram was developed
24 on the basis of looking at a peak period during the
25 day on Highway 25.



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1 Q. This is in 1996?

2 A. Yes, an estimate in 1996.

3 Q. The peak period hour is 7:45
4 a.m. to 8:45 a.m.

5 A. That's right. We got that
6 figure from a traffic count at Highway 25 and
7 Britannia Road. We used those figures and used a
8 value for the likely number of cars on Highway 25
9 itself during that peak period in 1996, and that is
10 the 740 number in each direction. That would be
11 the non-landfill traffic, and you will see those two
12 boxes, and that is roughly 15 per cent, I believe,
13 of the total traffic and that is a traditional
14 relationship between what we would call the design
15 hour traffic volume and an average annual daily
16 traffic volume.

17 Q. Let me understand that. Is
18 that the 15 per cent reduction you are talking about
19 from the worst case?

20 A. No, this is 15 per cent of the
21 projected annual daily traffic, 15 per cent of that
22 which we were using to represent the a.m. peak hour,
23 what we call the design hour. We are saying it's
24 a reasonable indication of what's going there in
25 this peak hour and along Highway 25 it is 740



1 vehicles in each direction in that hour.

2 Q. That's the background?

3 A. Background traffic not influenced...

4 Q. When we add in our landfill
5 traffic?

6 A. We superimpose the landfill
7 traffic for a typical similar period in 1996 and
8 that is the 36 turning into the site from the south
9 and 9 turning into the site from the north and then
10 the same split going back out.

11 Q. I understand that, but what
12 I am failing to understand is what does the number
13 1,552 mean on the other end; is that 740 plus the
14 heavier traffic coming from the south?

15 A. It's just a total summation of all
16 the individual directional trips.

17 Q. What this means is you have
18 got....

19 A. There's more traffic to the
20 south of the site than the north of the site because
21 of the orientation of the vehicles, predominantly
22 oriented toward the south, and normally there would
23 be a 50/50 split on Highway 25.

24 Q. Let me make sure I've got this.
25 What you have got is a total of 1480 vehicles going



1 by in that hour in both directions excluding the
2 landfill component?

3 A. Yes, that's right, 1480.

4 Q. That number of 1480 is not
5 the worst case you have developed, but is 15 per cent
6 less than the worst case?

7 A. No, no. When we are looking
8 at design requirements for transportation features
9 such as entrances or intersections, we pick a design
10 hour to base our volume estimates on and that is
11 a traditional percentage of the average daily traffic
12 that occurs along that route. If we have a certain
13 average daily traffic level on Highway 25, it's
14 normal practice to pick about 15 per cent of that
15 traffic and say that is occurring in the design hour.

16 Q. In the peak hour?

17 A. In the hour we will use to
18 assess the design requirements of the intersection
19 or the entranceway.

20 Q. So this number of 1480 is
21 15 per cent?

22 A. Of the average annual daily
23 traffic on Highway 25.

24 Q. That is recognised as being a
25 correct relationship with the peak hour?



1 A. It depends on the kind of road
2 and it goes down -- if you are in an urban area,
3 it will go down.

4 Q. For this road?

5 A. For this road it's at the higher
6 end of what we would normally look at, 12 to 15....

7 Q. It's within the range?

8 A. Yes.

9 Q. That's why you've used it?

10 A. Yes.

11 Q. You are being conservative?

12 A. Yes.

13 Q. Assist me with the windows we
14 will find in relation to the movements in and out of the
15 site entrance because I have got 1480 passing
16 vehicles and I make that to be one going by every
17 2.5 seconds?

18 A. It's fairly busy on the highway
19 at that time, yes.

20 Q. So, there will be one going by
21 -- and we are using averages -- but southbound every
22 five seconds and one going by northbound every five
23 seconds; is that correct?

24 A. Yes, 740 an hour. Whatever
25 that works out to.



1 Q. I've done it and I come to 2.5
2 seconds or one every 2.5 seconds. You would then
3 have 45 vehicles going into the landfill entrance
4 and 45 vehicles coming out of the landfill entrance
5 in the same hour?

6 A. Yes.

7 Q. And that's 90 movements in and
8 out in total; correct?

9 A. Yes.

10 Q. And that then would be one every
11 40 seconds, dividing 90 into 3600 seconds. Am I
12 right about that?

13 A. One every....

14 Q. ...40 seconds.

15 A. Okay.

16 Q. Taking that, taking that
17 window of 5 seconds for the truck wanting to get
18 out of the site or into the site, I want you to go
19 back to the design you have given us for the entrance
20 and discuss that. That is at page 62, I think.
21 I am sorry, 65.

22 A. Yes.

23 Q. I have my vehicle sitting, if
24 you can put yourself in the position of the driver,
25 but at the entrance going out and he wants to go



1 south and he is one of the 80 per cent of those
2 vehicles wanting to go south?

3 A. Yes.

4 Q. In order to make his movement,
5 he has got to find a window of 5 seconds and he has
6 got to move onto the roadway and he has got to do
7 that in safety?

8 A. Yes.

9 Q. And he doesn't have an
10 acceleration lane in which to do it; am I correct
11 about that?

12 A. Yes, which means he will make
13 that move and possibly disrupt through traffic for
14 a section of his getting up to speed.

15 Q. With which I agree, and if
16 you go further in the analysis with me, as he is
17 making that movement, there is a good possibility
18 that another haulage vehicle will be coming into
19 the site from the north and will move into the
20 deceleration lane which you have got designed and
21 freeing traffic behind it to go straight through?

22 A. Yes.

23 Q. I am going to suggest to you
24 that it's possible that as that happens you will
25 have high speed car traffic which will find itself



1 confronted with this slow moving vehicle just coming
2 out of the gate?

3 A. I think there will be a mix of
4 speeds in this general area and I guess the thing
5 we are looking at is how safe that is and the
6 relative problems that would create.

7 Q. Let's go further in the analysis
8 because at the same time that is happening, there
9 may well be another haulage vehicle wanting to
10 turn left into the gate and so it is sort of
11 perched there in the middle of the road, isn't it?

12 A. It has its own lane.

13 Q. Yes. Traffic which has been
14 behind it has now moved into the passing lane on
15 the east side of the highway?

16 A. Yes.

17 Q. So the whole roadway is blocked
18 for this vehicle that is coming southbound?

19 A. That is heading southbound from
20 the site.

21 Q. The whole road is blocked off
22 and all it can do is come down to the speed of
23 that vehicle which has turned out onto Highway 25
24 to go south?

25 A. Yes.



1 Q. Added to that, I would suggest,
2 may be another problem and that is that at about
3 the time my truck going southbound pulls onto the
4 highway with no acceleration lane, another truck
5 may take that window to go north, make a turn at
6 the same time. I guess my point is, don't you
7 think that this design should have an acceleration
8 lane southbound?

9 A. I think you could make a case
10 for it. I went to the MTC, the Ministry of
11 Transportation and Communications, and outlined the
12 Site D operation and asked them what they would want
13 to see at that entrance and this is what they want
14 to see. An acceleration lane could be put in at
15 that location. There are similar operating
16 characteristics at the existing site in that there
17 are trucks moving out from a stop into a through-
18 traffic lane and I don't know -- if you look at
19 the numbers, it seems as though you could make a
20 case for a lot of conflicts, but, in fact, traffic
21 sorts itself out fairly readily and the conflicts
22 just aren't there.

23 Q. At the existing site the speed
24 limit is 50 kilometres?

25 A. That's right, it is a bit lower.



1 Q. At this site the speed limit is
2 80 kilometres and the average travel is 80 to 90
3 kilometres?

4 A. Yes, the traffic is moving
5 quicker. In any event, the extent of the problem is
6 difficult to put in perspective, but an acceleration lane
7 to the south is a possibility if the problem crops up.
8 It wasn't a requirement of the Ministry of
9 Transportation.

10 Q. When you went to the Ministry,
11 did you show them the analysis we have just gone
12 through and did you give them the figures of the
13 five second window?

14 A. We talked about the number of
15 turns in and out.

13A

16 Q. Did you talk about the windows?

17 A. No.

18 Q. Did you talk about the charac-
19 teristics of the haulage vehicles that would be coming
20 into the site and leaving the site?

21 A. We looked at the peak hour
22 figures and reviewed the numbers of turning vehicles
23 and the numbers of through vehicles.

