

HIGHWAY 6

FREELTON NORTHERLY 16.9 KM TO GUELPH

W.P. 65-76-05

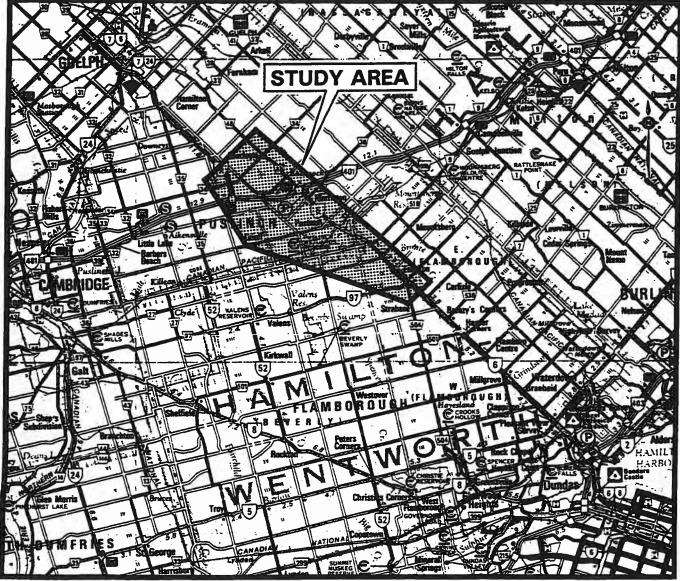
NOVEMBER 1997

ADDENDUM

HIGHWAY ENGINEERING SECTION PEEL, HALTON AND HAMILTON CENTRAL REGION







REVIEWED BY:

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ADDENDUM TO ENVIRONMENTAL ASSESSMENT OF HIGHWAY 6

FREELTON NORTHERLY 16.9 KM TO GUELPH

COUNTY OF WELLINGTON REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH TOWNSHIP OF PUSLINCH TOWN OF FLAMBOROUGH

W.P. 65-76-05

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NOVEMBER 1997

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PREAMBLE

In February 1996, the Ministry of Transportation of Ontario (MTO) submitted an Environmental Assessment Report (EAR) for the subject project to the Ministry of Environment and Energy (MOEE) in accordance with the requirements of the Province's *Environmental Assessment Act*. As the proponent, MTO is seeking approval under the Act for the designation, property acquisition, construction, operation and maintenance of improvements to the Highway 6 corridor in the form of a new mid-concession route west of existing Highway 6 between the Region of Hamilton Wentworth-Wellington County Boundary (Maddaugh Road) and Highway 401 and westerly, immediately parallel to Highway 401, to connect to the Hanlon Expressway. Associated improvements which would be subject to the approvals package include modifications to the existing Highway 401 interchange at existing Highway 6 (north of Morriston) and at the Hanlon Expressway, and a new Hanlon Expressway/Wellington County Road 34 interchange.

In compliance with the *Environmental Assessment Act*, the EAR outlined a number of commitments to future work that MTO would adhere to in progressing towards project implementation. These included

- implementing appropriate mitigation measures, effects monitoring and other acceptable environmental practices;
- conducting more detailed investigations into conditions in the pre- and post-construction periods related to specific potential environmental effects/condition changes;
- engaging in continued liaison and discussion with appropriate government agencies to resolve outstanding concerns; and
- issuing the appropriate follow-up documentation to describe the manner in which concerns have been addressed and the respective commitments fulfilled.

A number of these commitments addressed concerns that had been raised during the 1990 government review of the Draft EAR (Pre-Submission Review) and included supplementary work which was conducted between 1992 and 1994. Therefore, there was a considerable time lapse between the Pre-Submission Review and the Final submission of the EAR.

During the course of the government and public review of the Final EAR (February - November 1996), additional and/or accentuated concerns emerged as a result of changes in government approaches to one environmentally sensitive issue in particular. In addition, the need to provide additional clarity in describing the decision-making process was identified.

In the first instance, the Ontario Ministry of Natural Resources (MNR), Environment Canada and the Hamilton Region Conservation Authority have cited continuing concerns with respect to impacts

to potential habitat of the Henslow's Sparrow. Agency concerns have escalated with the change in designation of this species from nationally "threatened" to "endangered", within the meaning of the provincial *Endangerd Species Act*, since completion of the EAR. The change was initiated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as a result of a "dramatic decrease in the number of known breeding pairs of this species in Ontario in recent years", and the fact that the species "has been known to be a breeder in this area in the past".

With respect to clarification of the planning process, it must be recognized that the project decisions made to date have involved a large number of stakeholders over an extended period of time (the study was initiated in 1984). In addition, the project has addressed a wide range of environmental sensitivities, requiring a complex issue resolution process to address often competing mandates, goals and objectives which have evolved over the course of the study. The Environmental Assessment Branch of MOEE has requested that the study documentation be enhanced to clarify some of these complexities.

To address matters of this sort, MTO's environmental assessment process includes provisions for discussing the outstanding concerns with affected parties and issuing an addendum to the EAR, if necessary. In this case, MTO has proactively engaged in resolution-oriented dialogue with the most directly affected study participants (i.e., those agencies cited above) and has determined that an EAR Addendum should be prepared to address these outstanding concerns. The Addendum also addresses other comments and concerns received during the 1996 review period that have been deemed to warrant additional documentation.

The Addendum has been filed with MOEE. Notice of filing, as well as a copy of the Addendum, has been provided to all parties who received the original EAR for review and a 45-day review period has been initiated.

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SECTION 1 INTRODUCTION





1.0 INTRODUCTION

MTO received thirteen (13) written comments on the Environmental Assessment and Preliminary Design Report from Official Government Reviewers, through the MOEE Environmental Assessment Branch's review co-ordinator, during the formal review period initiated in February 1996. Seven (7) of the comments raised issues that MTO has chosen to respond to in this Addendum. These include:

- Ministry of Environment and Energy Environmental Assessment Branch
- Ministry of Environment and Energy Environmental Planning and Analysis Branch
- Hamilton Region Conservation Authority
- Grand River Conservation Authority
- Environment Canada
- Halton Region Conservation Authority
- Ministry of Natural Resources

In addition, three (3) private property owners forwarded comments. These comments are on file with MOEE's Environmental Assessment Branch. The Project Team has provided information to the EA Branch for the purposes of responding to these comments.

This addendum is organized in the following manner in response to the comments from the aforementioned agencies:

- Section 2 Response to MOEE EA Branch's process related comments
- Section 3 Response to technical comments from agencies
- Appendix A Official Government Reviewers' Comments
- Appendix B Chronological Summary of Study Process and Descisions
- Appendix C Selected Additional Correspondence
- Appendix D Selected Additional Minutes of Meeting
- Appendix E Errata and Points of Clarification

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SECTION 2 MOEE EA BRANCH RESPONSE





In recognition that some areas of the document require clarification as to the environmental assessment process due to the protracted project time frame and associated changes in study scope, a detailed response was prepared to address comments from the Environmental Assessment Branch of the Ministry of Environment and Energy (refer to MOEE correspondence of April 11, 1996 in Appendix A). The MOEE queries, or a synopsis thereof, are indicated in bold text, followed by MTO's response. A number of these queries have been addressed elsewhere in the Addendum in the form of format changes and additional documentation.

General Comments/Preamble

1. Will the planning and design for the widening section still be done separately or will MTO now combine it with the rest of the EA?

Detail Design for the widening of the subject section of existing Highway 6, between Freelton and the point of divergence of the new route section (Maddaugh Road) is being undertaken as W.P. 65-76-02. The design work is nearing completion and involves the preparation of an Environmental Study Report in compliance with the Class EA for Provincial Highways. The ESR will be submitted to MOEE for information purposes separately from the EA for W.P. 65-76-05. The widening project has been delayed because fiscal restraint has dictated that the project not move along as quickly as originally envisioned.

2. Preamble reference to "abnormal iterations" and "non-technical influences".

This project was very unique, with both the Province and the municipal Steering Committee being afforded equal decision making status (versus Project Team proceeding through decision making steps and subsequently seeking municipal endorsement). Consequently, there were times when the Project Team and the Municipal Steering Committee had different perspectives and objectives and the MTO Project Team was democratically overruled by the more numerous local municipal elected representatives.

It should be noted that the differences in perspective and objectives were often a result of the representation of conventional technical interests on the Project Team and the "non-technical" (political) interests on the Steering Committee. These differences were compounded by the fact that the Municipal Technical Committee also included elected representatives from Puslinch Township, rather than strictly technical staff, since the appropriate municipal staff positions did not exist. Hence, the "abnormal iterations" (larger than normal number) to resolve contentious issues.

3. A draft EA was submitted for review in 1989 and comments were provided by many agencies. Given that the final EA was submitted seven years later, why did MTO chose not to submit another draft document to ensure that these agencies were satisfied with

the report?

Another pre-submission would have taken more time and stale-dated the project even further. In order to address this concern, the Class EA process was introduced to deal with those types of issues (refer to Section 2.1.1 on page 2-1).

4. Table of Contents at the beginning of each chapter is helpful.

No response required.

5. By far, Chapter 5 is the most confusing chapter of this EA. The information is found throughout the chapter in various charts, tables, maps and text. It is difficult to follow your planning here.

Over a 10-year period, many alternatives were reviewed; meetings and PIC's held; and comments incorporated into the project. Distilling this into one chapter was a difficult task. Further, changes in environmental assessment procedural approaches and technical requirements added to the complexity of the project and its traceability.

Appendix B of this Addendum contains a modified version of Exhibit 3.4 (Environmental Assessment Process) from the Environmental Assessment Report and a matrix detailing the key activities and decisions during each stage of the project. This material is intended to assist in clarifying the sequential progress of the work and demonstrate additional traceability. It should also provide some insight into the complex nature of the project.

CHAPTER 1 COMMENTS

6. What is the actual deficiency with the current network? Explain "capacity and demand incongruities" and how they "frustrate" municipal development initiatives.

The primary deficiency of the existing Highway 6 facility is the lack of highway capacity to meet the demand of both the current and future traffic volumes. This deficiency was identified in past MTO studies, such as the 1982 Corridor Study and the 1983 Preliminary Design Study between Freelton and Puslinch Road 35, as described in Section 2.2.2 in the EA Report. The initial Traffic Analysis carried out for this study (refer to Appendix L) concluded that "the existing two-lane facility is approaching capacity in the peak hours and is not providing sufficient comfort and safety for the local traffic throughout the day". This statement was based on 1984 traffic volumes with level of service (LOS) 'E'.

The transportation problems presented on page 1-1 are in order of importance, where lack of capacity to meet travel demand is the primary deficiency and all other problems emanate from it. The lack of capacity leads to traffic congestion (i.e., low LOS), which creates



conflicts between high speed regional traffic and slower moving local traffic (i.e., traffic composition - safety issue). This conflict contributes to the type and severity of accidents on Highway 6, and to the higher than normal maintenance requirements on the roadway shoulders, as through traffic uses the gravel shoulders to manoeuvre around left-turning vehicles.

"Capacity and demand incongruities" refers to the lack of capacity on the existing roadway to safely accommodate the traffic demand that is imposed on it. With existing and projected capacity deficiencies, potential developments in the municipalities through which the highway passes, particularly the south end of Guelph, are deferred since the traffic which would be generated by the new development cannot be accommodated on the road network. In addition, expensive improvements may be required (and paid for by developers) within the MTO right-of-way to ensure safe operation of new entrances and the adjacent highway.

7. Section 1.3.2, paragraph 1 (Alternatives to the Undertaking. Did MTO consider "demand management"?).

Approaches to the consideration of "Alternatives to the Undertaking" underwent significant evolution during the course of the project. As indicated in the EA Report, the approach to project alternatives was premised on and strictly adhered to the guidelines of day, which were prepared by MTO's Environmental Office and agreed to by the Ministry of Environment ("Guideline for the Preparation of Environmental Assessment Report One-Stage Submission", November 1983). Although the 1983 guidelines are no longer current, we believe that they met, and still meet, the intent of the present legislation (*Environmental Assessment Act*). It would have been impractical (and unreasonable to expect) modification of this front end material in the report to conform to 1992 approaches (e.g., the concept of travel demand management as a subset of the broader Traffic Management options really only emerged in the context of MTO's Class EA in the period after the front end documentation for the subject project had been prepared). In fact, one element of travel demand management ("transit service improvements") was considered, as described in Sections 1.3.2 and 5.3.1.2 of the EA Report.

8. Section 1.4.3, paragraph 1 (reference to Figure 5.2 and involvement of study participants in the development of route alternatives).

The reference to the full range of route alternatives under consideration should be expanded to include Figures 5.2 through 5.5.

The route alternatives were developed on a preliminary basis by the Project Team accounting for technical requirements and environmental sensitivities and constraints. The alternatives and the proposed means of assessing them were then presented to the Technical and Steering Committees, the External Team (government ministries/agencies, utilities, railway

companies) and the public (i.e, all participants) for review and suggestions as to the manner in which they might be improved or made more efficient. On the basis of input from these groups, the route alternatives and evaluation criteria were modified or developed further, where appropriate and feasible, prior to the comparative analysis.

9. Section 1.4.3, paragraph 2 (reference to Tables 1.1 and 1.2).

Section 1.4.3 contains references to Figure 1.2, which illustrates the 6 short-listed routes developed in the *Initial Investigations* (1984-1989), and Table 1.1, which summarizes the assessment of those 6 routes. Reference to Table 1.2 appears in Section 1.4.5 which addresses the 5 alternatives (3 alignments and 2 interchanges) considered in the *Update and Supplementary Investigations* (1992-1994).

10. Section 1.6, paragraph 2 (opportunities for public and agency modification of project through Design and Construction Report review).

Design and Construction Reports are prepared to document the process undertaken during Detail Design. They are for information purposes and are normally not subjected to public and agency review (per the approved Class EA process). However, the public and agencies have the opportunity for input during the Detail Design stage at Public Consultation Sessions and working meetings. Such input may result in modifications to the project, except for route selection.

In addition, the Class EA process can be used to adequately address "new concerns which have not already been identified in this Environmental Assessment Report" as per the discussion in Section 2.1.1 on Page 2-1.

11. Section 1.7 (distribution of project benefits appears redundant).

All benefits to this project are interrelated. The main benefit will be the improvement of the level of safety and operation of traffic flow in the Township of Puslinch and the Town of Flamborough, particularly in the Villages of Morriston and Aberfoyle.

12. Section 1.9 (external contacts since 1990 per-submission review of EA Report).

The accompanying package referred to in Point 5 includes a summary of all the post-1990 external contacts, including concerns expressed and actions taken by the Project Team to address those concerns.

Meetings with the most concerned ministries and agencies (Agriculture and Food, Natural Resources and Grand River Conservation Authority) have taken place since 1990. Milestone



External Team meetings and as-required working meetings prior to 1990 satisfied the concerns of most other ministries.

CHAPTER 2 COMMENTS

13. Section 2.1 (references to MTO's One-Stage Submission process are outdated).

As suggested in Point 7, the reference to the One-Stage Submission process is considered necessary to put the EA Report format and content in the proper historical context of the EA process and the related decision making process for this project. In addition, there did not seem to be a reason to confuse the public by changing the name midway through the process.

14. Section 2.1.1, paragraph 3 (manner in which outside participation will be incorporated in addressing "significant new concerns" arising after approval of this EA).

This will be accomplished through input from others during agency meetings and Public Consultation Sessions. If aspects are raised that meet the criteria of the Class EA process as outlined on Page 2-1, all the legislated steps that occur during a Class EA process will then be undertaken.

15. Section 2.2.2 (consistency in description of traffic operations Level of Service and possible need for update of LOS analysis).

In MTO's opinion, LOS is described consistently in the EA Report. As indicated on Page 2-2, LOS 'A' represents "high level of service" and LOS 'F' represents "low level of service". It is appropriate to use these terms interchangeably.

In addition to the 1979 Origin-Destination (O-D) study, and as part of this undertaking, an O-D survey was carried out in 1984 (refer to Traffic Analysis in EA Report Appendix L). The 1984 O-D survey, together with the 1984 traffic volumes, formed the bases of the traffic data when this EA study was initiated.

When the 1982 Corridor Study was carried out, County Road 46 was a 2-lane local roadway and the LOS calculation was based on that condition. Between 1988 and 1990, County Road 46 was widened to a 4-lane cross-section from Highway 401 to Aberfoyle, County Road 34. Therefore, it is unlikely that a LOS 'F' would be experienced with current AADT traffic volumes of 12,000 to 14,000.

From the outset of this EA study in 1984, Highway 6 south of Highway 401 in the study area has had a capacity deficiency, resulting in a LOS 'E'. This deficiency was and still is the primary concern. In the Update and Supplementary Investigation, traffic volumes were updated with 1991 traffic counts. These new traffic data revealed that "the growth factors

assumed for the AADT traffic volumes which were projected based on the 1984 traffic counts have been significantly exceeded by the actual 1991 traffic counts" (refer to EA Report Appendix L). Intuitively, with the same 2-lane roadway on Highway 6 and 1991 traffic volumes greater than 1984 volumes, the 1991 LOS calculation was not deemed to be warranted.

16. Section 2.2.2 (provision of additional information in problem statement with respect to traffic composition and maintenance requirements).

As pointed out above, capacity deficiency is the primary problem for this undertaking and all other transportation problems emanate from this primary deficiency. Thus, with the traffic composition of high speed regional traffic and slower moving local traffic, commuters, area residents, municipal technical staff and elected representatives alike have identified "Local Safety" of drivers and pedestrians as a sensitive issue (refer to page 4-18 of EA Report). The "intimidation" factor is related to the experience of local drivers attempting to make left-turns or cross the highway in the midst of high speed regional commuter traffic and long haul heavy commercial vehicles attempting to negotiate this relatively short section of 2-lane roadway which links the 6-lane Highway 401 and the 4-lane section of Highway 6 south of Freelton, where passing opportunities are abundant.

The citing of abnormally high maintenance costs is not based on the quantification of exact monies spent, but rather on the Ministry's historical maintenance experience where the existing 2-lane roadway shoulders are not paved and there are high traffic volumes with a high percentage of trucks. It would be difficult to isolate the actual costs for this section of Highway 6 since the costs are documented for a much larger segment of the facility. MTO's concerns over the continuing maintenance requirements on the gravel shoulders, have resulted in the need for temporary spot improvements along Highway 6 at selective intersections by paving the shoulders partially. This is not considered to be an effective long term solution and has only addressed localized problem areas.