24 Q. Did you look at the acceleration
25 capabilities of those haulage vehicles



1 in terms of how quickly they could get....

2 A. I didn't present that information
3 to the Ministry. I reviewed the traffic turns
4 and asked them what they would consider appropriate
5 at the site.

6 Q. They have standard designs,
7 don't they, at the Ministry?

8 A. This is a standard design for
9 an entrance to a facility such as this.

10 Q. They have designs with short tapers
11 and longer tapers, as I understand it?

12 A. The length of the taper is
13 usually a function of the design speed or operating
14 speed of the road.

15 Q. And this particular taper for
16 deceleration southbound to the site entrance is a
17 short taper?

18 A. It's a pioneer standard for
19 the design speed of the road for a right turn lane.

20 Q. It strikes me, Mr. MacLeod,
21 that life is going to get kind of difficult for the
22 people residing in these two residences to the
23 south of the site because they will have to cope
24 with all of this traffic and they will become
25 another slow turning vehicle in the middle of this



1 or at the beginning. Would you agree with that?

2 A. In terms of the overall traffic
3 on Highway 25, the change resulting from the trucks
4 at that location -- I don't know if it will affect
5 them negatively or noticeably at all.

6 Q. And there are some other
7 residences to the north of the site which also have
8 their driveways going onto the roadway directly?

9 A. I think there is one on the east
10 that I know of.

11 Q. I guess what you are saying
12 is that you agree with me it would be safer if there
13 was an acceleration lane to assist vehicles coming
14 out of the site and going southbound?

15 A. I think it would help and
16 whether it is something that is absolutely needed....

17 Q. It is safer, isn't it?

18 A. I think it would be.

19 Q. It gives those vehicles an
20 opportunity to get up to speed before they merge
21 with that high speed traffic?

22 A. Yes. I think that would be a
23 minor modification to this entrance scheme.

24 Q. If you had another taper and
25 say the same size as the one that is used for



1 the deceleration from the north, how much would that
2 cost, do you know?

3 A. I don't know.

4 Q. That would be something Mr.
5 Watson would have more information on?

6 A. I would have to do a design of
7 that and determine its precise length.

8 Q. What you have designed to this
9 point is about \$100,000?

10 A. Yes, but that's quite a
11 conservative figure.

12 Q. Tell me this; when you have
13 gaps, we have assumed they are constant gaps but
14 they are not really that way because some are shorter
15 and some are larger?

16 A. Vehicles on highways usually
17 travel in platoons which would be groupings of
18 vehicles with gaps between them.

19 Q. The platoon tends to strangle
20 out the further you get away from the last stop light?

21 A. Yes.

22 Q. The last stop light to the
23 north of this site presently is at the corner of
24 Derry Road and Highway 25?

25 A. Yes.



1 Q. That's about two miles plus north of
2 this site entrance?

3 A. About two miles. Yes, a little
4 over two miles, about two miles to Britannia.

5 Q. So the platoon will have
6 straggled out?

7 A. To some extent. We are really
8 talking theoretically and it depends upon who's
9 leading the platoon, if we can use that phrase, and
10 if it's a slow moving agricultural vehicle which
11 happens, then the platoon may not spread out.

12 Q. To make it quite safe, you put
13 a signal light in there?

14 A. At the entrance road?

15 Q. Yes.

16 A. Well, a signalized entrance
17 may create safety problems itself, forcing cars to
18 stop, and I would say that that would be a last
19 resort. It's something you would resist, putting
20 a signal on that kind of highway.

21 Q. There is a signal light at
22 Derry Road?

23 A. Derry Road is really the end
24 of the urban area and it's a standard and expected
25 traffic control measure and still is in that



1 environment. As you get south on Highway 25, and other
2 than at major intersections, you wouldn't expect
3 traffic signals.

4 Q. As I apprehend what you are
5 saying, you will grant me another lane, but not a
6 signal light?

7 A. No. I think a lane could help
8 ease some of the problems, but how serious those are
9 is a matter of debate, I suppose, but you create
10 problems if you put a light there also, problems you
11 would not normally have.

12 Q. What are they?

13 A. Well, you get people going
14 through red lights because of the expectation or
15 the non-expectation of a signal at that location.
16 You probably have to reduce speed on Highway 25
17 because the reaction time to stop at a red light is
18 such that a 90 mile an hour speed is probably not
19 appropriate, so you would have to slow it down to
20 50 or 60 and you're changing the general environment
21 of that road by putting in a signal.

22 Q. Doesn't that road rise as you
23 go south from the entrance to the site?

24 A. Yes, it's quite flat, but
25 it does rise.



1 Q. In addition to being slow moving
2 as they get on the road, they must go up a hill to
3 some degree?

4 A. They do. I don't think the grade
5 is steep enough to influence their accelerating
6 ability.

7 Q. About 2 per cent?

8 A. If it's 2 per cent it will
9 affect it to a slight degree. I thought it was about
10 one and a half.

11 Q. One and a half to two, I think
12 your report says.

13 A. I think so.

14 Q. There is also a sight line
15 problem as you come northbound on Highway 25 and
16 as you approach the site you go over a little hill?

17 A. There is a very gentle crest,
18 yes, but we have located the entrance so that it
19 will be well within sight of vehicles from the
20 south.

21 Q. Assuming everybody is travelling
22 at the speed limit or below?

23 A. Yes.

24 Q. And that they have their wits
25 about them and are watching?



1 A. Well....

2 Q. There is always that?

3 A. The site is quite visible and
4 is located on a good spot on Highway 25.

5 Q. I only have one other matter
6 I want to address with you and that is the assumption
7 you make with respect to Site D that all of the
8 traffic which comes down from Halton Hills and is
9 on its way to Site D is going to go on the route you
10 show on H-32-3?

11 A. Yes.

12 Q. You have got that traffic which
13 we have agreed is about 10 per cent by weight of
14 everything going to the landfill coming down to
15 Steeles Avenue?

16 A. Yes.

17 Q. Coming down to Steeles Avenue
18 on Trafalgar Road and then going over to Highway
19 25 and then south to the site?

20 A. Yes.

21 Q. On H-33-3, you have that same
22 waste going south on Highway 25 and when it
23 reaches the intersection of 25 and Steeles Avenue
24 it carries right on down?

25 A. Yes.



1 Q. Have you driven those routes?

2 A. Yes.

3 Q. Let me put you at the wheel
4 of a Leferink truck and take you down the road.
5 You arrive at the corner of Steeles Avenue and
6 Trafalgar on your way south and there is a traffic
7 light. Are you aware of that?

8 A. Yes.

9 Q. Following your route, you would
10 turn right at the traffic light?

11 A. Right here, addressing this
12 route (indicating).

13 Q. And you would go all the way
14 across to the intersection of Steeles with 25?

15 A. Yes.

16 Q. There is another traffic light?

17 A. Yes.

18 Q. You negotiate that and make
19 your left turn and go right through urban Milton?

20 A. Yes.

21 Q. And as you go from urban
22 Milton on the north at Steeles to urban Milton on
23 the south at Derry Road, you will find five traffic
24 lights?

25 A. Yes.



1 Q. A school for the deaf, a
2 high school and Milton's major shopping centre?

3 A. Yes.

4 Q. Once you clear all of that, you
5 are about two miles from Site D. Would you agree
6 with that?

7 A. Yes.

8 Q. Let's back up and head towards
9 Steeles Avenue and Trafalgar Road on our trip again.
10 As you arrive at the stop light, you find it green
11 and you go straight through and you go down Derry
12 Road and the light is green again or maybe red and
13 you want to get to Site D and you want to go there as
14 fast as you can and so you would go along
15 Britannia Road. Have you driven that road?

16 A. Yes.

17 Q. Would you agree with me that
18 it is more likely that haulage vehicles, particularly
19 private haulage vehicles, are going to go straight
20 through on Trafalgar Road and turn across at
21 Britannia Road?

22 A. No, I think it's more likely
23 that the Steeles route would be used.

24 Q. Why would you say that?

25 A. Well, I would think that it's



1 a road, although it is congested, I think it is a
2 more traditional routing for them and I don't think
3 they always take the most, or the quickest route in
4 every instance if the road is not considered
5 generally appropriate and I don't think Britannia
6 Road is.

7 Q. Britannia is two lane?

8 A. Low standard.

9 Q. And it's paved?

10 A. Very narrow shoulders.

11 Q. It is direct and straight across?

12 A. I don't think the trucks would

13 use that and one of the reasons I am recommending
14 this committee be established is to ensure that
15 the drivers of trucks are aware of the issues
16 associated with using various route options. It
17 seems from the interviews we conducted that there
18 is a fair bit of discretion left up to drivers and
19 it's that kind of discretion you would want to start
20 affecting and if they would use certain routes, and
21 it is possible and we want to make sure they are
22 aware of the concerns that exist in any community
23 as to using an inappropriate route.

24 Q. You are saying they might have
25 to be directed to use that route you have chosen?



1 A. I think some of them would, yes.

2 Q. It's a safer route, isn't it,
3 from the point of view of traffic safety?

4 A. Which one?

5 Q. The one you have chosen and
6 shown as being the most likely one?

7 A. Yes, I would say it is.

8 Q. The quickest route is the one
9 I have described, down Trafalgar Road and across
10 Britannia?

11 A. I don't know that; it may
12 have problems in the wintertime.

13 Q. But you have driven it?

14 A. Yes.

15 Q. I take it you didn't take into
16 account any of the land uses along Britannia Road
17 in your traffic safety because you didn't premise
18 anyone would be going there?

19 A. We didn't think it would be
20 used by that many trucks.

21 Q. Is there a difference between
22 the behaviour of the private hauler and the person
23 who drives for the municipality?

24 A. I don't know.

25 Q. My reason for asking that is



1 that it seems to me the private hauler wants to
2 take the heaviest payload over the shortest distance
3 and shortest time because he has a profit motive.
4 Do you agree with that?

5 A. I don't know what the motive
6 of the municipal worker would be.

7 Q. It's not a profit motive, is it?

8 A. It could be, it could be a
9 profit motive. If he does his job very well, he
10 might get a raise.

11 Q. I have some difficulty with
12 that one.

13 A. I don't know. If we are
14 talking about driver motivation, that's not really
15 my field.

16 MR. LEITCH: Those are all my
17 questions. Thank you.

18 THE CHAIRMAN: Thank you, Mr. Leitch.

19 I think before we hear more questions,
20 I think we will take a break.

21
22 --- Recess

23
24 MR. TZEKAS: Mr. Chairman, I apologise
25 for interrupting the proceedings at this point but



1 having missed a portion of the hearings, I am not
2 really certain of what my rights are at this stage.
3 Do I have an opportunity to reply to information
4 brought out by Mr. Leitch in his cross-examination?

5 THE CHAIRMAN: We did give Mr. Leitch
6 the opportunity to do so before and we will to you
7 to a limited extent.

8 MR. TZEKAS: I have a single question,
9 but if it will establish a precedent, I would just
10 as well not do it. I am happy to sit down, but I
11 didn't know what rules were established.

12 THE CHAIRMAN: Perhaps there is something
13 you could ask Mr. Hodgson about, if it's clarification.

14 MR. TZEKAS: In a way.

15 THE CHAIRMAN: Perhaps Mr. Hodgson
16 could cover it in re-examination.

17 MR. TZEKAS: It is settled. Thank you,
18 sir.

19 THE CHAIRMAN: Ms. Nurvo?

20 MS. NURVO: I have no questions of
21 this witness.

22 THE CHAIRMAN: Mr. Tidball.

23 CROSS-EXAMINATION BY MR. TIDBALL:

24 Q. I have one question and it
25 relates to the transportation of garbage on routes



1 that perhaps aren't completely acceptable, and you
2 were asked a long series of questions in cross-
3 examination about routing down Brant Street and
4 other areas that perhaps are not on the routes you
5 indicated on your exhibits?

6 A. Yes.

7 Q. I wanted to draw your attention
8 to the provision of the Regional Municipal of
9 Halton Act, which allows the Regional Council to make
10 bylaws prohibiting garbage trucks from certain roads
11 and requiring the use of others. Would it be your
12 recommendation by means of mitigation to Regional
13 Council that such measures be taken?

14 A. It hasn't been my recommendation
15 to this point in time. I recognise that power
16 that Halton has to designate haulage routes and I
17 have listed them as one of my typical mitigation
18 measures to be considered. The approach I was
19 taking was that we would set up this review committee
20 to discuss with the haulers the appropriate routes
21 and hopefully get around that problem in that way
22 and a lot of these people who are hauling, the
23 trucks that are hauling to the existing landfill
24 site are under contract to the municipalities and,
25 therefore, the municipalities have some rights to



1 suggest where they travel and how they travel to
2 the landfill site, and I was hoping that that
3 committee type of method of discussing the problems
4 with routings and educating the drivers would be
5 effective in keeping them off routes that are
6 inappropriate.

7 Q. In your mind, are there particular
8 routes, and I guess we have heard of some of them
9 today, that are particularly inappropriate for this
10 kind of traffic with relation to Sites D and F only?

11 A. I think travel on sections of
12 Britannia, for example, and it really depends on
13 the number of trips. You get to a point that if
14 it is used for a large number of trips, then you
15 will have to start looking at road improvements
16 and so it really depends on the numbers and one or
17 two taking the odd isolated route is not a problem.

18 MR. TIDBALL: Thank you. Those are
19 all my questions, Mr. Chairman.

20 DR. KINGHAM: Mr. MacLeod, we have a
21 few questions which the Board would like to put to
22 you in terms of some of the information that has
23 come out in the last couple of days. First of all,
24 with regard to either site, there would be a lot
25 of trucks coming and going at any one time, but we



1 have not yet heard about site design so we don't
2 yet know whether this would normally mean there would
3 be trucks waiting on the road to get into either site.
4 Do you know whether trucks would be in line to get
5 into the site?

6 THE WITNESS: I am not certain of that.
7 I assume that the site design accommodates whatever
8 storage is required.

9 DR. KINGHAM: You did not take into
10 account for the purposes of Site D that you might
11 have a line of trucks waiting to make a left turn?

12 THE WITNESS: I assumed they would be
13 able to clear the road and they wouldn't be
14 prohibited from turning into the site because of
15 trucks that would be lined up. I doubt if that
16 would be the case due to the length of the access
17 road.

18 DR. KINGHAM: So the assumption is no
19 line-up because the accommodation of trucks on site?

20 THE WITNESS: That's right.

21 DR. KINGHAM: Turning back the process
22 a little bit to the stage of choosing or recommending
23 between the six sites as the process narrowed to
24 two sites, and that is between 2B and 2C, I guess,
25 the Stage 2B or Stage 2C of Phase 2 or something



1 like that?

2 THE WITNESS: Stage 2C dealt with
3 six sites.

4 DR.KINGHAM: Then it went to two where
5 you began your technical studies?

6 THE WITNESS: Yes.

7 DR.KINGHAM: Is there any reason you
8 know of from a traffic perspective why Site A would
9 not be a suitable candidate for landfilling?

10 THE WITNESS: From a traffic perspective,
11 no. Any of the sites to the C level, the six
12 site level are appropriate with the exception of
13 Site E in Milton, which has some problems.

14 DR. KINGHAM: We appreciate your views
15 in the narrowing down of sites from six to two as
16 we consider, for example, table 5 in H-13 and
17 tables 20 and 21 in H-11 or the exhibit that was
18 brought to our attention and offered to us this
19 morning, B-146, all of which showed the ranking of
20 sites.

21 When you considered Site A versus B
22 or Site A versus F from a traffic perspective, you
23 would conclude what with regard to those three
24 sites?

25 A. Well, let's say that A is



1 slightly below in terms of potential impact.
2 Site A is very sensitive to Highway 403 and at one
3 time the program for 403 was such that it was likely
4 going to be built and operational in early or mid in the
5 planning period, which made A relatively attractive,
6 it being located immediately south of 403, but
7 the program for 403 was shoved off a fair bit and
8 now it's quite uncertain when it will be put in
9 place. That restricts the prime access to A to
10 by Trafalgar Road, which has a fair bit of urban
11 trips and it's the main local access to Oakville.
12 It's not as good a main feeder as Highway 25.

13 DR. KINGHAM: At the time of your
14 consideration of the various sites, you were counting
15 on 403 as part of your factors for Site A?

16 THE WITNESS: We weren't counting on
17 it, but it was a fact that it would be used by
18 a number of trips, primarily from Burlington for
19 portions of the landfill planning period.