CHAPTER 3 COMMENTS

17. Section 3.2.6 (clarification of major points of public consultation is described in Section 3.2.6 and illustrated in Figure 3.4).

The points of public consultation described in Section 3.2.6 include initial notification of study commencement. This stage is not shown in Figure 3.4 but is included in the aforementioned matrix accompanying this response under the decisions and products identified for Step 0. Further, the public notification of submission of the EA Report is shown in Figure 3.4 but is not included in Section 3.2.6. This is clarified further in Appendix B and Appendix E of this Addendum.

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18. Table 3.1 (size of tables and number of apparently outstanding issues).

The public consultation program for the project was very comprehensive due to the number and scope of environmental sensitivities encountered. It was deemed necessary to summarize all of the relevant concerns. The outstanding issues are related primarily to matters which require additional design in order to resolve. Commitments to further investigations, documentation and liaison in this regard are included in the EA Report and the majority of interested parties have expressed satisfaction with the approaches proposed.

19. Page 3-13 (expansion on nature of participation by interest groups).

Interest groups were identified through municipal technical staff references, Project Team experience on other undertakings and through responses to region-wide general notification or group-specific invitations to participate in the study (e.g., invitations to attend information centres). If interest group representatives provided verbal input it was noted; written submissions are on file and the more relevant ones are included in Appendix B of the EA Report. Working meetings with interest groups were also held, as required (refer to EA Report Table 1.4 Summary of Study Participant Contacts and Appendix C - see University of Guelph as a Property Owner).

Other identification of input from interest groups is included in Chapter 4 and is related to provision of information on existing conditions.

20. Section 3.3.1 (further explanation of "Selective Approach" for defining study information requirements).

The "Selective Approach" (also referred to as the Selected Approach) is a term included in MTO's Guideline Report for Preparation of Preliminary Design Report (September 1980) which, in addition to the Ministry's One-Stage Submission guidelines, formed the basis for documentation of this undertaking at the time it was initiated in 1984. The PDR guidelines related to Project Management cite MTO Directive DD-76-2 and the requirement to describe the approach to project management for obtaining and transmitting related information. The approach chosen for this project was the Selective Approach (versus the more onerous Coordinated Approach or Comprehensive Approach). This approach was chosen because MTO has been dealing with a number of Provincial Ministries on a regular basis, and on projects similar to this one, the major concerns normally expressed to MTO are familiar. Therefore, these major concerns were given the priority over less contentious concerns. If other new issues were raised during the course of the study, they were examined and studied once they had been raised. In addition, ministries and agencies were requested to prioritize their concern to confirm the validity of the Selective Approach.

21. Section 3.2.2 (warrants for additional review of "Eastern Corridor").

During the study initiation stage, the City of Guelph was experiencing development pressures from such areas as the Eastview District, Southview District, the University of Guelph expansion, and the potential development of the Guelph Correctional Centre lands. The County of Wellington was experiencing rural residential growth along the County roads and near or in small towns and hamlets such as Elora, Fergus, Aberfoyle and Morriston. As well, pressure for estate residential development was being exerted east of the City of Guelph. Additional area growth pressures were attributable to increased mobility and commuting tendency toward Metropolitan Toronto and other parts of the Greater Toronto Area.

In addition, motorists must take an out-of-the-way route for travel from Highway 401 east to the northern portion of the County of Wellington and the east side of the City of Guelph.

In view of these growth pressures and road network deficiencies, the County of Wellington, City of Guelph, Guelph Suburban Roads Commission and Township of Puslinch identified the possible need for a new or expanded transportation corridor toward Highway 401 in the area east of the City of Guelph.

Representatives of these municipalities on the Steering Committee requested that some additional investigation of such a corridor be incorporated in the study and the Project Team agreed to re-examine its merits. Unfortunately, the Eastern Corridor did not fully meet the objectives that were established for this undertaking.

22. Figure 3.3. The technically preferred route in 1988 is identical to the 1996 preferred route with the exception of the interchange between Highway 6 and the Hanlon Expressway and the County Road 34 interchange. As this appears to be a very minor change, why was this EA not submitted in 1988?

The presubmission review resulted in the Ministry of Natural Resources and the Ministry of Agriculture and Food having serious concerns about the route alignment. Further studies were required in order satisfy both agencies that all alternatives had been examined. Fiscal constraints during the 1989 to 1992 period which delayed the undertaking of these studies also added to the lengthened time frame.

This matter is explained in the EA Report in the Preamble and in Sections 1.4.5, 3.1.1 and 5.4.5.

CHAPTER 4 COMMENTS

23. Section 4.0 (validity of baseline information given the age of project and changes in environmental regulations).

Since this project is being undertaken in a rural area, there have not been significant changes



to the baseline data of 10 years ago. However, updates occurred in the approach to a number of environmental factors over the 10 years. These have been captured in the 1992 - 1994 Supplementary Investigations which covered approximately 50% of the recommended route. In addition, an update on the status of the Henslow's Sparrow was undertaken in 1997. The updating of changing environmental factors and the need to react to various new environmental regulations added significantly to the length of this project's history. The Project Team will continue to keep abreast of changing environmental conditions, policy directions and associated legislative/regulatory requirements and tailor the approach to the project in the appropriate manner.

24. Section 4.1 (need for description of study area geomorphology, geologic features and soil conditions and the need to describe the potential effects of the undertaking).

This type of description is warranted to achieve compliance with the intent of Section 5(3)(c) of the *Environmental Assessment Act*.

The geographic and geological background of this area played a significant role in the development and evaluation of environmental factors. As this area contains provincially and regionally significant Areas of Natural and Scientific Interest and large aggregate deposits, attempts were made to avoid sterilizing or otherwise adversely affecting these resources during route selection. In addition, the geological background is quite important in the hydrological regime for the area, which is critical to the wetlands of the region. A basic understanding of these existing conditions is important in determining the impact of various route alternatives. These sensitivities and potential impacts to them are summarized in Table 4.6 (page 4-36).

In summary, the content of Section 4.1 adheres to the accepted and conventional approach for this portion on EA document in that it describes the natural features that "might reasonably be expected to be affected" and their significance. It is inappropriate to describe in any detail the potential effects of the undertaking and their significance at a point in the documentation where project alternatives have not been fully defined. This discussion is, for the most part, reserved for Chapter 5.

25. Section 4.2 (reader can understand social interactions and potential impacts).

No response required.

26. Figure 4.2 (a and b) (overlay of route alternatives makes it difficult to appreciate what is being presented).

The overlays in question were superimposed to fulfil the objective referred to in MOEE's comments in Point 24 (i.e., how the route alternatives are related to the baseline information

presented and the manner in which sensitive features might be affected).

27. Section 4.2.2.1 (apparent incongruity between statement in this section referring to no significant noise impacts and Telfer Glen residential subdivision noise sensitivity referred to in Section 4.2.2.2).

As indicated in the titles for these two subsections, they address investigations conducted during the initial phase and update/supplementary phase; investigations which were separated by approximately 8 years. In the intervening period, Telfer Glen was approved and selective building lot development occurred. Since Telfer Glen was constructed during the course of this study, the impact of the highway on the residences will have to be investigated during detail design and noise mitigation installed, if warranted. Commitments by MTO in this regard are included in Section 6.2.2.2 (ii) Noise.

28. Section 4.3 (Lack of inclusion of 1991 census figures).

While a number of factors which were deemed critical to concerns raised during the presubmission were updated in the Update and Supplementary Investigations Phase, it was felt that updating the census figures was not critical to the evaluations undertaken in the early 1990's.

29. Section 4.5 (Status of Highway 401 improvements and their effects on the need for this facility. Clarify extent of 1991 AADT information).

The subject Highway 401 improvements were completed by the end of 1996. With the widening of Highway 401, the recommended improvements to the Highway 6 corridor are still required since the heavy movement of traffic on Highway 6 is between Hamilton and the Kitchener-Waterloo, Guelph and Cambridge areas.

Figure 4.4 in Section 4.5 and Figure 1 in the March 1993 Technical Paper entitled Traffic Projections (Appendix L) show 1991 AADT for all of the critical municipal and provincial road links in the study area, including both Highway 401 and Highway 6.

30. Section 4.5.1 (potential for out-of-the-way travel by users of Brock Road corridor).

This comment appears to suggest that the proposed Highway 6 improvements will force trip makers from south of Highway 401 with destinations in the Brock Road corridor to use the Hanlon Expressway. This is not the case. The introduction of a more continuous Highway 6 route north and south of Highway 401 is expected to encourage greater use of the Hanlon Expressway for trips destined for west and northwest Guelph or points north of the City. However, the Connection Road between the new route and existing Highway 6 south of Highway 401 at Morriston will provide service to trip makers with destinations in the Brock



Road corridor. Thus, the required service connections will be maintained while achieving the project objectives of reducing traffic in Morriston and Aberfoyle and encouraging greater use of the Hanlon Expressway.

31. Table 4.6 (is clear and understandable).

No response required.

CHAPTER 5 COMMENTS

32. Section 5.2.2 (involvement of public in evaluation criteria weighting. Clarify how alternatives were evaluated and possible "intuitive" nature of analysis).

The Project Team established the initial factor weightings. These were then reviewed by the Steering Committee, Technical Committee (Municipal Staff), External Team, Internal MTO team, Interest Groups <u>and</u> the general public at an Information Centre. The PIC included opportunities for public comment on both the factors and their weightings. While some minor changes came out of most of these reviews, the Steering Committee's recommendation was dramatically different from the Project Team's several areas. This was another example of the Steering Committee exerting significant control over the evaluation exercise. The Final Weighting (Page 5-2) reflects these differences.

While the Steering Committee's process for determining what it deemed to be the appropriate factor weightings may have been "intuitive" (i.e., knowing or perceiving what was appropriate without evident rational thought or inference) the Project Team's thought process was more deductive. As indicated in Section 5.2.1, the Project Team's initial development of the Evaluation Criterion was based on careful consideration of the identified transportation problems, environmental sensitivities and improvement opportunities, as well as the expressed project objectives. The process also involved consideration of established environmental protocols, policy statements and regulatory requirements, as well as past experience on similar projects. These inputs were rationally supplemented by feedback from the six major participating groups in an attempt to achieve some level of consensus.

Many steps were carried out during the route development, analysis and evaluation exercise. When new variations on routes were introduced by one of the various teams, these were examined and further evaluated. The reviewer has been directed to Appendix E where additional details on the evaluation process can be found.

33. Section 5.3 (content and format of reasonable alternatives).

Please refer to Point 7 regarding the evolution of "Alternatives to the Undertaking" which occurred during the study. The outline for consideration of "Alternatives and Evaluation",

starting at page 11 of the One-Stage Submission guidelines, called for documentation for the following levels of study:

- i) Modal
- ii) Corridor
- iii) Route Location
- iv) Route Alignment

This outline was complied with. To reflect a more recent approach to the consideration of project alternatives, Sections 5.3 and 5.4 could be reorganized (i.e., Section 5.4.1 Upgrading of Existing Municipal Road Network could become Section 5.3.1.3, to be included in Alternatives to the Undertaking, and Section 5.4 Alternative Methods of Carrying Out the Undertaking could commence with consideration of the Corridor concepts). However, since the documentation complied with the guidelines in effect at the time, and the results of the evaluation would not change if the reorganization were implemented, no action has been taken in this regard.

34. Section 5.3.1.1 (assessment of Do Nothing Scenarios, including increased user costs).

The costs referred to are primarily time-related. They would be translated from longer journey times resulting from a growth in road congestion. These costs have not been quantified, but given the volume of traffic in the corridor and the inter-regional nature of travel (e.g., daily commuter trips, some likely in excess of 80-100 km) they could very well be significant.

Other costs, such as accidents, continue to accrue awaiting the resolution of this route selection EA. The Do Nothing alternative did not meet the criteria identified in Table 5.1. The assessment of this option during the corridor screening process is summarized in EA Report Appendix E. The major deficiencies are related to transportation service, increased noise in existing hamlet areas, constraints on economic development, persistence of drainage problems and long term accrual of localized maintenance and capital improvement costs.

35. Section 5.3.1.2 (current potential for extension of GO Transit services to project area).

To our knowledge, GO Transit still has no plans to extend/expand service to the project area. Following the practice of the day, the assessment of the modal options (commuter rail and bus) was limited to the most determinant factors. In this case, viability was determined exclusively on the ability to fulfill MTO's mandate to provide transportation service, in cooperation with GO Transit.

36. Section 5.4.1 (definition of Alternatives to the Undertaking).

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Refer to responses in Points 7 and 33 regarding evolution of the approach to this matter and the proposed reorganization of Sections 5.3 and 5.4 of the EA Report.

The differential approach to the assessment of Watson Road and the Brock Road/Victoria Road corridors was related to the emphasis desired by the Steering Committee. In the case of the Brock Road and Victoria Road corridors, only the determinant factors highlighting the advantages and disadvantages of these municipal road improvements have been cited. In the case of Watson Road, although it also constitutes a municipal road improvement, it was part of the broader Eastern Corridor that the Steering Committee wanted assessed in significantly more detail; hence, the additional information base upon which to conduct an analysis.

37. Section 5.4.2.2 (process for coarse assessment of corridor options, including incorporation of detailed traffic analysis).

The screening of corridors involved the use of the all of factor groups identified in Table 5.1 and a decision based on environmental factors could have been made following the screening. However, it was determined that the origin-destination data emerging from the MTO 1984 survey required calibration through additional survey of turning movements at 17 intersections to satisfactorily complete the Service to the Public assessment. This work was delayed when the City of Guelph and the County of Wellington advised the Project Team in May 1985 that they could not provide the required personnel to assist with the survey, as originally intended. Consequently, the results of this additional level of work could not be incorporated in time for the June 20, 1985 PIC. For this reason, the results of the corridor screening were presented publicly without eliminating any of the corridors from further consideration. The traffic projection calibration was subsequently completed and Corridor E (Extreme West) was systematically eliminated based on poor traffic service performance as well as the potential for significant adverse natural and social environmental impacts.

38. Section 5.4.3.2 (clarification of steps to modify route alternatives).

The process of refining the route alternatives was particularly complex in that it involved competing municipal interests and objectives. Reference to the Appendix B matrix will assist in tracing the process. Subsequent discussion may be required to clarify both your area of confusion and the sequence of events which occurred.

39. Section 5.4.3.3 (evaluation of short-list route alternatives using consistent evaluation criteria).

All alternatives were evaluated using the same criteria. The first paragraph in Section 5.4.3.4 indicates that "a comparative analysis and evaluation of the route location alternatives in

Section 5.4.3.3 was conducted using the evaluation criteria and methodology outlined in Section 5.2". In paragraph 2 of the same section, the reviewer is also referred to Appendix E for additional details

40. Section 5.4.3.4 (explanation of assessment of short-list route alternatives).

The Project Team conducted the initial comparative analysis and evaluation of the shortlisted route alternatives. This entailed a detailed scoring and ranking procedure using all of the evaluation criteria in Table 5.1 during each step in the 7-stage assessment. The results of this initial evaluation (recommending Alternative A-3) were totally reworked (Stages 1-7) following the Steering Committee's modification of the factor weightings and these are the results presented in the EA Report. The arithmetic details of this process are not included in the EA document because they are voluminous, but are on file with MTO. Only the determinant factors are described in the summaries presented in the main report text and Appendix E. Stage 6 and 7 are presented in more detail because the route segments were longer and more factors came into play. The final decision on the selection of Alternative C-7 incorporated input from presentations to other non-Project Team/non-municipal study participants (Internal Team, External Team, Interest Groups and general public) during which general consensus on the acceptability of the technically preferred route was secured (refer to EA Report Appendix B, Technical paper No. 3 (Results of April 30/May Public Information Centre - Evaluation of Route Alternatives, and the matrix in Appendix B of this Addendum).

41. Section 5.4.4.3 (clarification as to MTO's evaluation and municipal committees' roles).

The role assumed by the two municipal committees added significantly to the complexity of the process and resulted in a protracted time frame. It is MTO's opinion that the EA document is clear in terms of the evaluation process employed by the Project Team. The results of this process in both the route location and preliminary design (alignment) phases were often modified by input from the municipal committees. However, MTO is confident that the preferred scheme does not compromise the Ministry's service and safety standards, otherwise agreement would not have been reached as to its acceptability.

42. Tables 5.5 and 5.6 (why were similar tables not done for the evaluation of route alternatives earlier in Chapter 5?).

The differences in the way evaluation results are presented in the Initial Recommendation and Update/Supplementary Investigations phases is indicative of changes in the state of the art over the course of the study. Tables 5.5 and 5.6 were prepared during the Update and Supplementary Investigations Phase (1992-1994). Evaluation tables from the earlier study stages were presented to the public in the form shown in the EA Report and were representative of the accepted means of documentation at the time. It was felt that the older

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tables should not be reworked since they would not reflect what the public was shown.

CHAPTER 6 COMMENTS

43. Section 6.1.1 (at the end of each bullet point there are numbers in square brackets. What do they mean? Are they in reference to the design plates in Appendix "O"?).

There are sections in the introductory paragraphs 1 and 2 of Section 6.1.1 that direct the reader to the Design Plates in Appendix O as the descriptions of the four project sections are reviewed. The numbers in square brackets are the range of Design Plates which cover each project section.

44. Page 6-28 (clarify last sentence in paragraph 6).

This sentence is related to adherence to existing municipal by-laws regulating hours of operation for construction activities. It requires completion of the previous sentence which should read as follows:

"In addition, the Township of Puslinch and Town of Flamborough currently enforce applicable noise control by-laws. In Puslinch, by-law timing constraints restrict construction operations between 11:00 p.m. and 7:00 a.m. Sunday through Thursday and between 1:00 a.m. and 7:00 a.m. on Friday and Saturday. No specific references to any identified noise sensitive locations within the study area are included in either municipal by-law."

45. Commitments/Conditions of Approval.

No response required at this time.



SECTION 3 TECHNICAL RESPONSES





1. MINISTRY OF ENVIRONMENT AND ENERGY (ENVIRONMENTAL PLANNING AND ANALYSIS)

1.1 Stormwater Management

MOEE's concerns with respect to the project sensitivities related to fisheries and other natural features are acknowledged and have been addressed in the Conceptual Stormwater Management Plan for the new route section between Maddaugh Road and the north limit of the project.