20 DR. KINGHAM: I would like you to
21 look at Exhibit H-89, which I think is just down
22 here, and you might briefly put it up. We would
23 recognise this exhibit because we discussed it
24 at some length earlier in May. You will note that
25 there is quite a drop in waste in '83 and '84,



1 and although we don't have a number for it, and
2 perhaps Mr. Hodgson would like to give a number to
3 the other chart which I think was available at
4 the same time but which was never actually
5 discussed in evidence, but this chart showing
6 the annual change in landfilled tonnage and showing
7 a very negative figure for 1983, and 1983 is your
8 base year for calculations of traffic associated
9 with the sites. In view of this information, do
10 you think that your assumptions and calculations
11 about relative impacts would change and, if so,
12 would it have an effect on the rankings?

13 THE WITNESS: The main use of the '83
14 data, and this was at the 2C level, was to give an
15 indication of the trends in arrivals and a relation-
16 ship between weight and vehicles. I don't think
17 that that would change. The overall amount of
18 waste may be lower, but I don't think that that
19 would affect the relationships of the vehicles to
20 what is being committed. We did augment that
21 information with data from '84, '85 and '86
22 eventually.

23 DR. KINGHAM: By '86 one is again
24 approaching the average level for waste generation?

25 THE WITNESS: That's right, and the



1 trends or the characteristics that we can see from
2 each year didn't change that dramatically.

3 DR.KINGHAM: So you are telling us
4 that it would affect it in only a relative way, that
5 is to say the whole load goes up and the relative
6 dispersal to the different sites goes up as well?

7 THE WITNESS: Yes.

8 DR. KINGHAM: You may recall our
9 earlier discussion about the environmental impact
10 of different routes. You have given us information
11 on time and distance. Did you gather information
12 on fuel consumed under either scenario?

13 THE WITNESS: No, I didn't.

14 DR. KINGHAM: Will that information be
15 coming forward in the economic analysis or do we
16 know?

17 THE WITNESS: I'm not certain of that.
18 I think fuel is one of the cost items that is in
19 the equation for haulage, but whether it can be
20 separated out, I don't know.

21 DR. KINGHAM: Is it difficult to
22 convert fuel consumed in trucks to emissions from
23 trucks?

24 THE WITNESS: I really don't know.

25 DR. KINGHAM: It is not your area



1 of expertise and in traffic you were only on the
2 traffic flow side?

3 THE WITNESS: Right.

4 DR. KINGHAM: There has been some
5 discussion in the delivery of your evidence about
6 container facilities and transfer stations, both in
7 your witness statement and it has come out in
8 evidence, in cross-examination. Do you know
9 whether those container facilities or transfer
10 stations provide opportunities for receipt or
11 handling of hazardous household wastes separate
12 from general wastes?

13 THE WITNESS: I'm not aware that
14 they do. I haven't heard that they do.

15 DR. KINGHAM: Therefore are you telling
16 me that when householders deliver their waste to
17 such an area, they deliver whatever they have?

18 THE WITNESS: They would usually go
19 with large bags of garbage and just throw them in
20 the containers.

21 DR. KINGHAM: You have said throughout
22 your evidence that large truck traffic is a
23 small percentage of total traffic and I have a little
24 difficulty with "a small percentage." Is that
25 less than 10, less than 5, less than 2 per cent?



1 THE WITNESS: When I use the word
2 "small" it would usually refer to a number in the
3 order of 1 or 2 per cent. I think perhaps 4 per
4 cent was considered small in one instance.

5 DR. KINGHAM: Yes, because that
6 relates in fact to one of the other questions the
7 Board has and it came out in reference to the
8 12 per cent truck traffic and the 4 per cent truck
9 traffic. I can't recall exactly who asked the
10 question, but it did raise the question of whether
11 or not the 4 per cent increase in truck traffic
12 due to the dump site on Highway 12 was already part
13 of the existing 12 per cent truck traffic on that
14 highway?

15 THE WITNESS: On Highway 25?

16 DR. KINGHAM: Highway 25, excuse me.

17 THE WITNESS: There will be a
18 component in the 12 per cent truck traffic and that
19 is likely haulage vehicles or vehicles going to
20 the landfill site, but I would say not a large
21 portion of that 4 per cent would be included in the
22 twelve.

23 DR. KINGHAM: I would like to know
24 a bit more about the container facility question
25 in a broad traffic sense. Container facilities



1 as you described them, being spread throughout Halton,
2 offer closer points for individuals to dispose of
3 their refuse?

4 THE WITNESS: Yes.

5 DR. KINGHAM: Without the container
6 facilities, did you calculate, assuming there were
7 no container facilities, what the increased risk
8 of moving things to Sites D and F would be?

9 THE WITNESS: We looked at the increase
10 in vehicular activity at the landfill site and I
11 believe the figures on the busiest period of last
12 year, which was in August, if the container
13 facilities weren't in existence in Georgetown, in
14 Milton and Oakville, there would be approximately
15 460 vehicles a day without their normal way
16 of depositing waste and they would presumably go to
17 the landfill site.

18 DR. KINGHAM: That would mean that 40
19 to 60 vehicles....

20 THE WITNESS: That's 460.

21 DR. KINGHAM: 460 vehicles would not
22 be going to the container facilities and they would
23 then be going to the landfill facilities?

24 THE WITNESS: That's right, and
25 presuming that they would in fact make the trip to



1 the landfill, and there is some speculation that
2 they would just in fact throw some of their garbage
3 on the side of the road.

4 DR. KINGHAM: The Board would like to
5 know your professional opinion as to the relative
6 risk of these drivers delivering their waste
7 to container facilities at four or five different
8 sites versus having that 460 vehicles delivering
9 it all at one site?

10 THE WITNESS: I think the container
11 facilities provide a good level of service to the
12 private individuals, and they certainly spread the
13 loading of the highways or on the highways out a
14 fair bit. If you concentrate 460 additional vehicles
15 at the landfill site, I think you could create a
16 problem and it would almost double the amount of
17 total vehicles that would be going there in a busy
18 period on a weekend and that would be quite
19 noticeable. It would contribute to delays and
20 if it's concentrated all at one location, it would
21 contribute to delays both to the people delivering
22 waste and on the road itself.

23 DR. KINGHAM: I take it your answer
24 is reduced risk for maintenance of some kind of
25 container facilities dispersed through the region?



1 THE WITNESS: Yes, I think they are
2 quite effective in reducing impacts.

3 DR.KINGHAM: I am curious with regard
4 to your tables 20 and 21 in, and I am lost for which
5 document this was, but the one that led to B-146
6 and that was from Exhibit H-11, tables 20 and 21.
7 If we might just look at those.

8 THE WITNESS: Yes.

9 DR. KINGHAM: I am most interested
10 in the bottom statements on the bottom of page 141
11 with respect to table 21 which obviously relates
12 to table 20 where you have made a decision which
13 might have been arbitrary, I don't know, but to
14 rank things in order of low, moderate, high and
15 severe and picking as low rankings from 1 to 7 and
16 thus the first eight sites were given low and the
17 next twelve were called moderate and then the next
18 eight were called high and the last four were
19 called severe?

20 THE WITNESS: Yes.

21 DR.KINGHAM: As was noted in the
22 cross-examination, some of those sites, especially
23 some of those sites in the moderate range and
24 some of the sites in the high range, all have
25 the same score?



1 THE WITNESS: Yes.

2 DR. KINGHAM: We would be interested
3 to know how you arrived on a ranking scheme which
4 pays no respect to the score rather than say
5 assuming anything less than 15 is low and anything
6 between 15 and 30 is medium and anything above is
7 high?

8 THE WITNESS: It is somewhat
9 arbitrary. The end product of this phase was to be
10 a ranking and a level of impact indication and we
11 were gearing to that in the analysis. So, we
12 develop a scoring system to hopefully give us a
13 distinction between the performance of each of
14 the sub-areas. In fact, we found a number of them
15 were tried in this scoring system.

16 So, then we went to the data tables
17 and tried to sort out amongst the sites with similar
18 scores exactly what the likelihood of conflict was,
19 looking at the other pieces of information that we
20 had for each of the areas and then we tried to
21 rank within each grouping with the same scores an
22 order.

23 DR. KINGHAM: For the Board's
24 consideration, should it be considering that there
25 is any significance in differences between sites



1 that all received the same score, even though some
2 of them fall somewhat arbitrarily, as you have
3 pointed out, into a high impact scheme and others
4 fall into a medium impact scheme?