The Conceptual Plan was developed in compliance with the MNR/MOEE Interim Stormwater Quality Control Guidelines for New Development (May 1991) and the MOEE Stormwater Quality Best Management Practices (June 1991). MTO intends to conduct additional stormwater management investigations using the MOEE Stormwater Management Practices Planning and Design Manual (June 1994) during the Detail Design phase of the project. In the interim, provided herewith is MTO's December 6, 1994 response to MOEE's November 1994 comments to the Conceptual Stormwater Management Plan. This response was, in part, based on a review of the June 1994 guidelines. It should be noted that application of the 1994 guidelines would not alter the preferred stormwater management concept.

In summary, it is emphasized that this design component is still in the very formative stages and that the route planning phase investigation typically makes use of preliminary information and data. These data will be supplemented in the Detail Design phase, during which the preferred concept will be refined and the recommended stormwater management practices will be incorporated in the contract package. MOEE will be provided with the opportunity to review and comment on the recommended treatments as part of the process to prepare Design and Construction Reports during the Detail Design phase.

December 6, 1994

Ministry of Environment and Energy 119 King St. W. 12th Floor, Box 2112 Hamilton, Ontario L8N 3Z9

Attn: Ms. Alison Braithwaite, Supervisor Environmental Approvals and Plan Review

Dear Ms. Braithwaite:

HIGHWAY 6 - FREELTON TO GUELPH ROUTE LOCATION AND PRELIMINARY DESIGN STUDY W.P. 65-76-05 CONCEPTUAL STORMWATER MANAGEMENT PLAN

Thank you for your correspondence of November 21, 1994 in which you have included comments on the Conceptual Stormwater Management Plan (CSWMP) for the subject undertaking.

We have reviewed the memorandum prepared by your staff and would like to take this opportunity to provide the following response to the points made.

1. MOEE prefers water quality control for both particulate pollutants <u>and</u> soluble pollutants and suggests that opportunities for the control of soluble pollutants to protect water quality must be further evaluated.

Preparation of the CSWMP was based, to a large degree, on the most recent MOEE direction available at the time (Interim Stormwater Quality Control Guidelines for New Development, May 1991). These guidelines recognize that many pollutants present in stormwater are directly associated with suspended solids and that the control of nutrients, trace metals and organics may, to a certain extent, be realized through reductions in suspended sediments. The guidelines also present directives for stormwater quality management which concentrate on the control of suspended solids and bacteria.

In addition, the Ministry of Transportation has conducted extensive research on soluble pollutants (particularly chlorides) and has generally concluded that is difficult not only to control/mitigate such pollutants but to predict their effects.

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In light of these considerations, the CSWMP focused on the treatment of sediment particles. However, in recognition of MOEE's concern, the sentences "Soluble nutrient control, however, is not a requisite in this study because the target water quality parameter is the sediment particles. Therefore, both types of storage ponds are considered equally effective and are equally acceptable." on Page 8 Section 3.2.6, second paragraph, will be changed to: "Since sediment is the water quality parameter targeted for control, both types of storage ponds are considered equally effective and are equally acceptable."

2. Concern expressed that in certain sections, grass-lined ditches are proposed as the only treatment for highway runoff prior to direct discharge to coldwater fisheries areas.

MOEE's Stormwater Management Practices Planning and Design Manual (June 1994) suggests that grassed swales or grass-lined ditches with a wide bottom are considered to be an effective stormwater management practice (SWMP) for pollutant removal, if designed properly (p.68).

Table 4.5 of Manual ranks grassed swales as 4th in terms of technical effectiveness/longevity, having a rating of 7 out of 10 (10 signifying excellent performance).

We have assessed the suitability of other water quality controls in terms of factors such as soil type, slope, depth to groundwater table and proximity to bedrock. Other factors that act as constraints to the introduction of effective SWMP because of the need for special design requirements or trade-offs (such as space consumption, land use restrictions and thermal impact considerations) were also included in the preliminary suitability assessment. The results of the assessment were presented in the SWMP Reports in Section 4.1 and Figure 4.2 for the Maddaugh Road to Highway 401 section; and Section 5.1 and Figure 5.2 for the Highway 401 Widening to the Hanlon Expressway section.

It should also be noted that the proposed SWMP in the latter section is consistent with the treatment for separate improvements to the adjacent Highway 401 corridor which have been approved in principle by the Ministry of Natural Resources in exercising their mandate in protecting coldwater fisheries (i.e. use of flat bottom grass-lined ditches with 60-80 m runs prior to discharge to the watercourse under consideration).

3. Additional pretreatment of highway runoff before infiltration must be evaluated, such that less reliance is place on grassed ditches.

In addition to the proposed use of grassed ditches, pretreatment will occur on the highway embankment slope faces which will also be grass-lined. Moreover, a sediment forebay area in the infiltration basin can be designed to provide additional pretreatment prior to the main infiltration area. This will be further evaluated in the Detail Design phase of the project.

4. The long term life expectancy, efficiency and effectiveness of the proposed infiltration

basins must be assessed.

High failure rates of past infiltration basins have been attributed to poor site selection, poor design and poor construction techniques. All of these factors will be considered in the design of the SWMP facility during the Detail Design phase, in consultation with MOEE staff, having determined all the design parameters needed for the assessment. In particular, additional geotechnical and hydrogeological investigations will be conducted as part of the detailed suitability assessment.

5. The depth between the bottom of the infiltration basins and the seasonally high water table must be evaluated and a design developed which will satisfy MOEE's requirement of a 1.0 m minimum clearance.

Due to the preliminary/conceptual nature of the SWMP to date, we do not have monitoring data to indicate seasonally high groundwater levels. However, static groundwater level information is available and this has been presented in Sections 4.1 and 5.1 of the CSWMP Report. Additional information in this regard will be gathered as part of the detailed investigations cited in Point 4 above.

6. The need for an overflow weir/channel should be assessed for the stormwater management facilities.

Assessment of the need for, and the development of details of the overflow weir/channel for SWM facilities are activities typically conducted during the Detail Design phase, and it is MTO's intent that they be addressed at that time on this project.

7. Opportunities for the introduction of wetland vegetation planting must be assessed and maximized.

It is recognized that the pollutant removal capabilities of the recommended SWMP can be enhanced by check dams and/or vegetative planting. Again, these will be considered in the Detail Design phase as part of the landscaping and refurbishing program. Given the evolution of vegetative communities adjacent to other roadways in the project area, it is also possible that wetland vegetation in the grassed waterways (ditches) will develop in a natural, successional manner.

8. The possibility of stormwater management design contaminating surface water and/or groundwater due to an accident or spill must be assessed.

Minimizing the potential for contamination of surface water and groundwater through linkages with the SWM system will be achieved through the introduction of standard highway safety devices and practices used as accident prevention measures. These include appropriate horizontal and vertical geometric design for the proposed design speed of the facility, raised median barrier for traffic separation,

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introduction of guide rails, illumination and intersection signalization where warranted, and the use of buffer/separator strips between adjacent parallel-roadways (e.g. between Highway 401 and Highway 6).

9. A maintenance program or schedule must be developed for the stormwater management facilities.

Agreed. This will be addressed during the Detail Design phase when design parameters have been determined.

10. An extensive erosion and sedimentation control plan must be developed for the construction phase of this project.

A commitment to the development of an erosion and sedimentation control plan, including the types of measures which will be incorporated, has been included in the Environmental Assessment Report (EAR) for this project. An excerpt is attached for your information. The details of individual components will be determined during the next phase of the work.

11. The Groundwater Unit of MOEE's Technical Support Section should also review the CSWMP Report.

Agreed. We would welcome any constructive comments the unit can provide during formal review and approval of the EAR.

The nature of our comments reflects the preliminary nature of highway design and its major components, including the drainage and stormwater management elements. Any commitments to further work during the Detail Design phase of the project identified herein will be included in the Environmental Assessment Report. We look forward to working further with MOEE in a co-operative effort during the EAR review stage and subsequent design phases leading to successful implementation of this project.

1.2 Air Quality

An air quality assessment has been conducted by MTO for the proposed highway improvements using the results of the Highway 404 Air Quality Impact Study as the basis for the analysis. The findings of the assessment are also deemed to be generally representative of the impacts which could also be attributable to the route location alternatives considered during the planning study. The detailed results of the air quality assessment are included in Appendix C - Selected Additional Correspondence.

In summary, the assessment concluded that:

- Future vehicular traffic on the realigned Highway 6 section may impact (negatively) the air quality experienced by a small number of households. A larger number of households located along the existing Highway 6 section which will be bypassed are likely to experience a significant improvement in air quality.
- Among the regulated, traffic-related air pollutants, only nitrogen dioxide (NO₂) may reach high enough concentrations to warrant consideration.
- Under the worst case scenario, marked by coincidence of peak traffic volume and the worst
 meteorological conditions, the maximum ambient NO₂ concentration is predicted to reach 0.05 ppm
 by 2011. This is much lower than the 2 ppm level prescribed by the current provincial ambient air
 quality criterion for NO₂.

1.3 Noise

The Condition of Approval suggested by MOEE is satisfactory to MTO except the word 'tendering' should be replaced by the word construction.

1.4 Floristic Survey

MOEE's observations regarding the need for an intensive year-round floristic survey have been noted. Matters such as this pertaining to the Ministry of Natural Resources' mandate have been addressed with MNR in a separate response and meetings, as required.

1.5 Woodlot Health

MOEE's observations also suggest that, in addition to the commitments made by MTO to preserve the health of woodlots adjacent to the proposed undertaking, potential impacts to woodlots in terms of impaired drainage causing waterlogging is an issue which should be addressed.

The woodlots in the project area generally range from lowland successional to upland mature hardwood stands. Much of the successional forests are associated with major wetland areas (i.e., Fletcher Creek Swamp Forest, Beverly Swamp and Galt Creek and Forest). These areas are naturally wet and the proposed drainage strategy is not expected to have additional impacts on the constituent forest areas in terms of waterlogging.

A large portion of the project area is characterized by glacial tills (Port Stanley Till) comprising well drained gravelly sandy loam till parent material. The upland hardwood woodlots are situated primarily on such soils south of Morriston where Guelph loam and Dumfries loam predominate. These soils exhibit good drainage characteristics and the proposed undertaking is not expected to create any



alterations in surface drainage or groundwater conditions that would result in standing water in adjacent forested areas.

It should also be noted that the preparation of the Conceptual Stormwater Management strategy entailed an integrated approach which identified and accounted for multi-disciplinary sensitivities, including forestry resources and significant woodlots. The preferred concept makes use of two naturally occurring depressions (kettle holes) adjacent to the new route to act as infiltration basins where the opportunity exists. These depressions are situated outside the limits of the woodlots in the area.

1.6 Subwatershed Management Strategies

MOEE's advice with respect to future references to local terrestrial and watershed plans has been noted. The cited plans which may be applicable were not available at the time that the initial or supplementary investigations on this project were conducted but may be referenced during the preparation of Detail Design documentation, which will include consideration of more recent environmental conditions and policy initiatives. MTO has, in the subject Environmental Assessment and Preliminary Design Report, committed to continuing liaison with the appropriate authorities having jurisdiction in this regard.

2.0 HAMILTON REGION CONSERVATION AUTHORITY

2.1 Salt and Sediment Removal

The Authority has indicated that the conditions of approval include the implementation and maintenance of stormwater management control measures that would effectively remove salt and sediment from overland runoff.

With respect to the removal of salt, effects related to the use of de-icing salts for winter maintenance will be related to increases in usage required by the additional surface area introduced and proximity to the receiving area. On an annual basis, the use of de-icing agents in the area most directly influenced by the project could increase by 15%. Only in the case of Fletcher Creek will there be any significant change in proximity of receiving areas to runoff or spray. At least one case study reviewed in determining the possible impacts of this undertaking (as cited at page 6-17 of the EA Report) discovered that, in general, accumulation of sodium and chloride in roadside vegetation and water bodies was very slight beyond 15-18 m from the pavement. The proposed right-of-way will generally encompass this area of impact (i.e., sensitive areas of vegetation will be located beyond the limits of direct influence). Further, in the area of most interest to the Authority, (i.e., local catchment areas associated with the Fletcher Creek watershed) the preferred stormwater management concept includes the following best management practices:

• use of grass buffer strips in the highway embankment and excavated slope faces to filter the surface

runoff from the pavement; and

• use of grass-lined ditches and channels to provide initial treatment of highway runoff prior to conveyance to receiving watercourses.

MTO is committed to effective erosion and sedimentation control on this undertaking through the use of accepted, conventional construction techniques, operational mechanisms and maintenance practices, including

- Ensure expeditious re-establishment of vegetation on all removal areas and application of temporary measures (mulching) and permanent measures (rip-rap, geotextile, rock flow checks) to minimize soil exposure period and control erosion;
- Strategic deployment and cleaning/maintenance of sediment barriers, traps and check dams in conjunction with staging approach to minimize reduction of watercourse flow rates;
- If dewatering of turbid water is involved, divert to onshore settling basin or vegetated area where filtering will occur; and
- Use of soil binding adhesives.

Again, the Authority will be provided with an opportunity to review and comment on the details pertaining to this important surface water protection component of the contract drawing packages during the next phase of the project.

2.2 Inspection of Erosion and Sedimentation Controls

The Authority has indicated that all erosion and control measures must be inspected after each rainfall and maintained to its satisfaction. MTO will be employing its normal environmental inspection practices on this undertaking. During construction, MTO, through both its Construction Staff and the project Environmental Planner, will ensure that implementation of the stormwater management measures and related key design features are in *compliance* with the contract and external commitments. Any elements of non-compliance will be rectified to the satisfaction of the MTO personnel having authority and it will be the contract administrator's (the Contractor) responsibility to ensure such compliance.

In addition, MTO will assess the *effectiveness* of the stormwater management measures to ensure the following:

- 1. Individual measures are providing the expected control and/or protection;
- 2. Composite control and/or protection is adequate; and



3. Additional control and/or protection measures are provided, as required, for unanticipated environmental problems which may develop during construction.

MTO's post-construction monitoring responsibilities for stormwater quality control measures will be limited to planning the monitoring program.

The foregoing approaches to stormwater management were alluded to at the October 28, 1994 meeting between MTO and the Authority on the Highway 6 (Freelton to Maddaugh Road) Detail Design project and appeared to be acceptable to staff at that time.

2.3 Transplanting of Rare Plants

The following comments are intended to address the Authority's suggestion that rare plants within the areas to be disturbed be removed and transplanted to suitable habitat areas before the removal of existing organic material.

A considerable number and range of literature sources were reviewed with respect to the presence of rare flora in the study area during the course of both the initial and supplementary investigations on this project. These included MNR documents regarding Life Sciences Areas of Natural and Scientific Interest (ANSIs) (Kinkleberg 1984); Environmentally Significant Areas (ESA) studies for South Wellington County (Eagles et al 1979) and Hamilton-Wentworth Region (Ecologistics 1976); MNR Central Region documents on the distribution and status of vascular plants (Riley 1989); and lists of rare species compiled by MNR Cambridge District for areas of concern (MNR undated). In addition, MNR Resource Inventory Maps of Natural Areas were reviewed and information received from Conservation Authorities was incorporated in the database.

Further, floristic surveys of the technically preferred route were conducted by Fenco MacLaren biology staff in July - October 1987 and November - December 1992. Additional field work was undertaken in May 1988, although this was limited to the Hanlon Expressway/Wellington Road 34 area.

Notwithstanding the fact that some of the cited sources may be dated, none of the information gathered to date has identified any rare plant species in the proposed highway corridor, nor do the methods or information used in arriving at the technically preferred preliminary design scheme suggest that further surveys in this regard are required.

3.0 GRAND RIVER CONSERVATION AUTHORITY

MTO acknowledges and appreciates the Grand River Conservation Authority's continuing concern over the Hanlon Expressway/Wellington Road 34 interchange area and the potential impacts to wetland and aquatic resources in the Mill Creek subwatershed. In addition to the four External Team meetings

attended by Authority staff during the initial study, the Project Team provided staff with a further opportunity to review and comment on the project in a working meeting held on September 2, 1993. Specific concerns expressed by the Authority were reaffirmed and agreements reached with respect to the need for addition investigations and liaison during the Detail Design phase of the project. These are reflected in the Environmental Assessment and Preliminary Design Report.

In particular, MTO has committed to provision of a combined compensation/mitigation package associated with potential adverse impacts to fisheries habitat in McCrimmon's Tributary, as required under Section 35(2) of the federal *Fisheries Act*, and mitigation to address impacts to Mill Creek. Details of the compensation and mitigation packages will be determined during Detail Design when the exact details of construction and impacts to the habitat in question are known. Further commitments have been made with respect to protection of wetland and forested areas in the Galt Creek and Forest ESA; incorporation of erosion and sedimentation controls; formulation of a detailed drainage strategy; engaging in a co-operative effort with the Authority in developing and implementing subwatershed management strategies; provision of appropriate project review opportunities during Detail Design; and generally maintaining liaison with the Authority to ensure a mutual exchange of information on new policy and practices initiatives.

4.0 ENVIRONMENT CANADA

4.1 Henslow's Sparrow

A field study was conducted for Henslow's Sparrow along the proposed Highway 6 route. Four (4) sites that had some habitat potential were examined along the proposed right-of-way, and the Fletcher Creek Conservation Area, which had some potential as a mitigation site, was also inventoried. The inventory included detailed descriptions of vegetation communities and intensive survey for Henslow's Sparrow using a protocol prepared by the Long Point Bird Observatory. No Henslow's Sparrows were detected during the study. An evaluation of habitat suitability determined that the four sites along the right-of-way have no potential to support Henslow's Sparrow. In addition, the very low to low potential of the Fletcher Creek Conservation Area for Henslow's Sparrows eliminates this property from further consideration.

As no potential habitat for Henslow's Sparrow was found within the right-of-way, MTO does not intend to undertake any additional studies on this issue. MTO will endeavour to maintain, wherever possible, the existing land uses within the proposed highway right-of-way until construction of the highway commences. This will assist in maintaining the current habitat conditions along the corridor.

4.2 Migratory Birds

Impacts to regionally rare bird species will be mitigated through construction phasing. Prior to the

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nesting season, between September 1 and March 31, the vegetation will be cleared from the highway right-of-way in the Fletcher Creek Swamp and the Crieff Old Field Complex. In the absence of suitable vegetation, nesting within the right-of-way should not occur during the breeding season. With this mitigation measure, construction can proceed throughout the year.