5 THE WITNESS: I have a lot more
6 confidence with the ranking itself as the impact
7 level is somewhat arbitrary within the ranking.

8 DR. KINGHAM: With regard to that
9 same issue, and using for illustrative purposes
10 Exhibit B-146, one finds for instance that Site A
11 is very near the bottom of that list and Sites D
12 and F are quite a bit higher. If you were making
13 the decision on the location of landfills, would you
14 thus, from the traffic perspective, have come to the
15 conclusion that any of those towards the bottom of
16 the page were more preferable?

17 THE WITNESS: I think it would be
18 difficult to eliminate anything that had a low
19 or moderate level of impact and it's only when we
20 get to the area of high and severe that a judgment
21 should be made.

22 DR. KINGHAM: Can we turn briefly to
23 Exhibit H-33-3, because there is an area that
24 still remains unclear to us, and it has to do with
25 the line you have added at the bottom of H-33-3,



1 the one that shows Highway 5 and Brant Road?

2 THE WITNESS: Yes.

3 DR.KINGHAM: We have heard variously
4 from interviews which you report on that large
5 portions of the waste from Oakville and Milton follow
6 that alternate route, but you pointed out on other
7 occasions that that is nevertheless a small part of
8 the overall?

9 THE WITNESS: Yes.

10 DR. KINGHAM: I think it would be
11 helpful for us to know what portion of the waste
12 which would be going to Site F would follow that
13 pink route?

14 THE WITNESS: It's very difficult to
15 put a number against that. The municipal official
16 in Oakville we were talking to who suggested the
17 60/40 split, QEW versus Dundas, was addressing
18 municipal vehicles. There is a table in the report,
19 the Technical Study Reports, H-33 for instance,
20 which will give you an idea of the number of
21 vehicles that each agency is responsible for or
22 each group is discussing. Now, this is prior to
23 page 42 in the Site D report, H-33. We asked some
24 basic questions regarding the size of the fleet,
25 number of trips and the town of Oakville indicated



1 they have seven rear-end packers and three one-man
2 packers and the vehicles average twenty trips per
3 day in the average week. So, that particular
4 gentleman from Oakville is talking about that kind
5 of range of trips.

6 So, if we are talking a 60/40 split
7 so we would be dealing with twelve on the QEW versus
8 eight on Dundas Street.

9 DR. KINGHAM: Where the reference was
10 made to Milton with 95 per cent, was that 95 per
11 cent of six trips per day or 95 per cent of part
12 of Milton's routing?

13 THE WITNESS: It would be basically the
14 six trips on the average day and I am not sure what
15 95 per cent of six is, but it's the main route for
16 those six trips.

17 DR. KINGHAM: Okay, I guess we will
18 have to calculate that out for ourselves. Just
19 a couple of other matters.

20 H-32, page 52, and you have this
21 reference to 4 per cent of the traffic is large
22 truck traffic and 62 -- you have the 12 per cent
23 and I think there was some questions as to whether
24 one would add those together to get a total of 16
25 per cent, which would make it by your earlier evidence



1 almost twice the average or whether in fact that 12
2 per cent referred to on page 62 includes the 4 per
3 cent. I think you said it includes it?

4 THE WITNESS: No, it does not include
5 it.

6 DR.KINGHAM: Are you telling us that
7 present truck traffic at 12 per cent; to that
8 you would add an additional 4 per cent?

9 THE WITNESS: Yes.

10 DR.KINGHAM: You would then have a
11 total of 16 per cent?

12 THE WITNESS: Approximately.

13 DR. KINGHAM: Against an average
14 which you described was about 8 per cent?

15 THE WITNESS: Average for a rural
16 highway and I wouldn't classify Highway 25 in this
17 area as a typical rural highway. It is influenced
18 quite a bit by Oakville, Burlington and Milton
19 immediately to the north. So, it is somewhere in
20 between.

21 DR. KINGHAM: In Appendix D from
22 both H-32 and H-33, the first page shows the
23 entrance to each of the sites and there was a lot
24 of discussion about that?

25 THE WITNESS: Yes, the traffic diagrams.



1 DR.KINGHAM: This may be a very
2 straightforward matter, but in one case you have
3 a peak hour in and out of ninety vehicles per hour
4 and, in the other case, that is to say in Appendix
5 D of H-32, you have 90 vehicles in and out per hour
6 and in Appendix D of H-33, you have 66 per hour
7 and that is because it is over a time period of
8 eight hours. Is that what accounts for the difference
9 in flow of trucks?

10 THE WITNESS: The first....

11 DR.KINGHAM: The first directional traffic
12 flow diagram in each of the appendices, which for
13 Site D shows 90 vehicles in and out in the peak
14 hour, whereas for Site F it shows 66 vehicles per
15 hour for a total of 532 over an eight-hour time
16 period?

17 THE WITNESS: It's a different
18 rationale for developing the two.

19 DR.KINGHAM: Reflecting on your evidence
20 that there is a peak time during the day as well as
21 for the traffic passing by?

22 THE WITNESS: Yes.

23 DR. KINGHAM: On that same point,
24 however, on the same diagram you have before you,
25 Appendix D of H-33, you show an estimated or projected



1 traffic flow along the North Service Road which
2 averages about 934 vehicles per hour, which is
3 not all that much different from that on Highway 25
4 being 1498 per hour. I am curious about that in
5 light of what you said in response to earlier
6 questioning, that the North Service Road
7 essentially provided services to the landfill
8 but there was also some by-pass traffic. Is that
9 by-pass traffic on the North Service Road
10 approximating 1000 vehicles an hour in 1996?

11 THE WITNESS: What makes up the
12 traffic on the North Service Road is the various
13 functions and the fact there is not that many
14 entrances on the North Service Road would lead
15 you to believe that most of the trips on there
16 are using it as a link to get from one place to
17 another and the traffic level on the North Service
18 Road is comparable to Highway 25. It is not that
19 far different and so it's fairly similar in that
20 background traffic level.

21 DR. KINGHAM: This is traffic moving
22 from Waterdown Road to Kearn's Road?

23 THE WITNESS: Or between Brant Street
24 and Waterdown and it could be to get to Highway 403
25 at Waterdown perhaps, or north on Waterdown.



1 DR. KINGHAM: Finally, Mr. MacLeod,
2 there was some discussion and some questions about
3 the removal of the traffic associated with Site F
4 in doing your analysis of overall effects of traffic
5 in each area. To put the discussion on completely
6 level ground, a fair basis, and assuming that
7 neither Site F nor Site D existed, we would
8 appreciate your professional opinion as to which
9 of those sites met the safest in getting trucks to
10 and from the site, Site D where it is and Site F
11 where it is and no site now and you were able to
12 design traffic or consider traffic flows as they
13 exist without the sites?

14 THE WITNESS: In essence that is
15 what I tried to do in these reports. The comment
16 relative to it being the existing site I think
17 is interesting in the perspective that we are trying
18 to look at indicators of potential conflicts and
19 utilize those to predict perhaps with future
20 confidence the future safety problems that might
21 exist. The benefit we have with Site F is that
22 the existing site is there, so not only can we
23 look at the road items which may affect traffic
24 safety, but we have a record of traffic safety and
25 we can look and see if there is any connection and



1 the work I did indicated there is no direct
2 connection between the haulage practices existing
3 to Burlington today -- or between the accidents and
4 the haulage practices, so we just have more
5 information and I think Site D would operate quite
6 similar to Site F and I don't expect any problem
7 there either. They seem comparable, but it's just
8 with F we have the advantage of being able to observe
9 a very similar type of situation occurring with
10 traffic using Brant Street for instance and we can
11 look at the problems that have been recorded there
12 and we can talk to the drivers. So, with Site F
13 we have more information and more confidence in
14 looking at what may happen because we have a data
15 base of existing conditions.

16 DR. KINGHAM: I understand that the
17 existence of the present landfill makes it easier
18 for you to project what will happen as you know
19 what is happening, and my question is to you as a
20 traffic planner, expert in this field, if neither
21 Site F nor D existed, with your knowledge
22 accumulated over these years of traffic flows
23 in Halton in general, do you have a sense of which
24 of those two sites, based on this evidence, would
25 be the safest site to direct truck traffic to?



1 THE WITNESS: I don't think there is
2 any great difference in either site.

3 THE CHAIRMAN: Any re-examination,
4 Mr. Hodgson?

5 RE-EXAMINATION BY MR. HODGSON:

6 Q. Mr. MacLeod, could I direct you
7 to the place -- let's pick H-33 where you provide
8 historical information as to traffic flow levels on the
9 existing North Service Road?

10 A. Table I?

11 Q. Table I following page 49?

12 A. Yes.

13 Q. What is the current level of
14 traffic service along the North Service Road in
15 front of proposed Site F at this time?

16 A. In 1983 it was recorded at
17 9300 vehicles and it is projected as just over
18 10,000 in 1988, so somewhere in between.

19 Q. Projected at 12,000 in 1996?

20 A. In 1996.

21 Q. Your projected peak year?

22 A. Yes.

23 Q. That is absent any traffic
24 to and from the landfill?

25 A. This is general background.



1 Q. The 1983 number would reflect
2 existing landfill traffic, would it not?

3 A. Yes.

4 Q. But the 1996 number wouldn't
5 because the landfill wouldn't be there in 1996?

6 A. The historical trend of traffic
7 on any street is one of the main inputs.

8 Q. So that won't have been taken
9 into account?

10 A. No, it won't have that large
11 an effect.

13.B 12 Q. The traffic on Highway 25
13 past the proposed Site D, your item 27 over the page?

14 A. 28 actually.

15 Q. That shows 1983 levels of what?

16 A. 7200.

17 Q. And 1996 levels of what?

18 A. 8400.

19 Q. Can you compare existing
20 and proposed -- existing traffic levels and those
21 projected for 1996 in front of Site F and in
22 front of Site D in terms of which has the higher
23 volume of traffic and which is projected to have
24 the higher volume of traffic?

25 A. The North Service Road will



1 be a busier road.

2 Q. The other question I would ask
3 you is you were asked quite a number of questions
4 by my friend Mr. Leitch about whether or not it would
5 be appropriate to have an acceleration lane in
6 front of Site D because of possible traffic conflicts?

7 A. Yes.

8 Q. Is there now an acceleration
9 lane out of the existing regional landfill site?

10 A. No.

11 Q. Are the traffic levels in front
12 of the existing regional landfill site in any way
13 comparable to traffic levels that are expected in
14 front of any proposed Site D?

15 A. Yes.

16 Q. Therefore in your professional
17 view is an acceleration lane -- does that provide
18 you with a basis for comparing the two and projecting
19 whether or not an acceleration lane would be
20 necessary on Highway 25 in light of the fact that
21 the traffic levels are comparable but there is not
22 now such an acceleration lane in front of the existing
23 landfill?

24 A. The operations at Site D
25 appear quite acceptable. It's not a direct parallel



1 in terms of the kinds of movements, but it would
2 indicate that it's likely that Site D would operate
3 in an acceptable manner without an acceleration
4 lane.

5 Q. I wanted to ask you some
6 questions about what I refer to as Mr.Tzekas'
7 evidence.What I would ask you to do is get out
8 a copy of Exhibit B-146 and Mr Tzekas gave us each
9 photocopies of pages from, I believe it was H-68,
10 and one refers to sub-area Pl and one refers to
11 sub-area El.a. Do you have those copies?

12 A. No, I don't. I can't put my
13 hands on them.

14 Q. Now, I am not sure I understood
15 this cross-examination. Mr.Tzekas seemed to be
16 interested to know on why it is that area El.a,
17 looking now at Exhibit B-146, but area El.a,
18 notwithstanding that it achieved a score of
19 20, received a ranking of 21 and was given a high
20 impact while sub-area Pl,about which he demonstrated
21 some interest for some reason, has a score of 20
22 and a ranking of 17 and a level of impact of medium?

23 A. Yes.

24 Q. Mr. Tzekas suggested to you
25 that it would be appropriate if you are going to



1 go back to the pages which are photocopied from
2 page 6 of H-68 and looking now at sub-area El.a
3 that you should sum the numbers in each of the
4 horizontal columns for travel time and distance
5 total and you indicated in your answer that that
6 is something that you didn't do, I believe?

7 A. That's right.

8 Q. Would you tell the Board why
9 it is that you didn't do that and would you give
10 them your opinion as to the appropriateness of
11 doing it or not doing it, as the case may be?

12 A. Well, when we went to this
13 table, we decided it would be best to look at
14 each municipality separately and just see what was
15 going on with the four trips that were identified.
16 The summing together at this stage, that is something
17 we have actually done before and now we are trying
18 to pull apart differences between, let's say, the
19 previously achieved aggregate score and we didn't
20 think it was appropriate at this time to sum up
21 the individual numbers from each municipality.

22 Q. Can you tell us why it isn't
23 appropriate?

24 A. Well, there is quite a
25 difference in the distribution and the generation



1 of waste and the number of vehicles and the degree
2 of problems that could occur on any one link because
3 of the disparity in the waste volumes.

4 Q. Just looking at the document --
5 I find it very uncomfortable referring to two
6 photocopies extracted from a report that aren't
7 marked as separate exhibits and I don't even know
8 what page number they are from the report. Could we
9 agree for purposes of this discussion to call the
10 document that is abstracted from H-68, which refers
11 to area El.a as H-68-A and the one for Pl to be
12 H-68-B. Would that be acceptable?

13 --- EXHIBIT NO. H-68-A: Abstract re area
El.a

14 --- EXHIBIT NO. H-68-B: Abstract re area
15 Pl.

16 THE CHAIRMAN: The numbers again?

17 MR. HODGSON: For El.a, H-68-A
18 and for sub-area Pl, it would be H-68-B.

19 Q. Just looking at Exhibit H-68-A
20 for sub-area El.a, we have travel times, average
21 travel times from Burlington, which would be 37
22 minutes, Oakville 37 minutes, Milton 5 minutes and Halton
23 Hills 26 minutes, for a total of 105 minutes and for
24 sub-area Pl, and the totals I took from my friend's
25 cross-examination and I accept them, and then from



1 H-68-B for P1, we have travel times for Burlington.
2 10 minutes, Oakville 22 minutes, Milton 41 minutes,
3 Halton Hills 54 minutes for a total of 127, which
4 means that the travel times to area P1 are higher
5 than the travel times -- longer in total than
6 the travel times to sub-area El.a. Now, is that
7 a fair comparison in your view and, if so, why and
8 if not, why not?

9 A. I don't think that represents
10 a realistic indication of the time vehicles would
11 take to travel to each of those sites or to each
12 of those areas. There are many more trips from
13 Burlington and from Oakville travelling relatively
14 short distances in the example of sub-area P1 than
15 from Milton and Halton Hills which are much higher.

16 Q. To get a fair comparison, an
17 apples and apples comparison, what would you have
18 to do?

19 A. It would be similar to the
20 exercise carried out in 2C where we took the times
21 and multiplied it by the numbers of vehicles for
22 the distances times the number of vehicles to end
23 up with a weighting of the importance.

24 Q. Since sub-area El.a and the
25 sub-area P1 each got a score of twenty, how did



1 you end up ranking El.a in the high category at
2 21 and P1 in the medium category at 17? Can you take
3 the Board to sub-area El.a and compare it to sub-
4 area P1 and explain to the Board how you achieved
5 that ranking?

6 A. There are a number of sites that
7 had the same score. We went through a similar
8 process of looking at the data sheets for each site
9 and we weighed the pros and cons of the data, the
10 travel time versus the municipality that it was
11 generated from, the length of route on poor or lower
12 standard roads, the entrance densities, and just
13 juggled that altogether and came up with an adjustment
14 within the group of six or seven that had the same
15 general score and it tended to reflect a more
16 detailed municipality-by-municipality assessment.

17 Q. What is different about sub-
18 area El.a that had the result that you ranked it
19 21st while you ranked P1 as 17?

20 A. El.a is located at this
21 location (indicating) in the Region.

22 Q. Where is that and can you give
23 us the major intersections?

24 A. West of Highway 25, just
25 north of Highway 401 and P1 is down of course off



1 King Road. The distinction between the two is the
2 kind of roads used to access the general area and
3 the closeness to the heavier waste producing areas.

4 Q. Was there anything else you took
5 into account in ranking El.a at 21 and P1 at 17?

6 A. Well, just the kinds of roads
7 used by vehicles to get to that location.

8 Q. What kind of roads are there
9 in relation to sub-area El.a?

10 A. There is a fair amount of local
11 road usage with that, with that particular site.

12 MR. HODGSON: Thank you, Mr. Chairman,
13 those are all my questions.

14 THE CHAIRMAN: Thank you, Mr. MacLeod.

15 THE WITNESS: Thank you.

16 MR. HODGSON: The next witness is
17 Mr. Stevens and he is ready to go and I am ready to
18 go but I am in your hands as to what you would
19 like to do.