5.0 HALTON REGION CONSERVATION AUTHORITY

As indicated in the Authority's preamble, the segment of the project to which the comments are most applicable is that between Freelton and Maddaugh Road. This segment has been separated from the remainder of the project for environmental approval purposes and is being addressed by MTO as a Group B undertaking within the context of the Provincial Highways Class Environmental Assessment. The project is currently in the Detail Design phase and extensive liaison with the Authority has occurred. Therefore, this response is couched primarily in terms of the Detail Design work that has occurred and relates to MTO's current design proposals for the aforementioned segment of the project. Extensive reference to correspondence, meetings and the Environmental Study Report (ESR) being prepared for that project is included.

The Authority's comments include 33 individual points. Points 1 - 19 are related to the main body (Volume 1) of the Environmental Assessment and Preliminary Design Report. Points 20 - 33 are related to the technical appendices included in Volume 3 of the Report. Many of the comments pertain to minor modifications to the documentation that may be required. These have been addressed in the form of errata and additional clarification (refer to Appendix E of this Addendum). The majority of the remainder of the comments have been, or can be addressed in the context of the current Detail Design work (ESR) and these are responded to in more detail below.

5.1 Volume 1 Comments

- Page 1-9 the Authority has suggested that potential impacts to Hydrogeology and Hydrology components should include alteration to groundwater flows in Bronte Creek headwater areas in addition to those for Fletcher Creek and Galt/Mill Creek. This is acknowledged. However, it should be noted that such an effect is expected to be extremely limited since the segment covered involves widening the existing highway essentially within the current right-of-way. Furthermore, this possibility has been recognized in the associated ESR in relation to the realignment Campbellville Road and Gore Road.
- ii) Page 1-10 net effects and commitments to further work with respect to localized alteration of surface water. Agreed.
- iii) Page 1-10 concerns, proposed mitigation, net effects, commitment to further work and recommended liaison/contact for potential increases in surface water peak flows. Agreed and

noted for future project phases.

- iv) Page 1-10 net effects, commitment to further work and recommended liaison/contact for watershed management strategies. Agreed and noted for future project phases.
- v) Page 1-11 construction window for work in Bronte Creek tributaries. Covered in Detail Design commitments.
- vi) Page 1-11 the fisheries assessment for this project has not identified the potential for the harmful alteration or destruction of fish habitat in the Bronte Creek watershed if conventional means of protecting the watercourses within or adjacent to the project limits are employed. Therefore, no compensation package is required and liaison with the Halton Region Conservation Authority in this regard is considered unnecessary.
- vii) Page 1-12 immediate revegetation of removals in areas of riparian vegetation; inclusion of net effects. Noted for future project phases (included in W.P. 65-76-02 contract package).
- viii) Page 1-12 -accidental spills into aquatic environments are very unlikely to happen due to operational constraints that will be included in the contract to prevent the contractor's from using toxic materials near watercourses.
- Page 1-12 the Authority has recommended that only native species be planted adjacent to wetlands and watercourses. The determination of details relative to refinement of the preferred concept are being undertaken as part of Detail Design activities (e.g., grass species characteristics, density of grass stands, slope of grass cover). The Authority will be provided with an opportunity to review and comment further on the selected BMPs once this determination has been made.
- Page 1-13 mitigation, net effects, commitment to further work, recommended liaison/contact with respect to property owner concern over possible changes to wetlands and water table level and resulting effects on vegetation. This particular property is not situated within the Authority's jurisdiction. However, the comments have been noted in the event that liaison with the property owner are required during Detail Design.
- Figure 4.1 references to springs, watershed boundaries and constituent watercourses. Reference to Volume 3, Technical Paper No. 9 Background Fisheries Information and Impact Assessment should be made for details in this regard.
- xii) Page 4-8 wording of sentence regarding principal watercourse in Bronte Creek watershed. The wording is considered appropriate since the watershed has more than one watercourse and Bronte

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wording is considered appropriate since the watershed has more than one watercourse and Bronte Creek is the principal watercourse in the watershed.

xiii) Page 6-1 - the Authority has requested that MTO obtain permission from the Authority to place fill in wetland areas. This matter was raised in the Authority's October 31, 1994 and December 20, 1994 correspondence to MTO, as well as at the October 28, 1994 meeting between MTO and the Authority. The request was addressed by MTO at the cited meeting and in its January 16, 1995 response to the December 20, 1994 correspondence. The design has been developed to minimize loss of wetland function and protect watercourses potentially affected by construction and operation of the project.

Copies of the environmental special provisions and operational constraints will be forwarded to the Authority as part of the Detail Design process. In the interim, the Authority has been requested to identify any specific requirement related to wetland and watercourse protection in addition to its erosion and control guidelines (Keeping Soil On Construction Sites - Erosion and Sediment Control Guidelines for Hamilton Harbor Watershed and Region of Hamilton-Wentworth, April 1994).

The Authority has requested technical details pertaining to how and why various elements of the existing Highway 6 drainage system between Concession Road 11, Town of Flamborough, and Highway 401 will be upgraded. This response is limited to reference to the area from Concession Road 11 to approximately 500 m north of Maddaugh Road and the segment of the new route from approximately 500 m south of Calfass Road to the proposed new Connection Road since, in our understanding, these are the limits within which the Authority's mandated area (Bronte Creek watershed) may be affected. Details regarding the hydrology and hydraulics are contained in the Highway 6 Freelton to Maddaugh Road Stormwater Management Study (W.P. 65-76-02) dated March 1995. Additional details of runoff calculations have been generated for this project as support documentation and can be made available by MTO on request by the Authority. All of the existing culverts will be replaced as part of the Highway 6 reconstruction and widening project. This work will be staged (generally in halves) to be compatible with the road works and will be completed in the dry where possible, with maintenance of flows through diversions around the immediate construction site, where fisheries and hydrologic requirements dictate..

The information regarding culvert sizes for the southern segment (Concession Road 11 to approximately 500 m north of Maddaugh Road is contained in our the January 16, 1995 correspondence (Fenco MacLaren Inc. to the Authority). Detail Design considerations and discussions with Authority staff have resulted in hydraulic modeling for both the 1:25 and 1:100 year storm events. The culvert sizes adopted meet or exceed the criteria for accommodation of the 1:100 year event. As indicated in the cited correspondence, with respect to the protection

of wetlands and watercourses during construction, the contract drawings and documents will include provisions for erosion and sedimentation controls, equipment fueling, haul routes and material storage areas as per standard MTO practice. Copies of the environmental special provisions will be forwarded to the HRCA.

Details of the drainage strategy for the northern segment (from 500 m south of Calfass Road to the proposed new Connection Road) have not been determined. The requested information will be made available to the Authority during the Detail Design phase of the project in a manner similar to that for the current W.P. 65-76-02 undertaking.

- Page 6-13 the Authority has suggested that strategic assessment of drainage problems in the vicinity of Freelton should be conducted in consultation with the appropriate Conservation Authority. Agreed. Detail Design of the segment between Freelton and Maddaugh Road is in the final stages and determination of the appropriate drainage strategy, including culvert sizing, has involved liaison with the Halton Region and Hamilton Region Conservation Authorities (refer to correspondence of October 31, 1994; December 20, 1994; January 16, 1995; and working meeting of October 28, 1994).
- xvi) Page 6-19 no instream works should take place between September 1 and June 1. Agreed and noted for future project phases (included in W.P. 65-76-02 contract package).
- xvii) Page 6-19 the Authority has suggested that the appropriate Conservation Authority should be consulted regarding treatment of turbid water during dewatering operations. Construction techniques will be determined as part of the Detail Design activities. However, until additional geotechnical investigations have been completed, the need for dewatering cannot be ascertained. If dewatering is required, the treatment of turbid water will be achieved in an environmentally acceptable manner in accordance with MTO's standard practices. The Authority will be provided with the opportunity to review and comment on the contract drawings in this regard.
- xviii) Page 6-35 the Authority has suggested that the approach to placement of fill in flood plain areas include reference to fill regulated areas. Agreed. Based on agreements reached during the aforementioned liaison with the Authority, the Project Team has made a commitment to recognize fill regulated areas.
- Table 6.4 on Pages 6-39 to 6-48 comments similar to those for Table 1.3 (identical contents). Refer to responses i) to x).

5.2 Volume 3 Comments

5.2.1 Appendix F - Technical Paper No. 9: Background Fisheries Information and Impact



Assessment

- xx) Page 3 (Impact Assessment) the outline of potential impacts should contain the impacts of placing fill in fill regulated areas on storage, capacity and habitat. Agreed and noted for future project phases.
- xxi) Page 4 (Impact Assessment) timing restrictions (no instream work between September 1 and June 1) should be identified. Agreed and noted for further project phases per response xvi).

5.2.2 Appendix F - Technical Paper No. 10: Background Terrestrial Biology Information and Impact Assessment

- Page 16 it is recognized that the status of the West Virginia White Butterfly under the Endangered Species Act has varied over the course of this study. The West Virginia White Butterfly is currently considered rare in the Province of Ontario.
- xxiii) Additional references the Authority has cited six additional natural environment reference documents that were prepared after the Technical Paper was completed. These will be reviewed, as deemed appropriate, during the Detail Design phase where they can best be used to update existing conditions.
- xxiv) Impacts of highway construction on forests the Authority has expressed concern over the apparent absence of detailed reference to the potential for forest fragmentation; possible effects on forest interior habitat, corridors and linkages; and potential mitigation measures. Our review of the material in question suggests that these matters are, in fact, discussed in the identification of the potential impacts and evaluation of the various Segment 2 alternative alignments under consideration in the Supplementary Investigation phase of the project (refer to Pages 3 and 4 and associated Table 2 in the Technical Paper). Further, the main text of the EA Report (Pages 6-19 to 6-24) provides considerable detail in these regards in the discussions on Forestry Resources and Environmentally Sensitive Areas/Wildlife. Additional details regarding mitigation potential and commitments to preserving forest areas will be determined during the Detail Design phase of the project in consultation with the Ontario Ministry of Natural Resources and the appropriate Conservation Authority.

5.2.3 Appendix M - Conceptual Stormwater Management Plan (March 1994)

xxv) Authority staff have recommended that the 1994 Ministry of Environment and Energy Stormwater Management Practices Guidelines should be considered in the design of the water quality best management practices. The Conceptual Stormwater Management Plan for the Route Location and Preliminary Design Study was prepared prior to the release of the cited MOEE

guidelines and used the most recent information at that time - MNR/MOEE Interim Stormwater Quality Control Guidelines for New Development (May 1991) and the MOEE Stormwater Quality Best Management Practices (June 1991). However, the proposed stormwater management plan for the segment of the project of most interest to the Authority (Highway 6 widening and reconstruction between Freelton and Maddaugh Road - W.P. 65-76-02) was prepared in March 1995 as part of the Detail Design phase activities and does incorporate the 1994 MOEE guidelines. Authority staff have been involved in the development of the drainage and stormwater quality strategies for this undertaking and will be receiving a copy of the associated stormwater management report for review and comment in conjunction with the Environmental Study Report.

- xxvi) Page 4 the Authority has suggested that parameters other than suspended solids be considered in the determination of appropriate BMPs. Staff have correctly noted that temperature was not the primary parameter under consideration in the assessment of BMPs. Based on consideration of all of the physical conditions and related environmental sensitivities, the assessment determined that infiltration basins are the preferred treatment for the new route section of the project. Coincidentally, it should be noted that this form of treatment is also considered optimum with respect to minimizing potential adverse effect on the temperature of receiving water sources (versus detention ponds or other similar measures which would result in increased temperatures).
- xxvii) Page 10 staff have raised questions as to the basis and rationale for the qualitative rating system for the assessment of BMPs (refer to Table 3.1 in EA Report Appendix M). The BMPs were assessed on the basis of the aforementioned June 1991 MOEE publication, and the relevant information, including performance criteria, are given in that document (e.g., refer to Chapter 4 for performance criteria).
- xxviii) Table 3.1 staff have noted the absence of references to temperature. Agreed. Refer to note on temperature under point xxvi) above.
- xxix) Page 11 staff have noted the absence of Figures 4.2 and 4.3. Agreed. These figures were included in the draft report, which all affected agencies, including Authority staff, have had the opportunity to review, but were excluded from the EAR due to the size of the drawings.
- Page 12 staff have noted that the description of the preferred stormwater concept does not include any information on drainage to outlets to existing watercourses and that such information is required for an appropriate review. The subject information is not included because the preferred BMPs for the project segments in question are infiltration basins. This means that runoff from the new highway facility will be drained to existing naturally occurring depressions for infiltration into the ground; there will be no outlets to existing watercourses. The Authority's

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Watershed Engineer has reviewed the report and has not expressed concerns in this regard. With respect to the question as to whether the headwaters of Bronte Creek will be affected by stormwater runoff, reference should be made to point i) of this response.

- xxxi) Sections 5.0 and 6.0 staff have indicated the need for information similar to that requested for Section 4.0 in areas outside the Authority's watershed. Our response for these sections is similar to that included in points xxix) and xxx) above.
- xxxii) Page 19 staff have inquired as to why the 1:10 year 24-hour storm event was used in the design of the infiltration basins and where the basins identified are located. The size of the subcatchment areas for the infiltration basins involved in the drainage system ranges from 1.7 ha to 29.5 ha. These are considered to be minor drainage systems in the context of determining the appropriate hydraulic criteria for design purposes and the 1:10 year 24-hour storm event is generally used in the design of systems of this nature and size. The table in Section 7.0 has been modified to include the infiltration basin catchment areas and references to the appropriate report exhibits where the BMPs are located.
- xxxiii) Page 22 staff have noted the absence of Figures 4.2, 5.2 and 6.2 in the report. Please refer to point xxix) above.

6.0 MINISTRY OF NATURAL RESOURCES

6.1 Additional Investigations Regarding Henslow's Sparrow

A field study was conducted for Henslow's Sparrow along the proposed Highway 6 route. Four (4) sites that had some habitat potential were examined along the proposed right-of-way, and the Fletcher Creek Conservation Area, which had some potential as a mitigation site, was also inventoried. The inventory included detailed descriptions of vegetation communities and intensive survey for Henslow's Sparrow using a protocol prepared by the Long Point Bird Observatory. No Henslow's Sparrows were detected during the study. An evaluation of habitat suitability determined that the four sites along the right-of-way have no potential to support Henslow's Sparrow. In addition, the very low to low potential of the Fletcher Creek Conservation Area for Henslow's Sparrows eliminates this property from further consideration.

As no potential habitat for Henslow's Sparrow was found within the right-of-way, MTO does not intend to undertake any additional studies on this issue. MTO will endeavour to maintain, wherever possible, the existing land uses within the proposed highway right-of-way until construction of the highway commences. This will assist in maintaining the current habitat conditions along the corridor.

6.2 Federal Fisheries Act Requirements

In consultation with the Ontario Ministry of Natural Resources (MNR) and the federal Department of Fisheries and Oceans (DFO), MTO assessed the potential harmful alteration of fisheries habitat that crossings would have on the Fletcher Creek and the Mill Creek watersheds. It was determined that compensation could be required. As a result, MTO is committed to developing a package that is acceptable to MNR, the Grand River Conservation Authority (GRCA), the Hamilton Region Conservation Authority (HRCA) and DFO in order to compensate for any net loss of productive capacity, as required under Section 35(2) of the *Fisheries Act*. Details of the compensation package will be determined during highway Detail Design, when the exact impacts to the fish habitat are known.

November 1997

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APPENDIX A OFFICIAL GOVERNMENT REVIEWERS' COMMENTS





Ministry of Environment and Energy Ministère de l'Environnement et de l'Énergie 250 Davisville Avenue Toronto ON M4S 1H2 CENTRAL REGION ENGINEERING OFFICE

(416) 440-3492

April 11, 1996

Ms. Carolyn Southey
Senior Environmental Planner
Ministry of Transportation
Environmental Planning Unit, Central Region
5th Floor, Atrium Tower
1201 Wilson Avenue
Downsview, Ontario
M3M 1J8

Dear Ms. Southey:

RE:

Highway 6, Freelton northerly to Guelph Environmental Assessment Review

Thank you for providing us with copies of the above-noted Environmental Assessment. Staff of the Transportation and Municipal Projects Unit have reviewed this document in accordance with the requirements of the Environmental Assessment Act and the Interim Guidelines On Environmental Assessment Planning And Approvals.

Overall, we find the planning and documentation of this project to be insufficient in meeting the requirements of the EA Act. The document is often confusing and some areas require clarification. These concerns are raised as questions and are provided in the following attachment.

We would like to meet with you and appropriate staff to discuss our comments and determine our next steps in finalizing the government review. Should you have any questions or concerns, please do not hesitate to call me.

Sincerely

Glenn J. Higgins

Senior Environmental Planner

CC:

Fred Leech, MTO EA File no. TC-CE-02

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Highway 6 Freelton Northerly to Guelph Environmental Assessment Review

General Comments / Preamble

- On August 18, 1993, MTO asked if a section of this EA could be separated and planned under the Class EA as a Schedule "B" project. MTO asked for this because the Highway 6 EA was delayed and there was a safety problem which needed to be addressed immediately. On August 25, 1993, we responded to this request and supported such action. Since then, the ESR has not been done and, we must assume, the safety problem still remains. If this is the case, will the planning and design for the widening section still be done separately or will MTO now combine it with the rest of the EA? (see also page 2-2 paragraph 1 and 2 and page 6-1 paragraph 6-7).
- In the Preamble, what is meant by "abnormal iterations" and "non-technical influences"? This paragraph makes it sound like you want us to trust your decision-making no matter how "abnormal" or "non-technical" it may seem. This does not instill confidence in the reader.
- A draft EA was submitted for review in 1989 and comments were provided by many agencies. Given that the final EA was submitted seven years later, why did MTO chose not to submit another draft document to ensure that these agencies were satisfied with the report? The work done between 1992 and 1994 in response to MNR's concerns resulted in changes to the location of an interchange.
- Table of Contents at the beginning of each chapter is helpful.
- By far, Chapter 5 is the most confusing chapter of this EA. The information is found throughout the chapter in various charts, tables, maps and text. It is difficult to follow your planning here.

Chapter 1 Comments

- What is the actual deficiency with the current network? "Low levels of traffic service" doesn't accurately describe the nature of the problem. Please explain "capacity and demand congruities" and how these "frustrate" municipal development initiatives.
- Section 1.3.2 paragraph 1 is almost impossible to understand. Did MTO consider "demand management" which is a viable alternative in MTO's Class EA? Please explain given that the purpose of the undertaking is to:

introduce transportation system improvements in the Highway 6 corridor between Freelton and Guelph which contribute to a reduction in the growth of road congestion...