20 THE CHAIRMAN: I think it is a little
21 late because we do want to rise at 4:30.

22 MR. HODGSON: Could we start and
23 quit at 4:30.

24 THE CHAIRMAN: That's fine.

25 MR. HODGSON: That would be our preference



1 and it will get us off to a faster start Monday
2 morning.

3 THE CHAIRMAN: Yes, it would.

4 DENIS GORDON STEVENS, sworn:

5 MR. TIDBALL: While Mr. Stevens is
6 getting set up, I have a procedural question I
7 want to ask. I wonder if the Board could clarify
8 what days we are sitting the week of June 15
9 because I understand we are not sitting on the 16th
10 and 17th because of the EA Board Rules Hearing and
11 are we sitting on the 15th and 18th?

12 THE CHAIRMAN: The Monday and Thursday.
13 Would you like to persuade us not to? It makes it
14 an awkward week.

15 EXAMINATION-IN-CHIEF BY MR. HODGSON:

16 Q. Mr. Stevens --- we will be
17 referring to Exhibit 7, Mr. Stevens' curriculum
18 vitae, H-8 which contains his witness statement
19 at tab 3 and then two reports Mr. Stevens is
20 responsible for preparing, Exhibit H-20, the
21 After Use Report of Site D, and Exhibit H-21,
22 the After Use Report of Site F.

23 Mr. Stevens, I understand you received
24 a Bachelor of Arts from the University of Guelph
25 in 1971. In 1973 you received a Bachelor of Science



1 degree from the University of Guelph and your major
2 was biological science?

3 A. Yes, plant ecology was the area I
4 specialized in.

5 Q. Subsequently you received a
6 Master of Science degree from the University of
7 Guelph with the Department of Botany and the Centre
8 for Resource Development?

9 A. That is correct.

10 Q. What was your specialty?

11 A. I was continuing on in plant
12 ecology but my joint involvement in the Centre for
13 Resource Development and the Department of Botany
14 meant I had to fulfil the requirements of both
15 those centres and the latter, the Centre for
16 Resource Development, was more in the area of
17 resource planning and resource design work.

18 Q. I understand you took a course
19 in site selection at Harvard University?

20 A. That is correct.

21 Q. You have been at work for some
22 time towards an Ontario Diploma in Agriculture
23 from the University of Guelph?

24 A. That is also correct.

25 Q. Mr. Stevens, I understand you



1 taught environmental studies and landscape planning
2 and design at Trent University between 1975 and 1977?

3 A. Yes, that is correct.

4 Q. You taught those subjects
5 as an associate in graduate faculty at the school of landscape
6 architecture at the University of Guelph since 1984?

7 A. That is correct.

8 Q. You have also been involved
9 in the consulting business since 1973, first as a
10 principal in your own firm from 1973 to 1978?

11 A. Correct.

12 Q. And from 1979 to '84 you were
13 head of ecology and head of environmental assessments
14 at M. M. Dillon Limited?

15 A. That's right.

16 Q. Since 1984 you have been a
17 principal of the Landplan Collaborative Ltd.

18 A. I am a principal and director
19 of Landplan Collaborative Ltd.

20 Q. How would you describe your
21 areas of expertise as you have employed them over
22 the last eight years since you joined Dillon?

23 A. Primarily in the areas of
24 environmental planning but with the emphasis
25 basically on the biophysical or environmental



1 science perspective. I have dealt with a range of
2 topics under these considerations ranging from an
3 interest in the process of environmental approvals
4 right through to environmental impact assessment from
5 a biophysical point of view.

6 Q. The environmental assessment
7 studies for which you are responsible or which you
8 worked on are listed on pages 2, 3 and 4 of your
9 curriculum vitae?

10 A. That is correct.

11 Q. On page 5 we find a list of
12 municipal waste management projects on which you
13 have had some involvement. I wanted to ask you about
14 a few of these.

15 First, is 60 per cent of the way
16 down page 5 there is a reference to the Regional
17 Municipality of Halton 1978-79 Sanitary Landfill
18 Investigations. What investigations were those
19 and what role did you play?

20 A. That was seeking approval
21 from the Ontario Municipal Board for what was old
22 Site F in the Region of Halton, and that work was
23 undertaking and most of the consulting work was
24 undertaken by M.M. Dillon Limited and they used
25 the firm of Ecoplan as sub-consultants, and my role,



1 which was coincident with my joining the firm
2 M.M. Dillon Ltd. was to assist in liaison between
3 the sub-consultants and the engineers and planners
4 managing the project and also to provide some peer review
5 and critique of the work of the sub-consultants and
6 assist the planning department of which I was a
7 member in that activity.

8 Q. Old Site F, is that a site in
9 these proceedings?

10 A. It is not the new Site F and
11 it's not Site D, but one of the other sites.

12 Q. Site E?

13 A. Site E, I believe.

14 Q. Also listed under the Municipal
15 Waste Management Projects are three references
16 to the Burlington landfill and is that the existing
17 regional landfill?

18 A. That is correct.

19 Q. Would you please describe your
20 role over the years in respect of the existing
21 regional landfill?

22 A. Early on when I was associated
23 with M.M. Dillon in the capacities you mentioned
24 earlier in my resume; I was in charge of looking
25 after the biophysical assessments, the physical science



1 and environmental science aspects of the planning for
2 extensions or continued uses of those sites and
3 that followed attendance at approvals hearing to
4 seek approval for the engineering work that was
5 ongoing. In the latter stages, in 1984, at the
6 continued use hearing, I was also responsible for
7 looking at after-use on that site and I have been in-
8 volved in after-use there and subsequently.

9 Q. Did you design the after-use
10 plan for the existing regional landfill site?

11 A. The plan was designed in our
12 firm by landscape architects working in part under
13 my direction and I gave the evidence at the hearing
14 regarding after use and helped decide and identify
15 the concept that was used.

16 Q. Who else gave evidence in
17 respect of after-use for the existing regional
18 landfill site in the 1984 expansion hearing?

19 A. I guess the design engineer
20 working with Mr. Wells -- perhaps the evidence
21 was introduced by Mr. Wells, but I don't recall
22 anyone else giving evidence in that regard.

23 Q. Did you also give the biophysical
24 evidence?

25 A. I did.



1 Q. With respect to that site at
2 that hearing?

3 A. Yes.

4 Q. That was true for the 1984 and
5 the 1984 expansions?

6 A. Yes.

7 Q. On page 6 we have a listing
8 of hazardous and industrial waste management projects
9 you have worked on and one of them is the Ontario
10 Waste Management Corporation. What was your role
11 in that project?

12 A. I was an assistant and colleague
13 of Mr. Lawrence, the project manager, and as my role
14 expanded in that assignment and as that assignment
15 expanded to its fairly complex and large size, I
16 became deputy project manager for the site
17 selection aspects of that work and it involved most
18 of my staff in my department who were assigned
19 to that work and I think the bulk of the manpower
20 was undertaken through my department and under my
21 direction.

22 Q. Did that cease when you left
23 M.M. Dillon?

24 A. Yes.

25 Q. At the bottom of page 6 we have



1 projects in which you were environmental inspector
2 or involved in environmental inspection?

3 A. That is correct.

4 Q. And on page 7 a list of your
5 biophysical and ecological evaluations?

6 A. Yes.

7 Q. At the bottom of page 7 and 8,
8 a list of agricultural planning assessments you were
9 involved in.

10 A. That's right.

11 Q. On page 8 and page 9, a list
12 of water resource aquatic ecosystem studies you
13 participated in?

14 A. Correct.

15 Q. And on page 9 a list of land
16 development planning studies you participated in?

17 A. That's a partial list and a
18 lot of those jobs are fairly small scale and there
19 are a lot of them from my time in the planning
20 department with M.M. Dillon and when I was a
21 principal in Biosystems.

22 Q. And on page 10, in addition to
23 some projects that were masterplans, you were involved
24 in some erosion control projects?

25 A. Yes. Some of those were



1 Site F. Would you please, referring to Exhibit M-103,
2 describe for the Board the general environment into
3 which the landfill site is going to go from the
4 point of view that you adopted as someone who is
5 interested in the after use component? What features
6 were you looking at and what did you notice about
7 them and how would something that you did fit or
8 fail to fit, as the case may be, with what is already
9 there?

10 A. When we considered after use,
11 of course it is an important element of that
12 consideration, the context within which the
13 parcel or site you are dealing with is located.
14 In addition to the features, whether they be
15 opportunities or constraints, that the site itself
16 offers in terms of long term land use activities
17 after closure of a landfill. In looking at the
18 context, it is an area I am fairly familiar with,
19 having worked just to the west of the existing
20 Burlington site over a period of a number of years
21 and taking a sort of tour de horizon from the west
22 around the site clockwise, we see that the existing
23 landfill is immediately adjacent and that is
24 currently the regional landfill and most of its
25 active landfilling is now occurring in the north



1 end and this is the result of the 1984 hearings.

2 Along the boundary there is essentially
3 hedgerows and further west again adjacent to the
4 existing landfill is a ravine from Falcon Creek,
5 fairly steep clay sided sides and one of the projects
6 I did was erosion control and re-vegetation on the
7 eroded slopes which I think can be viewed
8 in the photograph, if you are close enough along the
9 middle portion on the east side of the river of
10 Falcon Creek and on the west side of the landfill
11 as it abuts that drop-off of land to the ravine
12 itself.

13 In addition, we have Sassafas Woods,
14 which is a continuous ESA or environmentally
15 sensitive area designated by the Halton Region
16 Conservation Authority consisting of forested
17 ravine lands which extend from a point in the
18 lower south part of the adjacent land to the existing
19 regional landfill up to the north and hooks around
20 and really borders or is contiguous with the north
21 boundary of both the regional landfill as it
22 currently exists and the top of current Site F.

23 The area of active landfilling in
24 the north is still fairly disturbed but the area
25 in the south, which is adjacent to the entranceway



1 and the entrance road as you come into the existing
2 regional landfill is undergoing revegetation at
3 this point and is currently covered in herbs and
4 grasses, graminaceous vegetation.

5 Q. Before you describe the
6 vegetation too much, would you describe for the
7 Board what proposed after use the existing landfill
8 has and then you can describe the steps that have
9 been taken to implement the proposed after use.

10 A. The proposed after use for
11 the current regional landfill is essentially one of
12 forested and field open space, natural open space,
13 and its primary focus is to be an extensive
14 recreational opportunity for people who may want
15 to use the site as a link to the Bruce Trail, which
16 runs along the escarpment brow to the north, or
17 as a site in its own right that could be used for
18 opportunities for picnicking and wide games
19 and general hiking and viewing. There are some
20 very nice views from the top of that completed
21 landfill.

22 Our concept involved establishing
23 areas of woody vegetation on the current landfill
24 which would be interspersed with areas of open
25 grass and paleated swards and, in addition, we wished



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23 areas of woody vegetation on the current landfill
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25 grass and paleated swards and, in addition, we wished



1 to use this opportunity to testy woody species to
2 see how suitable they were for landfill reclamation
3 in terms of putting woody plants on completed
4 landfills. So we had a twofold purpose and I would
5 like to go into that in a bit more detail later on,
6 but for the purposes of my tour around the landfill,
7 I mentioned the existing landfill to the west and the
8 ESA to its immediate west, and I mentioned the ESA
9 to the north and now we get on some lands here that
10 are essentially private in the northeast part of
11 the site and they have a character again you will
12 see of open and forested areas with a series of
13 hedgerows or linear swards of vegetation within
14 them. As you move down the east side along
15 King Road, you get into the area which is known
16 as one of the National Sewer Pipe Limited quarries
17 and immediately adjacent on the west side of King
18 Road and adjacent to the east side of Site F, is
19 the area known as Bayview Park, which is the closed
20 Bayview landfill, and I believe it was closed in
21 roughly 1972. The character of that landscape
22 is not really too similar to the one that exists
23 on Site F now, which is essentially wooded with
24 shrubs with a number of successful communities and
25 some open space, or the intended use on the after use



1 for the regional landfill, which is again open space
2 with sward communities on it, but again it is rather
3 bare and in areas is either in rooteral weeds or
4 grass and playing fields and there are some parking
5 lots and I believe the last time I was out there
6 I remember some reconstruction and landscaping.
7 There are very few, if any, woody species of any
8 size on it at this point in time today.

9 As you proceed down along King Road,
10 which forms the east boundary of Site F, again
11 they are similar to all of the lands essentially
12 north of the QEW and the North Service Road and
13 areas of open and forested vegetation, many of them
14 have a look of lands that are in transition from
15 the earlier stages of rural character to more urban.
16 There are a number -- in the very south part of
17 course you have the transportation corridor which
18 we are more or less familiar with and there are
19 some transmission lines across the corners of the
20 site and the transmission corridor -- there is a
21 Bell line across both sites and to get back to
22 our starting point, there are some industrial uses
23 fronting on the North Service Road in the southwest
24 corner of the existing landfill and southwest of Site F.

25 Q . Would you describe for the Board



1 your study methodology or study process? How did
2 you set about developing an after use plan for
3 proposed Site F?

4 A. The methods used for Site F
5 and Site D are almost identical. There is a slight
6 difference as you get close to the end point in
7 Site D and I can talk about that in discussing
8 Site D, but I want you to understand that the generic
9 methods are pretty much the same for both sites.

10 Essentially we had to look at the
11 opportunities and constraints offered by the site
12 we were considering, the context of the site we
13 were considering, by the work that had been done
14 by other consultants including Walker Wright Young
15 and Associates and talking about after use in Stage
16 2C and also we had to consider a range of
17 opportunities that may be considered potential after
18 use concepts that could occur on any given site,
19 and we had to sort both of these streams of thought
20 out and come in a fairly systematic way in my
21 opinion, come to a conclusion that seemed both
22 appropriate and could be explained or had some
23 basis in analysis that allowed it to be evaluated.

24 We did this initially by consulting
25 with a number of practitioners in the field, other



1 municipalities, other waste management engineers,
2 by looking in the literature to see what had happened
3 on sites, and I believe Mr. Walker in his report
4 on 2C gave a list of several examples of Site F
5 uses he considered in a very generic way. We talked
6 to the Regional Municipality of Halton staff and
7 had some telephone discussions with the staff --
8 recreation staff primarily of the city of Burlington
9 and town of Milton, very informal, and we also did
10 some literature review on the area, the technical
11 area of landfill rehabilitation from the viewpoint
12 of revegetation.

13 The final thing we did, which was
14 incidental to this process but very supportive,
15 is we tried to get an idea of the types of things
16 that were happening on closed landfills in the area
17 and I believe in Mr. Wright's evidence, reference
18 is made to what I think is the Chinguacousy site
19 in Peel as one of the several sites we visited to see
20 what had occurred on a closed landfill and in this
21 case from our information from talking with the
22 engineering staff at Peel, without a lot of special
23 measures taken, so we had a kind of base view of
24 what a landfill would look like.

25 I am also familiar with quite a number



1 of landfills in Northern Ontario and in the south
2 and I think some of them are mentioned in my resume
3 and we took the opportunity to visit Beare Road,
4 the current Peel landfill, the Guelph landfill
5 and several others. So, we had a number of points
6 of information coming to bear on the problem, site
7 characteristics of cells, discussions with other members
8 of the team as to what might be the site constraints
9 and a range of opportunities we were aware of, and
10 I must point out Mr. Wright assisted me in this
11 matter and if you recall his resume he is a fully
12 qualified recreational specialist and he has a B.Sc
13 in recreation from Ottawa University, and both of
14 us were able to run through a range of potential
15 concepts that could occur on either of these sites
16 and then the problem there was attempting to get
17 them examined in a fairly systematic way and brought
18 down to a recommendation of one or two concepts per
19 site, which was our instructions from the Region of
20 Halton, and to select the appropriate after use.

21 MR.HODGSON: Perhaps we should break
22 there and continue on Monday.

23 THE CHAIRMAN: This seems to be
24 the right place to adjourn until 10:00 a.m. on
25 Monday.



Nethercut & Co. Ltd.

Toronto, Ontario

3204

Stevens, in ch (Hodgson)

MR.HODGSON: I promise to be on

time.

--- Adjournment (4:30 p.m.)

CERTIFIED CORRECT:

C.F. Nethercut, C.V.R.

* Page 3250 follows.