- Section 1.4.3 paragraph 1 refers to Figure 5.2 as showing the full range of alternatives under consideration. Figure 5.2 only shows the "A" routes. Are you referring to figures 5.2 5.5 or is there another 5.2 that we don't see? Were these alternatives developed by all the study participants (public, agencies, etc.) or were they presented to these participants (after they were developed) for evaluation?
- Section 1.4.3 paragraph 2 refers to six alternatives while Table 1.2 seems to refer to only five alternatives. Are you actually referring to Table 1.1? If not, please explain.
- Section 1.6 paragraph 2. You indicate that measures to address environmental issues will be identified in the D&C reports. Do these reports provide further opportunity for the public or affected agencies to modify the project? What mechanism will be in place to allow this? The commitments to future work are binding but Chapter 2 says the D&C exercises are for information purposes only.
- Section 1.7. (a) and (b) are the same benefit with different users. (c) and (d) are the same benefit with different users.
- Section 1.9. The external contact that is referenced did not take place since the completion of the draft EA review in 1990. Although Table 1.4 shows the types of contact made, it does not show when this took place. Given that most of these agencies have not had any contact with this project since 1990, this is a major concern.

Chapter 2 Comments

- Section 2.1. The reference to this being a "one-stage" report is a reflection on the age of this planning exercise and should be removed. MTO stopped doing two-stage EAs 10 years ago.
- Section 2.1.1 paragraph 3, MTO says that it will determine what constitutes "significant new concerns". How will this be done and what outside participation will take place?
- Section 2.2.2. Level of Service is defined by letter (A to F) yet you describe the service on some parts of the road as being "low". Why were services not all described consistently? Furthermore, the O-D study from 1979 is now 17 years old and it appears that the most recent corridor study was done 14 years ago. In 1995 did County Road 46 operate at LoS F as predicted in the 1982 Corridor Study?
- Section 2.2.2. You have accident data as recent as 1991 but other data (LoS etc.) seem to be quite outdated. Why was the remainder of the information used to justify this project not updated?
- Section 2.2.2. The traffic composition and maintenance requirements are listed as problems to be solved yet there is no indication that these concerns are serious. How does a drivers "intimidation" factor into this problem? How do the "abnormally high" maintenance costs compare with Provincial averages and what are the actual costs? With the exception of LoS and Accident rates, is there a problem here worth solving?

Chapter 3 Comments

- Section 3.2.6. Refers to public consultation that took place during six stages in the planning process. Figure 3.4 outlines the planning process but refers, instead, to steps 1-11. Are the stages in 3.2.6. supposed to correspond to the steps in Figure 3.4? If so, why the discrepancy?
- Table 3.1. These tables are huge. Is there no clearer way to describe the comments raised at the public information centres? More importantly, there are quite a few concerns that seem to remain unresolved between 1985 and 1994 (excessive speeds on Hwy 6, impacts on Fletcher Creek, safety concerns on Cty. Road 34, impacts on Telford Glen, visual and noise intrusion).
- Page 3-13. There is a list of interest groups that were contacted. There is no indication of how these groups participated in the project (if at all). Please explain.
- Section 3.3.1. Please explain further this "selective" approach for defining study information requirements.

- Section 3.3.2. You indicated that although the "Eastern Corridor" was dropped in the 1982 analysis, "there appeared to be some merit in examining an eastern access to the City of Guelph". Ultimately, this alternative was dropped. Why did you decide to look at this again?
- Figure 3.3. The technically preferred route in 1988 is identical to the 1996 preferred route with the exception of the interchange between Hwy 6 and the Hanlon Expressway and the County Rd. 34 interchange. As this appears to be a very minor change, why was this EA not submitted in 1988?

Chapter 4 Comments

- Section 4.0. How valid is this information if it represents how the area looked 10 years ago? Is MTO satisfied that the information upon which it has identified the preferred alternative is valid justification to proceed with this project? What about changes to environmental regulation?
- Section 4.1. The description of existing geographic features does nothing to help describe the significant environmental effects. The reviewer needs to know what will be effected and how. Describing the manner in which glacial till was deposited is useless. What we need to know is will this project have a significant impact?
- Section 4.2. This is an improvement in that it helps the reader understand the social interactions within the study area and the potential impacts this project might have.
- Figure 4.2 (a&b). These maps are difficult to decipher because they are grey tones with various information. The addition of the alignments further clouds the picture and makes it difficult for the reader to appreciate what is being presented.
- Section 4.2.2.1. The document indicates that there would be no significant noise impacts. However, Section 4.2.2.2. indicates that potential noise increases are a significant environmental issue. Also you are willing to identify Telfer Glen as a sensitive area since new residents said they didn't know of this project. Please explain.
- Section 4.3. Why were 1991 census figures not incorporated? These have been available for the past four years.
- Section 4.5. Have the Hwy 401 improvements been completed as indicated? How
 do these improvements impact the need for this facility? Are the 1991 AADT
 figures for the Hwy 401 or Hwy 6 corridor?
- Section 4.5.1. For the Brock Road section it appears that drivers are to go out of their way in order to use the "underutilized" Hanlon Expressway. How does this serve the public?

Table 4.6. Is clear and understandable (as compared to other tables).

Chapter 5 Comments

- Section 5.2.2. During the "factor weighting" exercises it appears that all the key participants were involved with the exception of the public. Please explain this. Also, it appears that after weights were assigned they underwent "appropriate adjustments", followed by "averaging" and finally were "modified" after the participants discussed these among themselves. If an "intuitive" analysis was carried out then say so. How alternatives were evaluated is unclear.
- Section 5.3. Please refer to Section 5.3 Environmental Assessment Act regarding reasonable alternatives. By the way, where are sections 5.3.2, 5.3.3, etc? The nomenclature does not require that you go to the fourth level of differentiation when you are comparing only two items (do nothing and commuter rail).
- Section 5.3.1.1. Points (iii) (vi) are clear. How significant are the costs in point (i)? How do you know that the same mistake that the Hanlon Expressway experiences (point ii) won't be repeated for this project. It seems that this project is required to fix an expensive problem that the Hanlon Expressway could not. If the Do Nothing alternative did not meet the project objectives, does that mean that they failed the evaluation criteria set out in Table 5.1?
- Section 5.3.1.2. GO Transit's position in 1985 was that it had no plans to extend service in this area. Does this remain GO Transit's position in 1996? You said elsewhere that much of the traffic problem is commuter-based with O-D in Toronto and Hamilton (which can be effectively served by dedicated inter-regional transit). Were the criteria in Table 5.1 fully applied to the evaluation of commuter rail and bus service or did you simply rely on Go-Transit?
- Section 5.4.1. Upgrading of existing municipal roads are not an alternative method of carrying out your preferred alternative, they are an alternative to your undertaking. Your own Class EA (Exhibit 4) makes this perfectly clear. Why did Watson road get an evaluation based on Natural and Social environments when Brock and Victoria Road did not? Were these alternatives evaluated based on the Table 5.1 criteria?
- Section 5.4.2.2. If none of the corridors were screened out using this coarse assessment, why even mention it? If this section were removed, would the EA suffer? In section 5.4.3.1. you say that none of the routes were eliminated until more precise traffic analysis were carried out. Isn't this what MTO is suppose to be doing as part of the EA (the systematic evaluation and elimination of alternatives)?
- Section 5.4.3.2. This evaluation process is very confusing. After consultation, you modified several alignments. Then you decided to keep A-1 based solely on traffic

service. And finally you further refined the short list of alternatives. This was followed by Flamborough Council's resolution and your decision to give their choice the strongest consideration. Finally, you emphasize that these decisions predated your own Ministry's decision to advance the Hwy 401 improvements. Please explain/clarify.

- Section 5.4.3.3. These alternatives are different from the original set of alternatives (they include all the modifications requested throughout the study). There is no indication (once again) that you evaluated these with the same criteria.
- Section 5.4.3.4. Paragraph 2 is unintelligible. Alterations to the factor weighting were introduced. Are these the factors found in Table 5.1 and, if so, how does this re-weighting effect all the other alternatives that were discarded? The rationale for the selected route alternatives appears to have been based on the project team members vote, while stages 6 and 7 were based on specific (if different) criteria. Please explain.
- Section 5.4.4.3. Based on your own analysis Alignment 1 was recommended. Township Council, however, chose to endorse Alignment 2. There appears to be a trend here, whereby MTO proposes an alternative, it is reviewed and modified by the Project Team, then further modified by the External Team, then modified by the Public and finally Council endorses something else. It is hard to know how MTOs evaluation process has taken place and what factors truly influenced your decisions. Please clarify.
- TABLES 5.5 and 5.6 Help the reader understand the screening and trade-offs associated with the Hanlon Expressway Interchange. Why were similar Tables not done for the evaluation of route alternatives earlier in Chapter 5?

Chapter 6 Comments

- Section 6.1.1. At the end of each bullet point there are numbers in square brackets. What do they mean? Are they in reference to the design plates in Appendix "O"?
- In Section "C" you say that the widening of Highway 401 from 4 to 6 lanes is scheduled to be completed this year. Is this still on schedule and, if not, what impact would its delay have on your project?
- Page 6-28. The last sentence in paragraph 6 makes no sense.

COMMITMENTS/CONDITIONS OF APPROVAL

- Preamble Page 2
- Page 6-15 / 6-16
- Page 6-18 / 6-19
- Page 6-21
- Page 6-23 / 6-24
- Page 6-25
- Page 6-27 / 6-28
- Page 6-29
- Page 6-31
- Page 6-32
- Page 6-33
- Page 6-34
- Section 6.3.1
- Section 6.3.2
- Section 6.3.3
- Table 6.4



Ministry of Environment and Energy Ministère de l'Environnement et de l'Énergie

250 Davisville Avenue Toronto ON M4S 1H2 250, avenue Davisville Toronto ON M4S 1H2

ENVIRONMENTAL PLANNING AND ANALYSIS BRANCH

3rd Floor

Telephone: Facsimile:

(416) 440-3739 (416) 440-7039

July 4, 1996

MEMORANDUM TO

Brian Nixon, Director

Environmental Planning and Analysis Branch

FROM:

Jim Clifford, Manager

Environmental Planning Section

RE:

HIGHWAY 6 - FREELTON TO GUELPH

ENVIRONMENTAL ASSESSMENT

Attached is a memorandum to the Environmental Assessment Branch stating MOEE's technical position on the Highway 6 - Freelton to Guelph Environmental Assessment Report, which was formally submitted under the Environmental Assessment Act for approval.

Our review has concluded that additional information relating to stormwater management as well as noise is required to address MOEE's outstanding mandated concerns. We feel, however, that the information deficiencies can be addressed through two recommended conditions, should the Minister decide to grant approval of the undertaking.

Brian Nixon

Attachment

Jim Clifford

Ministry of Environment and Energy Ministère de l'Environnement et de l'Énergie

250 Davisville Avenue Toronto ON M4S 1H2 250, avenue Davisville Toronto ON M4S 1H2



ENVIRONMENTAL PLANNING AND ANALYSIS BRANCH

Telephone: (416) 440-3739 Facsimile: (416) 440-7039

June 19, 1996

MEMORANDUM

TO:

Glenn Higgins, Senior Planner

Environmental Assessment Branch

FROM:

Jim Clifford, Manager

Environmental Planning Section

RE:

HIGHWAY 6 - FREELTON to GUELPH

ENVIRONMENTAL ASSESSMENT

MOEE staff have reviewed the Ministry of Transportation's (MTO) formal submission of the Highway 6 Environmental Assessment Report, specifically Volumes 1,2 and 3 prepared by Fenco MacLaren Inc., September 1995. The following comments are based on our Ministry's technical mandate pursuant to the Environmental Protection Act, the Ontario Water Resources Act, the Pesticides Act and the Ministry of Energy Act. Comments were provided by Standards Development Branch, Science and Technology Branch, Noise Assessment Unit, and West Central Region. It should be noted that our comments were restricted to key concerns due to the short review period (forwarded to our reviewers on April 4, 1996) and therefore we were unable to undertake a detailed review.

Although MTO made an effort to select a route that minimizes damage, the proposed undertaking will still adversely affect significant areas of the natural environment. MOEE's technical concerns relate to the conceptual stormwater management plan, impact on wetlands, increase in noise, and impacts on forests and old field complexes. MTO, through correspondence dated May 24, 1996 stated its intention to address review agency concerns by providing additional information and circulating it as an "addendum" to the final EA for further review. To ensure that MOEE's concerns are adequately addressed, we have prepared a number of conditions of approval which specify our requirements. These conditions are to be considered in addition to the commitments which MTO already made in the EA report.



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STORMWATER MANAGEMENT

Significant comments, based on MOEE's review of the *Preparation of a Conceptual Stormwater Management Plan*, prepared by Fenco MacLaren Inc. in 1994 were prepared and forwarded to MTO in November 1994. Our concerns relate to the proposed water quality control options, their individual effectiveness and the long term maintenance of the proposed stormwater management facilities. Due to the likelihood that infiltrated or discharged stormwater runoff will eventually reach the sensitive coldwater fisheries of Bronte Creek, Fletcher Creek, Aberfoyle Creek and Galt/Mill Creek and since this undertaking would be a significant, new impact on an extremely sensitive and pristine natural area, (involves a new corridor rather than just lane expansions to an existing corridor), optimum treatment of runoff is required.

Attached are our earlier comments to MTO which remain outstanding. Since a response to these comments has not been received, we require the following condition of approval:

1 That the concerns relating to the "Preparation of a Conceptual Stormwater Management Plan", stated in a memorandum from MOEE's West Central Region dated November 10, 1994 be addressed by MTO in writing and submitted to the Director West Central Region, MOEE for review and approval prior to proceeding to the detailed design stage.

AIR

There was little discussion of impacts on air concentrations of contaminants in relation to the proposed realignment of Highway 6. The EA report simply states that a 'do nothing' alternative could result in worse air quality due to increased congestion as traffic volumes increase over time. Although this might be the case, relative impacts of alternative routing proposals as well as possible effects on air quality during construction should be included in the EA report. By applying the findings of a recent study of 'Highway 404 air quality impacts due to traffic flow', an assessment could been undertaken without major effort.

NOISE

Staff feel that adequate importance was given to noise in the evaluation process and that the methodology used in the analysis of the alternatives allowed for an accurate evaluation of the relative merits of each alternative. The EA report also adequately addressed all pre-submission comments.

However, despite mitigation efforts identified in *Table 6.3 of Volume 1* of the Report, a total of 11 noise sensitive locations will experience a moderate (5 to 9 dB) increase in noise level and 2 additional locations will experience a significant increase (10+ dB)in noise level as a result of

the realignment of Highway 6. Furthermore, a total of 6 locations will continue to experience high noise levels (65 to 75 dB) despite the decrease in noise levels at these locations. It should be noted that the large number of locations which will experience either a moderate or significant increase in noise level or continued high noise levels is due mainly to the fact that the <u>present MOEE/MTO Protocol</u> allows only for mitigation within the right-of-way and that the preliminary analysis indicates that mitigation which is strictly within the right-of-way is not cost effective at most locations.

In light of this, the following Condition of Approval is required:

2 That in the latter stages of detailed design MTO shall reassess the noise impacts and the potential for mitigation at all noise sensitive locations along the recommended route which may be subject to increases in noise levels of greater than 5 dB and at those sensitive locations where, despite the absence of increases in noise levels, the resultant noise levels may continue to exceed 60 dB. A Report containing the results of these studies shall be submitted for review and approval to the Director of the Ministry of Environment and Energy's Approval Branch at least 90 days prior to tendering. The mitigation measures applied shall be subject to the MOEE/MTO Protocol in effect at the time of construction of the facility.

OBSERVATIONS

Staff note that although natural environmental investigations were carried out by Fenco in the summer and fall of 1987 and updated in 1992/93, the EA did not contain a systematic and intensive year-round floristic survey. According to the EA report, it was not undertaken since the conclusions of the EA would not likely be altered as a result. Nevertheless, this survey should have been undertaken and results should have been summarized and provided in the EA report.

In addition, staff note that MTO have committed to minimizing effects of the undertaking on forests and old field ecosystems by ensuring that the construction corridor be as narrow as possible; that significant trees which are just outside the corridor be fenced to prevent damage; that trees which must be cut be felled away from the woodlots; that construction debris be removed; and that border trees be properly pruned if damaged. Proposed mitigation also includes the introduction of roadside barrier plantings to reduce the impact of highway operations and maintenance on natural vegetation. Another issue which should also be considered is the health of the woodlots adjacent to the proposed undertaking in terms of impaired drainage causing waterlogging.

- 4 -

MTO should be commended for their commitment to developing subwatershed management strategies to help address review agency concerns relating to hydrogeology and hydrology summarized in *Table 1.3*. Apparently this will be done in liaison with local Conservation Authorities, the Ministry of Natural Resources and the Ministry of Environment and Energy. MTO is reminded to consult with existing local terrestrial and watershed plans. Some local studies which may be applicable include: Spencer Creek Watershed Management Study (Hamilton Region Conservation Authority), Mill Creek Subwatershed Study (Grand River Conservation Authority), and Hanlon Creek Watershed Plan (City of Guelph). MTO is also encouraged to look for opportunities which will support and implement the management objectives of these local plans.

For future EAs, MTO is encouraged to use a more integrated (ecosystem) approach which determines the functions, connections and interdependencies of the individual environmental resource features at the beginning of the EA process. This knowledge will not only assist when predicting impacts and determining effective mitigation and monitoring measures, but will also help to guide subsequent studies, analyses, assessments and selection of alternatives.

Thank you for the opportunity to participate in the review of the environmental assessment. If you require any additional information please contact Valerie Gust at (416) 440-7019.

Sincerely,

Jim Clifford Manager

CC.

L. Kende M. Plewes M. Spencer



Ministry of Environment and Energy

Ministère de l'Environnement et de l'Énergie

119 King St W 12th floor - Box 2112 Hamilton ON L&N 329 119 rue King cuest 12º étage — Casier 2112 Hamilton ON Lan 329

November 10, 1994

MEMORANDUM

TO:

Alison Braithwaite

Supervisor

Environmental Approvals and Plan Review

FROM:

Rich Vickers

Surface Water Evaluator Technical Support Section

RE:

COMMENTS ON THE CONCEPTUAL STORMWATER MANAGEMENT

PLAN FOR AN ENVIRONMENTAL ASSESSMENT STUDY

HIGHWAY 6 FREELTON TO GUELPH ROUTE

The Surface Water Unit has reviewed the following report:

Preparation of a Conceptual Stormwater Management Plan Highway 6 Freelton to Guelph Draft Report to Ministry of Transportation Ontario Fenco MacLaren Inc., March 1994

Our review focused on the ability of the conceptual stormwater management plan to protect receiving surface water quality.

The proposed route intersects or is in close proximity to numerous environmentally sensitive receivers both surface water and groundwater. Infiltrated or discharged stormwater will eventually reach the sensitive coldwater fisheries of Bronte Creek, Fletcher Creek, Aberfoyle Creek, Galt/Mill Creek, and a tributary of Galt/Mill Creek. Stormwater will also discharge to provincially significant wetlands such as Fletcher Creek Swamp Forest and the Galt/Mill Creek Wetland Complex. As well major groundwater recharge areas including the Crieff Old Field Complex are intersected by the proposed route.

This is especially important in this area due to the coldwater fisheries and the groundwater recharge areas. Therefore, opportunities for the control of soluble pollutants to protect water quality must be further evaluated.

- We are concerned with the sections that propose grassed ditches as the only treatment before discharging directly to coldwater fisheries areas (eg. Aberfoyle Creek, tributary of Galt/Mill Creek, Fletcher Creek Swamp Forest). The MOEE does not generally recognize grassed ditches as a stand-alone water quality control when better control measures may be feasible. While we realize the space limitations of the right-of-ways, water quality controls (ie. sequenced and/or combined linear facilities) must be further assessed to protect the sensitive receivers.
- 3. Additional pretreatment of road runoff before infiltration must be further evaluated. The MOEE generally does not recognize grassed ditches as adequate pretreatment for infiltration basins. The report mentions on Page 7 that U.S. studies have concluded that 60m to 80m of grassed waterway was needed to remove the majority of suspended solids. However, not all of the road runoff will travel this distance. As well, some of the proposed infiltration basins are located at interchanges and intersections where runoff may contain high pollutant loadings and where there is limited overland flow distance. Sequencing or a combination of stormwater quality controls and/or linear stormwater facilities may have to be examined. Consequently, additional pretreatment of road runoff before infiltration must be further evaluated.
- 4. The long term life, efficiency and effectiveness of the proposed infiltration basins must be assessed. Past designs of infiltration basins have experienced high failure rates. Problems have resulted from clogging due to high sediment loadings. As well, high groundwater levels and soil compaction due to construction and water ponding depths within the basins have caused failures. Again, adequate runoff pretreatment is vital. The consultants must assess the long term life, efficiency and effectiveness of the proposed infiltration basins. The recent MOEE document Stormwater Management Practices Planning and Design Manual, June 1994 may be of assistance.
- 5. The depth between the bottom of the infiltration basins and the seasonally high water table must be evaluated. The MOEE generally requires a minimum clearance of 1.0m below the infiltration basin bottom to the seasonally high groundwater table. This is necessary to deter groundwater mounding and provide adequate filtering of stormwater.
- 6. The need for an overflow weir/channel should be assessed for the stormwater management facilities. The details of this aspect will be reviewed by Approvals Branch engineers.

- 4. Since infiltration basins have high failure rates, the long term life, efficiency and effectiveness of the proposed basins must be assessed.
- 5. The depth between the bottom of the infiltration basins and the seasonally high water table must be evaluated.
- 6. The need for an overflow weir/channel should be assessed for the stormwater management facilities to the satisfaction of Approvals Branch engineers.
- 7. The feasibility of wetland vegetation plantings within the roadside ditches/ponds must be further assessed.
- 8. The possibility of the stormwater management design contaminating surface water and/or groundwater due to an accident or spill must be assessed.
- 9. A maintenance program or schedule must be developed for the stormwater management facilities.
- 10. An extensive erosion and sedimentation control plan must be developed to protect the sensitive receivers during construction.

R. Vickers

Surface Water Evaluator

cc: P. Odom/R. Hillier, West Central Region.
M. Dhalla, Approvals Branch

MS/cc

MS-10



Hamilton Region Conservation Authority

June 11, 1996

RECEIVED

JUN 1 8 1996

CENTRAL HEGION ENGINEERING OFFICE

Ministry of Environment and Energy 250 Davisville Avenue Toronto, ON M4S 1H2

Attention: Mr. Michael Harrison

Dear Mr. Harrison:

Highway 6 North, Freelton to Guelph

EA File No. TC-CE-02

Further to your request for comment on the above noted project and the Ministry's verbal approval to extend the response period to accommodate our June 6th Full Authority meeting, we provide the following resolution approved at that meeting.

THAT the Water Management & Environmental Impact Advisory Board recommends to the Full Authority that the Environmental Assessment for the Highway No. 6 Freelton to Guelph improvements not be approved until the Ministry of Natural Resources and the Ministry of Transportation investigate and satisfactorily resolve the issue of potential destruction of habitat for the Henslow's Sparrow as it relates to the Endangered Species Act; and further

THAT, if the Henslow's Sparrow habitat issue is satisfactorily resolved, the following conditions be imposed on the approval of the Environmental Assessment and the detailed design, construction and maintenance of the proposed highway:

- 1. That the proposed culvert sizes be reviewed at the detailed design stage in order to provide increased flow capacities to reduce the chance of upstream flooding due to the accumulation of sediment, debris and/or ice:
- 2. That any compensation package required by the Federal Department of Fisheries and Oceans include enhancement of the potential fish sanctuary and rehabilitation of noncold water downstream areas;
- That stormwater quality control measures be implemented and maintained to 3. effectively remove salt and sediment from overland runoff;
- 4. That controls be investigated and contingency plans prepared to isolate "cargo spills" caused by accidents on the highway;



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- That the proponent design and implement a pre-construction and post-construction monitoring program to study the effects of the project on water quality in the Fletcher Creek in order to improve the detailed design of the project and provide data for future projects;
- 6. That all construction drawings, including erosion and sediment control plans, be submitted to the HRCA for comment prior to finalization of any construction tender package by the proponent;
- That all erosion and sediment control measures be installed prior to construction and maintained throughout the construction process, until all disturbed areas have been revegetated;
- That all erosion and sediment control measures be inspected after each rainfall and maintained to the satisfaction of the HRCA:
- That any disturbed area not scheduled for further construction within 45 days be provided with a suitable mulch and seed cover within 7 days of the completion of that particular phase of construction;
- That all disturbed areas be revegetated with permanent cover within 7 days after the completion of construction;
- That proponent consider the most recent Natural Areas Inventory information available from the HRCA in any amendments to the EA and during the detailed design stage;
- That construction in the Fletcher Creek Swamp Forest EA be scheduled outside the nesting season of regionally rare bird species;
 - That rare plants within the areas to be disturbed be removed and transplanted to suitable habitat areas before the removal of existing organic material.

For the reader's convenience, Authority staff have also attached the staff report dated May 2, 1996. which provides the background information leading to the recommendation. Please call the undersigned if questions arise.

Sincerely.

B. Scott Konkle, O.A.L.A.

Director of Planning & Engineering.

BSF

Encl.

Copy to:

Carolyn Southey, Ministry of Transportation (Ontario)

Brenda Axon, Halton Region Conservation Authority

MEMORANDUM

TO:

Water Management & Environmental Impact Advisory Board

FROM:

Scott Konkle, O.A.L.A., Director of Planning and Engineering

PREPARED BY: Tony Horvat, P.Eng., Senior Engineer

Bruce Duncan, Staff Ecologist Darcy Baker, Senior Planner

DATE:

May 2, 1996

RE:

Highway No. 6 Freelton to Guelph Environmental Assessment

HRCA Staff Comments and Recommendations

1.0 BACKGROUND REPORT

A previous report by HRCA staff dated March 14,1996 is attached as Appendix A which provides a project description and initial findings. Comments to the Ministry of Environment and Energy on this Environmental Assessment (EA) are required to be submitted by the end of the month. The HRCA comments pertain specifically to that portion of the road within the watershed of the Spencer Creek.

2.0 DRAINAGE & FLOODING IMPACTS

The project between Maddaugh Road and Calfass Road effects the headwater area of the Fletcher Creek a tributary of the Spencer Creek. The drainage area is less than 130 ha (0.5 square miles) and therefore no HRCA Fill and Construction Regulations are applicable.

Authority staff are however concerned that the capacity of the approximately 6 culverts proposed are to be rated for a 1 in 25 year return period storm. Currently these lands flow overland toward the Fletcher Creek. The placement of fill and culverts will provide potential flow obstruction points due to accumulation of sediment, debris and ice. Flood elevations on upstream properties may be increased as a result. Any increase in culvert size would be desirable to reduce the potential for flooding and subsequent maintenance requirements.

3.0 WATER OUALITY IMPACTS AT ULTIMATE DEVELOPMENT

The proposed road has a length of ± 1500 metres along the Fletcher Creek Swamp Forest ESA wetland. The EA report notes in Section 5.0, Aquatic Resources, that "actual fish habitat is located downstream of the preferred highway route but headwater and recharge areas will be affected."

Fletcher Creek is one of only two streams (the other is Spencer Creek above Valens CA) where brook trout (Salvelinus fontinalis) occur. This is a cold water species, quite local in its distribution and considered an uncommon species in Hamilton-Wentworth.

The HRCA and the Hamilton Area Fly Fishers and Tyers Club are examining Fletcher Creek as a possible fish sanctuary to be used as a source of local brook trout for stocking rehabilitated sections of the Spencer Creek watershed. That rehabilitation work is ongoing.

Part of any compensation package as required by the federal Department of Fisheries and Oceans should include enhancement of the potential fish sanctuary and rehabilitation of non-cold water downstream areas.

A reduced or modified use of salt to clear roads is recommended in the EA. HRCA staff concur with this recommendation and recommend that any stormwater quality control measures proposed be designed to effectively remove salt and sediment from overland runoff in order to protect the fishery resource. Regular maintenance must be specified to ensure their continued effectiveness. Provision should also be investigated for isolating and cleaning up "cargo spills" caused by accidents on the highway.

The EA study states that a "determination of specific measurable potential effects [on water quality] attributable to this project is impractical at this time for the following reasons:

- lack of quality data (specifically for Fletcher Creek) for the establishment of baseline conditions
- impracticality of conducting field research at this level of design
- lack of reliable modelling techniques
- difficulties in differentiating potential changes attributable to highway facility and other sources (e.g., Ca, Cl and Na from agricultural sources.)"

Given the lengthy, multi-phased period of construction proposed in the EA, Authority staff believe there is an opportunity to design and implement a pre-construction and post-construction monitoring program for the Fletcher Creek which could improve the project during the detailed design phase. The data would ultimately be useful to the Ministry of Transportation for other projects, particularly as the effects of roads on aquatic ecosystems has become a significant

4.0 WATER QUALITY IMPACTS DURING CONSTRUCTION

HRCA has previously written regarding the Fletcher Creek wetlands that "based on the sensitive character of the wedgeds at this location, we feel on site controls designed to confine impacts to the construction site are very important. Perhaps more important is the need for measures to prevent the erosion and siltation of receiving watercourses and adjacent wetlands during the construction stages. (letter from B. W. Vanderbrug to Carolyn Southey, MTO dated July 28, 1982." Our opinion remains the same and was reiterated in a letter to Fenco MacLaren from Scott Konkle dated September 7, 1994.

As part of the Hamilton Harbour Remedial Action Plan, the HRCA has been designated the lead agency in reducing sediment loading to area creeks and the Hamilton Harbour. In this particular case, more than the usual care in design and construction and maintenance of erosion and sediment control measures should be taken because of the potential loss of nearby cold water fisheries. HRCA staff have been less than impressed by the level of design, implementation and maintenance of erosion and sediment control measures on area projects by both the public and private sectors.

5.0 IMPACT ON TERRESTRIAL RESOURCES

5.1 Crieff Old Field Complex

The Crieff Old Field Complex (COFC) has been identified as an Environmentally Sensitive Area (ESA). According to the mapping provided in Appendix A of the EA the centre line of the proposed Highway severs the eastern portion of the COFC and will require about 5% (7 ha) of the total area.

Henslow's sparrow (Ammodramus henslowii) has been recorded in the Crieff Old Field Complex. This is noted in the EA document (6-22).

Since this EA was completed, Henslow's sparrow has been designated as endangered by the provincial government under its Endangered Species Act (1971). Under the Act, no person shall wilfully:

- a) kill, injure, interfere with or take or attempt to kill, injure, interfere with or take any species of fauna or flora; or
- b) destroy or interfere with or attempt to destroy or interfere with the habitat of any species of fauna or flora declared in the regulations to be threatened with extinction.

The Crieff Old Field Complex is nesting habitat for Henslow's sparrow. Section 6-22 of the EA notes that "the most significant impacts will result from construction activities (noise, air quality, degradation, habitat removal) and, combined with long-term noise increases, may affect a permanent or temporary relocation of sensitive bird species from the immediate vicinity, particularly during breeding periods." If this approach is taken, it may be in contravention Endangered Species Act. The administration of this Act is the responsibility of the Ministry of Natural Resources.

5.2 Fletcher Creek Swamp Forest

The preferred route encroaches into about 1% (5 ha) of the ESA identified as the Fletcher Creek Swamp Forest (FCSF) and also reduces a waterfowl area located within it by 10%.

Since the EA process has been initiated, the Hamilton-Wentworth Natural Areas Inventory has been completed. Detailed information about the Fletcher Creek Swamp Forest ESA, including locations of rare flora and fauna (for Hamilton-Wentworth), are now available from this office. Regionally rare bird species include pied-billed grebe (Podilymbus podiceps), northern harrier (Circus cyaneus), goshawk (Accipiter gentilis), borad winged hawk (Buteo platypterus) and common moorhen (Gallinula chloropus)

In addition, new fisheries and benthos data are available from a 1995 fisheries study completed by the HRCA.

The EA should include and consider this updated information.

6.0 RECOMMENDATIONS

Authority staff recommend:

That the EA not be approved until the Ministry of Natural Resources and the Ministry of Transportation investigate and satisfactorily resolve the issue of potential destruction of habitat for the Henslow's sparrow as it relates to the Endangered Species Act,

and further.

THAT, if the Henslow's sparrow habitat issue is satisfactorily resolved the following conditions be imposed on the approval of the EA and the detailed design, construction and maintenance of the proposed highway:

- 1. That the proposed culvert sizes be reviewed at the detailed design stage in order to provide increased flow capacities to reduce the chance of upstream flooding due to the accumulation of sediment, debris and/or ice.
- 2. That any compensation package required by the Federal Department of Fisheries and Oceans include enhancement of the potential fish sanctuary and rehabilitation of non-cold water downstream areas.
- 3. That stormwater quality control measures be implemented and maintained to effectively remove salt and sediment from overland runoff.
- 4. That controls be investigated and contingency plans prepared to isolate "cargo spills" caused by accidents on the highway.

- 5. That the proponent design and implement a pre-construction and post-construction monitoring program to study the effects of the project on water quality in the Fletcher Creek in order to improve the detailed design of the project and provide data for future projects.
- 6. That all construction drawings including erosion and sediment control plans be submitted to the HRCA for comment prior to finalization of any construction tender package by the proponent.
- 7. That all erosion and sediment control measures be installed prior to construction and maintained throughout the construction process, until all disturbed areas have been revegetated.
- 8. That all erosion and sediment control measures be inspected after each rainfall and maintained to the satisfaction of the HRCA.
- 9. That any disturbed area not scheduled for further construction within 45 days be provided with a suitable mulch and seed cover within 7 days of the completion of that particular phase of construction.
- 10. That all disturbed areas be revegetated with permanent cover within 7 days after the completion of construction.
- 11. That proponent consider the most recent Natural Areas Inventory information available from the HRCA in any amendments to the EA and during the detailed design stage.
- 12. That construction in the Fletcher Creek Swamp Forest ESA be scheduled outside the nesting season of regionally rare bird species.
- 13. That rare plants within the areas to be disturbed be removed and transplanted to suitable habitat areas before the removal of existing organic material.

- 5 -

APPENDIX A

HRCA STAFF BACKGROUND REPORT - March 14, 1996

MEMORANDUM.

TO:

Water Management & Environmental Impact Advisory Board

FROM:

Scott Konkle, O.A.L.A., Director of Planning and Engineering

PREPARED BY: Tony Horvat, P.Eng.

DATE:

March 14, 1996

RE:

Highway No. 6 Freelton to Guelph Environmental Assessment

and Preliminary Design Report - Summary of Findings

1.0 BACKGROUND

The Ministry of Transportation (MOT) has recently completed the above noted study and submitted it to the Ministry of Environment and Energy (MOEE) for approval. The MOEE has circulated it for agency and public comments, due by May 31, 1996. The conclusions reached in this study, which began in 1985, represent the culmination of extensive and detailed assessment of the problems and opportunities in the study area. Authority staff, along with numerous other agencies, have been involved in the study process from the outset. This staff information report summarizes the findings of the Class Environmental Assessment which impact on the HRCA watershed. Staff will be compiling formal comments over the next two months for submission to the MOEE.

The Environmental Assessment (EA) has concluded that the most efficient and environmentally sensitive way of introducing transportation system improvements in the Highway No. 6 corridor involves widening the existing highway between Freelton and Maddaugh Road to four lanes, and constructing a new mid-concession route west of the existing highway from Maddaugh Road to Highway 401 and westerly, immediately parallel to Highway 401, to connect to the Hanlon Expressway. (see attached diagram).

2.0 INTRODUCTION

The section of new highway from Maddaugh Road to the Calfass Road vicinity (about 4 km long) is within the watershed of the Fletcher Creek, a tributary of the Spencer Creek and thus within the jurisdiction of the HRCA. The other sections of the road are within the Halton Region Conservation Authority and Grand River Conservation

Authority. The attached diagram indicates the watershed boundary of the HRCA.

The EA states that the purpose of the undertaking is to:

"Introduce transportation system improvements in the Highway 6 corridor between Freelton and the City of Guelph which contribute to a reduction in the growth of road congestion, accident potential and associated costs as well as support Official Plan objectives."

Among the primary Project Objectives relevant to the HRCA and related to the purpose are:

- "1. Improve the current Highway 6 connection to Highway 401, thereby providing a higher degree of Highway 6 continuity and a superior route in terms of level of service and travel time.
- 3. Introduce removal of through traffic from existing Highway 6 through the village of Morriston, thus reducing the overall impact of noise, accidents congestion and enhancing opportunities for community growth.
- 5. Provide the most efficient, cost efficient solution while limiting adverse environmental impacts to the greatest degree possible."

The EA studied five basic highway corridor alignments and 26 major route location alignments and numerous minor variations. These were evaluated on the basis of a 7 stage link elimination procedure which considers the following factors:service to public, natural environment, social environment, economic environment, cultural environment, engineering standards, and cost. The preferred route selected is deemed by the study to most effectively satisfy the project objectives.

The highway is to be built in six stages, with stage 4 and stage 5 affecting areas within the HRCA jurisdiction. No start-up date is specified in the EA.

3.0 DRAINAGE & FLOODING

The drainage strategy for the section within the HRCA watershed essentially maintains existing overland runoff patterns. There will be no measurable impact on downstream flood elevations and HRCA staff will ensure that culverts are sized to prevent increases in upstream flood elevation. These concerns will be addressed in the detailed design stage.

4.0 WATER QUALITY

There will be three stormwater management infiltration basins located in existing depressions to "treat" stormwater runoff from the asphalt highway surface prior to it reaching area creeks and groundwater recharge zones. The locations have been identified for the basins and details will be provided at the detailed design stage.

5.0 AQUATIC RESOURCES

The Fletcher Creek is classified as a coldwater fishery located in a Class 1 Swamp Forest. Actual fish habitat is located downstream of the preferred highway route but headwater and recharge areas will be affected. A compensation package, required by the Federal Department of Fisheries, will be provided as part of the detailed design stage to replace any fisheries productive capacity lost. Careful control of erosion, equipment routes, timing and staging etc. during construction will be undertaken to protect aquatic and terrestrial resources.

6.0 TERRESTRIAL RESOURCES

The preferred highway route will directly affect two environmentally sensitive areas (ESA) within the jurisdiction of the HRCA: the Fletcher Creek Swamp Forest (FCSF), and Crieff Old Field Complex (COFC).

The preferred route encroaches on the easternmost portion of the FCSF affecting about 5 ha which represents less than 1% of the ESA. An identified waterfowl area within the ESA is reduced by about 10%. The removal of habitat, alteration of drainage patterns and effects from road salt and automotive emissions are deemed to be the main negative impacts on this ESA.

The preferred route will sever the eastern portion of the COFC ESA. Thus ESA contains regionally rare marsh hawk and grasshopper sparrow, threatened Henslow's sparrow and provincially rare Dicksissel. Parts of the area are used for agricultural purposes. The most significant negative impacts are deemed to result from construction activities (noise, air quality degradation, habitat removal) and, combined with long term noise increases affecting sensitive bird species particularly during breeding season.

Other areas within the HRCA watershed affected by the route which are outside of the ESA but cited in the EA study are:

- "1. Small area of MNR Wetland 218-1 near Maddaugh Road and existing Highway 6 intersection.
- 2. Four Class 1 woodlots between Crieff Road and Highway 401....
- Four small unclassified wetlands are between the woodlots mentioned in Item 2, above.

 These are low priority wetlands, but as wetlands, per se some mention is warranted.
- 4. Construction of the Connection Road between new and existing Highway 6 north of Calfass Road will result in the displacement of the 2.3 ha Class 7 Wetland 223-2. Approximately 0.6 ha of woodland and 2.3 ha of old-field and shrubland would be encroached upon in the area immediately southeast of the wetland, and the northwest of the ramp area. The major concern here is with the loss of the wetland, which has value for waterfowl, reptiled and application, and other attributes associated with wetland function.

While the vegetation associated with the wetland is "interesting", no rare or endangered species were observed."

The loss of vegetation and habitat is unavoidable due to construction of the highway. The EA document proposes the following mitigation:

"Retain vegetation cover as much as possible;

Clearing and grubbing operations will include the identification, field marking and avoidance/protection of high quality, unique or otherwise sensitive specimens or assemblages bordering the limits of construction;

Utilize close-cut clearing rather than grubbing where possible to retain maximum regenerative potential and maintain integrity of root mat;

Prevent sedimentation and water ponding in areas of retained vegetation; and, in general, introduce effective stormwater arrangement in a manner which maintains pre-existing patterns/functions;

Avoid use of herbicides/pesticides to identify sensitive non-target species;

Development of and expeditious implementation of post-construction landscaping and refurbishing strategy, particularly vegetative barriers against windthrow, salt spray and other highway generated airborne pollutants;

Direct highway runoff away from sensitive areas;

Strategic use of dust control measures (water, CaCl);

Snowfencing shall be placed to delineate the right-of-way in sensitive areas. The area outside the right-of-way in these areas shall not be used for vehicular movement. parking. storage space or for walking between points within the limits of construction."

7.0 CONCLUSION

Authority staff will complete the review of the Environmental Assessment and provide detailed comments to the MOEE by the due date of May 31,1996.

- 4 -



June 17, 1996

Grand River Conservation Authority

400 Clyde Road, P.O. Box 729 Cambridge, Ontario N1R 5W6

Telephone (519) 621-2761 Fax (519) 621-4844

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JUN 2 1 1996

To_____ Ea. File #

Full Text

File No. W.86.2

Mr. Michael Harrison Ministry of Environment and Energy 250 Davisville Ave Toronto, Ontario M4S 1H2

Dear Mr. Harrison:

Re: Highway 6 North - Freelton to Guelph

The Grand River Conservation Authority has now had an opportunity to review the proposed Hwy #6 project. The main area of interest continues to be the County Road #34 interchange and the associated impacts upon the aquatic and wetland resources. Staff would suggest a meeting to discuss available options and alternatives, plus any measures required to protect the natural features. Specific details and concerns could be discussed at that time.

If you require further details in this regard, please contact this office.

Yours truly,

Larry Roszell

Biologist/Land Resources Watershed Resources Group

LR/ls



From: Mill Creek Subwetershed Plan - June 1996.

7.2.1.5 Hanlon Expressway/Highway 401 Interchange

The planned rerouting/expansion of the Hanlon Expressway/Highway 401 interchange needs to be designed and executed with care to avoid significant impacts to the Mill Creek Subwatershed system. This interchange bisects one of the most integral and sensitive areas of the subwatershed. Important functions of this area include:

- significant groundwater discharge area (Mill, McCrimmon, and Pond Creeks and associated wetlands)
- sensitive brook trout habitat, including spawning areas
- sensitive wetland habitats

Past highway work at this location significantly disrupted local environmental conditions. Table 7.6 outlines concerns and recommended approaches to minimizing risks associated with this work.

Recommended Appro	Table 7.6 ach to Hanlon Expressway/Highway 401 Interchange Work
Concern	Recommended Approach
Routing	Wellington/Puslinch should liaise with the MTO to ensure routing minimizes the traversing of sensitive (i.e. greenspace and adjacent lands) areas.
Construction Disturbances: - erosion - suspended sediment runoff to McCrimmon/Mill Creeks	 GRCA/MNR should liaise with MTO regarding proposed construction practices. Contract specifications should include the development/approval of an erosion control plan (i.e. BMP type, application, monitoring, maintenance). Active controls, such as sediment basins or traps, should be considered over straw bales or silt fences, where possible. Compliance with the MOEE's "Guidelines for Evaluating Construction Activities Impacting on Water Resources" (MOEE, 1995) should be demonstrated.
Construction Monitoring	 An appropriately trained onsite inspector should ensure the proper implementation of the erosion control plan. Particular attention should be paid to the proper installation and maintenance of BMPs.
Long-Term Water Quality	• A stormwater management plan should address potential long-term impacts to stream water quality. Depending on final corridor routing, the feasibility/requirement for permanent water quality (storage) BMPs to control/treat highway runoff (i.e. sediments, oil and grease) should be investigated.
Emergency Response Plan	• The County of Wellington/Township of Puslinch/GRCA should develop an Emergency Response Plan for potential transportation-related accidents, particulary in the Hanlon Expressway/Highway 401 interchange area, which threaten the McCrimmon/Mill Creek systems. Such a plan would set forth a clear containment and remediation protocol.

Environment Canada

Environnement Canada

Environmental Policy, Planning, Assessment & Citizenship Division Great Lakes & Corporate Affairs Office Environment Canada, Ontario Region P.O. Box 5050, 867 Lakeshore Rd. Burlington, Ontario L7R 4A6

File No.: P-89-72

October 8, 1996

Michael Harrison Environmental Planner Environmental Assessment Branch Ministry of Environment and Energy 250 Davisville Ave. Toronto, Ontario M4S 1H2



Dear Mr. Harrison,

Re: Highway 6 North, Freelton to Guelph, EA File No. TC-CE-02

Thank you for providing Environment Canada -Ontario Region's (DOE-OR) Environmental Assessment Coordinating Committee (EACC) the opportunity to comment on the provincial Environmental Assessment report for the proposed Highway 6 North -Freelton to Guelph project, as per your letter of 16 February 1996. We understand that the proponent, the Ministry of Transportation (MTO), will be submitting an addendum to the EA report sometime this fall.

We have reviewed this EA report (September 1995) with respect to our mandate for the protection of migratory birds under authority of the *Migratory Birds Convention Act*. We have a number of comments on the report which are detailed below for your consideration. References to the primary environmental assessment document appear in regular type, and the Environmental Technical Paper No. 10, entitled "Background Terrestrial Biology Information and Impact Assessment" is referenced in **bold**.

Crieff Old Field Complex

As stated in the EA reports, the Crieff Old Field Complex supports the (formerly) nationally threatened Henslow's Sparrow, provincially rare Dickcissel, and the regionally rare Northern Harrier and Grasshopper Sparrow as possible or probable breeders (p. 6-22, para. 4; Table 4.5; and p. 5, para. 2). It is important to note that since the EA report was completed, the Henslow's Sparrow has been designated as "endangered" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as well as under the provincial Endangered Species Act, as a result of a dramatic decrease in the number of known breeding pairs of this species in Ontario in recent years. Since Henslow's Sparrow has been known to occur as a breeder in this area in the past, we strongly recommend that a detailed survey be conducted to determine areas of potential habitat, the number of breeding pairs in each area of potential habitat, and the proximity of the highway right-of way (ROW) to potential breeding areas. If breeding birds are found, appropriate consideration must be given to the impacts that the highway may have on these birds. It is important to note that effort should be made to protect potential habitat even if the birds are not found during the survey, as the species may be absent for several years, only to be found commonly a few years later. Restoration of disturbed areas should avoid shrub and tree plantings, and focus instead on native tall grass prairie species, as the Henslow's Sparrow is believed to have been originally adapted to this community.

The EA report correctly notes that potential impacts from the highway construction activities (including noise, air quality degradation, and habitat removal) in combination with long term noise

from the highway operation, may result in a permanent or temporary relocation of sensitive bird species from the immediate vicinity during the breeding season (p. 6-22, para. 4). In order to avoid these impacts, we specifically recommend that no construction activities be undertaken in the Crieff C.d Field Complex during the breeding seasons of these regionally rare bird species, which occur from April 1 to August 31. It is important to note that Henslow's Sparrows are double-brooded in Michigan, and it is not yet known whether they are double-brooded in Ontario. Egg dates for Henslow's Sparrow have been recorded as late as August 14 in Ontario.

Fletcher Creek Swamp Forest

The EA report states that the proposed highway alignment encroaches on the easternmost portion of the Fletcher Creek Swamp Forest, which is a provincially significant wetland and regionally significant Area of Natural and Scientific Interest (ANSI), thereby reducing the size of an identified waterfowl area by approximately 10% (p. 6-21, para. 11). We suggest that the EA should also include and consider detailed information available regarding the Fletcher Creek Swamp Forest Environmentally Sensitive Area (ESA) included in the recently published "Hamilton-Wentworth Natural Areas Inventory", available from the Hamilton Region Conservation Authority. For example, this report describes the presence of several regionally rare bird species, including Common Moorhen, Pied-billed Grebe, Northern Goshawk and Broad-winged Hawk. In order to avoid impacts on the breeding activity of these species, construction activities should not occur in the Fletcher Creek Swamp Forest ESA between April 1 and July 31.

Other Wetlands

The report identifies a number of other sensitive features along the highway alignment, including the upland deciduous woodlots between Crieff Road and Hwy. 401, and the entire complex area in the vicinity of the intersections of the Hanlon Expressway with Hwy. 401 and County Road 34, "where floristic and faunistic diversity is probably the highest in the study area and where the relationship between aquatic and terrestrial systems is especially complex and highly interdependent" (p. 17, para. 5). We wish to point out that clearing of the ROW within these "sensitive features" should take place outside of the nesting season of migratory birds, to prevent a disruption of breeding activity.

As pointed out in the EA report, "wetlands, in addition to being important hydrogeological resources, are among the most productive natural systems. They have characteristic vegetation, often with rare species and/or unique assemblages, and they provide habitat for a variety of wildlife including waterfowl, songbirds, furbearing animals, and white-tailed deer" (p. 17, para. 3). The "Commitment to Mitigation" (p. 6-23, para. 10) does not provide detailed plans to landscape the ROW, but we believe that the loss of wetland functions with respect to migratory birds can be mitigated by rehabilitating disturbed habitat with appropriate native species of herbs, shrubs and trees.

We wish to point out that restoration ecologists are having a good deal of success lately using native plant plugs, and by directly seeding native species. As outlined in the attached list compiled by the Ontario Chapter of the Society for Ecological Restoration, there are many nurseries in Ontario that currently have native plants in stock. In addition, this list includes several nurseries that will custom grow aquatic, wet meadow, and upland species (including prairie species), provided they are given enough time. Ideally, local native seed sources should be used, because this eliminates the possibility of introducing additional exotic species from the U.S., and prevents the contamination of the gene-pools of locally rare species. We emphasize that if native species are used, seed collection must begin during the growing season prior to construction, in order to have plant material available from nurseries when it is required.

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In summary, we believe that the potential negative impacts on migratory birds in the area of the Fletcher Creek Swamp Forest can be effectively mitigated by modifying the timing of construction activities, and rehabilitating areas within and adjacent to the ROW, using native species of herbs, shrubs, and trees. We cannot make specific recommendations with regard to potential Henslow's Sparrow habitat in the area of the Crieff Old Field Complex until a detailed population survey has been completed, but as a minimum, we suggest that this species would benefit from a tall grass prairie roadside restoration. prairie roadside restoration.

I trust that these comments will be useful in the review of this environmental assessment. If you wish to discuss any of these comments, do not hesitate to contact myself at (905) 336-4953, or John Fischer of DOE's Environmental Conservation Branch at (905) 336-4961.

Yours sincerely,

Secretariat, Environmental Assessment Coordinating Committee

Environment Canada -Ontario Region

B.Bien, EACC J.Fischer, ECB J.Carreiro, ECB F.Leech, MTO

* SOURCES OF NATIVE ONTARIO PLANT MATERIALS: 1996

		Society	ror Eco	Society for Ecological Restoration: Ontario Chapter	ration: O	ntario Ch	apter		
Company	Addrace		Postal		Forms (In therbaceous,			Approximate Persentace	æ
		693	8 003	PhoneFax	w: woody)	Habital Types	Cafalog	Native Stock	Additional Products & Services
Big Creek Blots	RR #1	Walsingham	NOE 1X0	P:(519) 588-2603 F:(519) 586-2447	plants(h,w) seeds(h,w)	forest, grassland, wetland		75.00%	consulting, custom seed collection &
Brickman's Country Flowers Ltd.	RR#1	Sebringville	NOK 1X0	P:(519) 383-6223 F-(519) 383-6223	1	forest, grassland,			is Ottomore
Campberry Farm	RR#1	Niagara-on-the- Lake	1.05 1.00	P:(905) 262-4927	plants(w)	Wentano	8.2	% 5%	
Canadian Wildiowar Society	4981 Highway 7 East, Unil 12A, Suite 228	Markham	LJR 1N1		seeds(h,w)	S	0724	425%	consulting and landscape services
Garden ol Eden Tree Farm	Вох 20	Eden	NO. 1F0	P:(519) 874.1088	(m)eluelu		\$2.00 Perhadabb with		ered exchange for members
Gerdene North	5984 Third Line Road North	North Gower			plants(h,w)	5	(app	75.69%	6
Grand River Conservation Authority	Box 729 Clyde Road	Cambridge	l l		opens(n,w)	Wetiand		25-49%	
Orimo Nut Nursery	RR #3 Lakeshore Road	St. Catherines			plants(w)	forest	981 818	/2KK	
Groen's Nursery Ltd.	1512 Brock Road	Dundas	LOH SE4			foresi	X	25.49x	
Humber Nurseries	AR #8	Вивтріол	167377	F:(805) 794-0555 F:(805) 794-1311	plants(h)	grassland, wetland			contract growing
Jardins Boardwalk Gerdene	18725 Techumseh Road, RR #5	Tilbury	NOP 2LO	P:(619) 798-3601 F-(519) 682-3107	plants(w)	forest	98		grows woody plants from seed collected in Essey County
Limestone Greek Restoration Hursery	AR #1	Campbellville	LOP 180	P:(905) 854-2914	plants(h,w) seeds(h,w)	forest, grassland, wetland	\$2.00 Petrotate ain	100%	seed mixes, contract growing,
Little Otter Tree Farm	RR #6	Tisonburg	N4G 4G9	×	plants(w)	forest, grassland, wetland	4		
	5 Shoreham Drive	Downsview	MON 1S4	P:(416) 661-6600 p					lorest management
Muligan Seeds	PO Box 700	Овроода	KOA 2WD			, ig	Τ.		oro-engineering materials



HALTON REGION CONSERVATION AUTHORITY

2596 Britannia Road, West R. R. #2, Milton, Ontario L9T 2X6 (905) 336-1158 Fax (905) 336-7014

May 30, 1996

Mr. Michael Harrison Ministry of Environment and Energy 250 Davisville Avenue Toronto, Ontario M4S 1H2

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Re: Highway 6 North, Freelton to Guelph

Environmental Assessment
EA File No.: TC-CE-02

Staff of the Halton Region Conservation Authority have reviewed the above noted Environmental Assessment and offer the following comments.

The Environmental Assessment reviews the environmental implications and proposed mitigating measures related to the new alignment of Highway 6 between Maddaugh Road and the Hanlon Expressway. The portion of the undertaking between Freelton and Maddaugh Road will be completed as a Group "B" undertaking in accordance with the Provincial Highways Program Class Environmental Assessment (EA). The Halton Region Conservation Authority's jurisdiction lies mainly within the area covered by the Group "B" EA and, as such, our comments generally relate only to those portions of the EA which occur within the Bronte Creek Watershed.

The following comments relate to Volume One of the Environmental Assessment:

- Page 1-9, the first effect listed under Hydrogeology and Hydrology should include alteration to groundwater flows in Bronte Creek headwater areas in addition to Fletcher Creek and Galt/Mill Creek;
- Page 1-10, staff contend that the net effects and commitment to further work with respect to localized alteration of surface water appears to have been listed in the wrong location and may be listed under "Displacement of kettle pond area on Galt Moraine near Morriston". As such, staff question what the net effects of the displacement of the kettle pond area will be;
- Page 1-10, the potential for increased peak flows is identified however, it does not indicate who the concern was expressed by, the proposed mitigation, net effects, commitment to further work or the recommended liaison/contact;



Page 1-10, the net effects, commitment to further work and recommended liaison/contact are not
 identified for the watershed management strategies;

 Page 1-11, under Aquatic Biology and Surface Water Quality, the potential for increased sediment loading during construction as a result of earthworks and instream work is identified. The proposed mitigation should include timing restrictions limiting instream works on any tributaries associated with Bronte Creek. The construction window recommended by the Ministry of Natural Resources is

- Page 1-11, the proposed mitigation for the effects on fisheries habitat includes the development of a
 fish compensation package acceptable to D.F.O., M.N.R., G.R.C.A. and H.R.C.A. Staff recommend
 that both the Halton and the Hamilton Region Conservation Authorities be recognized in this section;
- Page 1-12, the proposed mitigation for elevated water temperatures due to the removal of riparian vegetation should include the revegetation of the areas immediately upon completion of the work as termperatures. In addition, what are the proposed net effects of the work and mitigation measures?;
- Page 1-12, what are the potential net effects to the aquatic biology and surface water quality, from acute exposure to toxins from accidental spills on the construction sites in light of the proposed mitigation?;
- Page 1-12, the proposed mitigation for the long term accumulation of salts, metal, hydrocarbons and other toxins in flora and fauna from highway operation and maintenance includes the introduction of roadside barrier plantings. Staff recommend that only native species be planted adjacent to wetlands
- Page 1-13, a property owner expressed concern about changes in the wetlands and water table level
 and the resulting effects on vegetation. Staff note that there is no proposed mitigation, net effects,
 commitment to further work or recommended liaison/contact for this concern;
- The major watersheds, their constituent watercourses and major identified springs are not shown in Figure 4.1 as indicated on pages 4-6 and 4-7;
- Page 4-8, third paragraph, the second sentence should read, "The headwaters of one of the Halton Region Conservation Authority's watershed's principal watercourses, Bronte Creek,...";
- Page 6-1, Section A South Project Limit to Maddaugh Road, the second bullet indicates that this section of the highway "is designed with a standard 4-lane plus 1.0 metre flush median cross-section due to adjacent land use (primarily wetland)". Staff assume this will require the placement of fill in the Halton Region Conservation Authority prior to the placement of fill. On page 5-59, it is material within a fill regulated wetland associated with the Bronte Creek and that this will be looked at during the Detail Design Stage;

- Page 6-13, under Hydrology, the report discusses that a preliminary drainage study was conducted to establish the number, location and types of proposed crossings and any changes in the existing drainage pattern that would be created as a result of road construction and realignment. As part of staff's review we normally require details on how, and why, certain facilities will be upgraded. In reference to the crossings on Highway 6 between Concession 11 and the 401, staff of the Authority request the following technical information which supports the proposal:
 - existing culvert location, contributing catchment areas and outlet points;
 - existing hydrology and hydraulics for each culvert;
 - proposed hydrology and hydraulics for each culvert; and,
 - how each culvert will be extended while maintaining flows and minimizing impacts on the wetland and/or watercourse.

Also, the report indicates that south of Highway 401, the 25-year storm was utilized for culvert design. Staff note that in a letter from this office dated October 31, 1994, Fenco MacLaren were advised of the following:

"Any culverts proposed for the new highway should be designed to ensure that regulatory flood levels (ie., Regional storm or 1:100 year event, whichever is greater) on private properties are not increased as a result of the proposed highway."

As such, it is staff's opinion that the 25-year storm event is not sufficient for culvert design.

In addition, sediment and erosion control plans will be required for all highway works, including culvert upgrades, which are adjacent to or within a wetland and/or watercourse.

- Page 6-13, under Section A (South Project Limit to Maddaugh Road), staff suggest the last sentence in the first paragraph should read "Additional strategic assessment of this particular area will be required during detailed design in consultation with the Halton Region Conservation Authority.
- Page 6-19, first bullet, no instream works should take place between September 1 and June 1.
- Page 6-19, fifth bullet, staff suggest that the statement read as follows, "If dewatering of turbid water is involved, divert to onshore settling basin or vegetated area where filtering will occur, in consultation with the appropriate Conservation Authority."
- Page 6-35, fourth bullet, staff recommend that the sentence in brackets should read (e.g. placement of fill in fill regulated areas and flood plains).
- Table 6.4, on pages 6-39 to 6-48, is identical to Table 1.3 and, as such, all comments specific to Table 1.3 also apply to Table 6.4.

The following comments relate to Volume Three of the Environmental Assessment, Environmental Technical Paper No. 9 - Background Fisheries Information and Impact Assessment.

- Page 3 of Aquatic Resources, the outline of potential impacts should include the impact of placing fill in Conservation Authority regulated areas on storage capacity, infiltration and habitat.
- Page 4, the timing restrictions on instream works should be identified. No instream work should take

The following comments relate to Volume Three, Environmental Technical Paper No. 10 - Background Terrestrial Biology Information and Impact Assessment.

- Page 16, section 3.3, please note that the West Virginia Butterfly was previously considered "endangered" not "rare" as stated in the text. Currently, it has been identified as being rare in Ontario
- Staff recommend that this section should have referenced the latest Environmentally Sensitive Area reports for the Regions of Halton and Hamilton-Wentworth. Please be advised that, subsequent to the completion of this Technical Paper, the following reports and studies have been prepared: The Reptiles and Amphibians of the Hamilton Area (Lamond 1994), Ontario Birds at Risk (Austen et al. 1994), Atlas of the Mammals of Ontario (Dobbyn 1994), Addendum Report ESA Study (Geomatics 1991), Hamilton-Wentworth Natural Areas Inventory Volume 1 (Hamilton Naturalist Club 1995), 1993).
- There is no mention of the impacts of the highway construction on forest fragmentation, forest interior habitat and corridors and linkages. In addition, there is no mention of mitigation of these impacts. Staff suggest that these issues are a vital component of the EA and subsequent highway construction and, as such, must be addressed in greater detail.

The following comments relate to Volume Three, Conceptual Stormwater Management Plan, March 1994.

- Page 2, Section 2.2, Design Guidelines for Stormwater Management, staff recommend that the 1994
 Ministry of Environment and Energy Stormwater Management Practices Guidelines should be
 considered in the design of the water quality BMP's. Staff suggest that this could be implemented at
 the Pre-Design Stage.
- Page 4, Section 3.0, Screening of BMP's, it is understood that suspended solids are considered as the primary parameter in the determination of the appropriate BMP's. Staff suggest that other parameters (i.e., temperature) should also be considered in the selection of the BMP's.
- Page 10, Section 3.3, Short List of Available Measures, the qualitative rating system is not defined. How was it established? What rationale was used? Is there performance data of BMP's which show their effectiveness in removal of pollutants?

- Table 3.1 has no reference to temperature mitigation of stormwater runoff.
- Page 11, Section 4.1, Site Characteristics for BMP Suitability, this section does not include Figures 4.2 or 4.3 and, therefore, it is very difficult to provide a technical review of the proposed SWM plan for this section of the highway upgrade. Staff request the appropriate figures, which depict catchment areas, point of outlet and location of quality BMP's.
- Page 12, Section 4.2, Drainage Strategy and Selection of the Preferred SWM Concept, there is no
 information on drainage outlets to existing watercourses. Location, type and design is required by
 staff for appropriate review. In addition, it is questioned whether the headwaters of Bronte Creek will
 be impacted by the stormwater runoff.
- Sections 5.0 and 6.0 are outside of the Halton Region Conservation Authority's watershed however, the same comments as outlined for Section 4 are applicable to obtain a better understanding of the proposed SWM plans.
- Page 19, Section 7.0, Space Requirements for Recommended BMP's, staff would like to know why
 the 10 year 24 hour duration storm was used in the design of the infiltration basins. In addition, where
 are the proposed facilities located, as detailed in the table on page 19.
- Page 22, Section 8.0, Summary Conclusions and Recommendations, Item 8 identifies Figures 4.2, 5.2 and 6.2 as showing the characteristics of the three sections of Highway 6. These figures are not included in the document.

We trust the above is of assistance. Should you require further information, please contact Jennifer Lawrence, Environmental Planner, or the undersigned.

Yours truly,

Brenda K. Axon

Manager, Resource Planning

cc: Hamilton Region Conservation Authority, Resource Planning Department
Grand River Conservation Authority, Resource Planning Department

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Ministry of Ministère des Richesses Resources naturelles

CENTRAL REGIC 1 ENGINEERING OFFICE

Thursday, November 28, 1996

Ministry of Environment and Energy 250 Davisville Avenue Toronto, M4S 1H2

Attention:

Michael Harrison

Environmental Planner

Environmental Assessment Branch

Dear Mr. Harrison:

SUBJECT:

Highway 6 North, Freelton to Guelph

EA File No. TC-CE-02

The Ministry is responding to your request for a review of the above Environmental Assessment.

On the basis of the review of the EA document and the pre-submission consultation, the Environmental Assessment is premature until potential implications of the proposed highway construction activities on an Endangered Species have been better defined. The Ministry accepts, in principle, the preferred alignment. subject to issues related to the Endangered Species Act, and recommended terms and conditions of the EA as noted below.

The Ministry has been involved in this exercise since it was initiated in the early 1980's, and reviewed and commented extensively on a draft EA document on January, 29, 1990. These comments outlined a significant number of unresolved issues related to the treatment of fish and wildlife interests of the Ministry. The Ministry of Transportation subsequently met with MNR staff and undertook additional investigations to address these issues and, as the attached chart demonstrates, has largely addressed these outstanding issues (Note: some general issues with respect to the treatment of our resource interests are noted in the response to EA questions).

Additional Investigations Requested (Henslow's Sparrow):

As a result of changes in the status of species at risk, the Henslow's Sparrow is now listed as Endangered and protected under the Endangered Species Act. MNR's comments in 1990 did not raise this issue because, at the time it was not listed as an Endangered Species. The EA document references a record for the Henslow's Sparrow within the Crieff Old Field Complex (Environmentally Sensitive Area) and another woodlot (Environmental Technical Paper No.10, Appendix 7), but the document fails to recognize the status of this species or the protection required under the Endangered Species Act. I understand that this concern has also been expressed by the Hamilton Region Conservation Authority and Environment Canada.

MNR staff have made contact with experts of the Natural Heritage Information Centre to review the status of the record and the status of the species as it applies to this vicinity. Donald Sutherland, the zoologist at the Natural Heritage Information Centre indicated that there has been a precipitous decline in this species not only in Ontario but in North America wide. With respect to Wellington County and specifically the

Crief hills site, no records of this species have been noted since around 1981. To our knowledge, there has been no monitoring of the site for many years. It is very difficult to determine the breeding status of this species, more so than other breeding passerines, due to the fact that this species nests in heavily camouflaged sites such as uncultivated and unpastured old fields. Nests are exceedingly hard to find.

In our opinion, ideal habitat remains on or in the vicinity of the preferred alignment, and given the erratic appearance of this bird and absence of known monitoring in the area, we recommend that further field investigation (using qualified experts) is warranted.

The following investigation is suggested:

- 1) A reconnaissance survey be undertaken to identify potential breeding habitat for the Henslow's Sparrow within the preferred alternative and within the area of impact of the preferred alignment. (This investigation could be conducted immediately)
- 2) If as expected, suitable habitat is found as a result of the above assessment, a protocol be developed by MTO, MNR, HRCA and Environment Canada to satisfy the Endangered Species Act and other legislation; considering additional investigation during the breeding season to confirm the presence/absence of the endangered species; appropriate measures to ensure protection of the habitat (such as modifications to the alignment or timing and nature of the construction activities); and establishment of terms and conditions to provide for annual monitoring of the most probable habitats.

Requested Condition to be Attached to the EA:

Should the Minister of the Environment wish to proceed with an approval we would request that the following condition be attached to the approval:

1) During its detailed design stage, that the Ministry of Transportation meet the requirements of the Federal Fisheries Act (as applied through the MNR/DFO process for authorization/compensation for harmful alteration, disruption or destruction of fish habitat).

Correspondence contained within the EA document provide background on this issue.

Ouestions concerning these comments should be directed to Drew Cherry (Area Supervisor) or the District Planner, Cambridge District at (519) 6589355.

A/District Manager Cambridge District

cc: Regional Director Southey, MTO

Questionnaire

Ministry of Natural Resources November 28, 1996 Hwy 6 North

- Are the data, analysis and conclusions in the EA satisfactory, ie are these relevant and substantiated?
- Does the information in the EA cover all the relevant issues at an appropriate level of detail?

The proponent has made use of the best available information for assessing impacts, including undertaking additional investigations on wetlands, wildlife and fisheries resources, at the Ministry's request. Their data and information continues to be updated as new information becomes available. The information covered is relevant and at the appropriate level of detail.

The Ministry takes issue, to some degree, with the treatment or provincial policies for natural heritage. The propvincial context for significant wetlands is defined through the Provincial Planning Policy Statement, issued under the Planning Act, and for which the Ministry must have regard in its decisions or activities. The EA document fails to present this provincial policy context. After the Ministry's review of the draft EA in 1990, supplementary investigations and assessment of impacts (Appendix F) has addressed the specific policy issues. Unfortunately the overall format and context of the EA document remains unchanged.

Some of the text of the EA document has remained unchanged since it was first circulated in 1990, even though policy and information have been updated in the meantime (for instance substantial changes in policies with respect to the protection of natural features). For example, Tables 4.5, 4.6, 5.6 and 5.8 and associated text incorrectly list the status of Henslow's Sparrow as threatened. The correct status is ENDANGERED (Endangered Species Act, RSO)

Are you satisfied with the methods and techniques described in the EA to predict environmental effects and any mitigation measures necessary to reduce the effects?

In general, the Ministry is satisfied

1. Are the monitoring, contingency, and implementation plans specified by the proponent in the EA adequate/satisfactory?

In general yes, the Ministry is satisfied. Appropriate commitments are included in the document to ensure MNR will be involved in providing advice and expertise during detailed design and construction phases.

As a result of additional of investigations of fisheries resources and assessment of impacts, it was learned that some of the construction activities have the potential to harmfully alter fish habitat. Therefore, the Ministry referred the matter to the Department of Fisheries and Oceans. MTO has indicated its willingness, during detailed design to develop a mitigation/compensation package that will be acceptable to MNR and DFO. While MTO argues that delaying the actual development of the compensation package will ensure that the exact impacts will be defined and state-of the art science can be applied to compensation, the risks are twofold:

1) Impacts to local groundwater flows and subsequent impacts to fish habitat, for such alterations as excavations for organics, placement of fill, stormwater management may not be authorized pursuant to the Fisheries Act (to date discussions have centered only on culvert extensions)

2) If the fisheries assessment done to date proves to be inadequate, it may result in unanticipated and unexpected impacts and necessary mitigation.

Defaulting the development of mitigation/compensation approaches until the detailed design stage could result in unacceptable options and the need to make major changes to the design at a late stage in the process.

- 1. What role did your agency play during pre-submission consultation.
- Are you satisfied with the way in which your advice was taken into consideration by the proponent in the preparation of the EA?

The Ministry has had a very active involvement in this EA, because of the significant potential for impact upon the natural environment. It participated as a member of a working group, met regularly with the project team, provided data and information, and technical advice on the types of investigations required. Copies of MNR correspondence have been provided in Appendices of the EA document.

The Ministry is generally satisfied with the way in which our advice was taken.

The Ministry continues to take issue with the proponents approach to selection of alignments along the backlots of farm properties. This practice makes sense as a means of minimizing the fragmentation of good farm land. On the other hand, considering the location of many valuable woodlots in Ontario on the 'back 40', this practice has severe impacts upon high quality woodlots, in particular in the area south of Hwy 401. This practice is disconcerting, particularly in areas where rapid urban and rural development preclude active farming. In the fifteen years since this study was begun, subdivisions have been developed south of Hwy 401 and west of Hwy 6 which may have precluded the protection of farmland. The proponent made efforts to modify the interchange configurations and alignment to reduce impacts, but with little overall improvement to impacts upon high quality woodlots.

Ministry of Citizenship, **Culture and Recreation**

Ministère des Affaires civiques, de la Culture et des Loisirs

4e étage, 35 rue McCaul

Téléphone (416) 314-6680 Télécopieur (416) 314-6686

Toronto (Ontario)

M5T 1V7



4th Floor, 35 McCaul Street Toronto, Ontario M5T 1V7 Telephone (416) 314-6680

Telecopier (416) 314-6686

April 12, 1996

Mr. Michael Harrison **Environmental Planner Environmental Assessment Branch** Ministry of Environment and Energy 250 Davisville Avenue Toronto, Ontario M4S 1H2

Dear Mr. Harrison:

Re:

Highway 6 North, Freelton to Guelph

EA File No. TC-CE-02

Thank you for bringing to my attention your plans for the above noted project. We have reviewed this information and from a tourism and recreation point of view, we have no comments to provide.

In addition, if required the Ministry will also provide comments on the impact of the proposal to heritage resources. For review/comment on heritage resources please contact:

Manager, Archaeology and Heritage Planning Unit Ministry of Citizenship, Culture and Recreation 2nd Floor 77 Bloor Street West Toronto, Ontario M7A 2R9

Thank you again for bringing this to my attention and allowing us to comment.

Yours truly,

Regional Director Central/West Region

Real Estate Branch

15th Floor, 777 Bay Street Toronto ON M50 255 Tel.: (416) 585-6741 Fax: (416) 586-7577

Direction de la gestion imm

15e 4tage, 777 rue Bay Toronto CN M6G 2E5

May 30, 1996

NOT TO:

Michael Harrison

Environmental Planner

Environmental Assessment Branch

SUBJECT:

Highway 6 North, Freelton to Guelph

EA File No. TC-CE-02

Thanks for the opportunity to review the documentation associated with the above noted undertaking.

The Ontario Realty Corporation does not have concerns to register in this instance.

Please excuse our tardiness in responding.

R. M. Farewell Environmental Planner



700 University Avenue, Toronto, Ontario M5G 1X6

Telephone:

(416) 592-8075 (416) 592-7528

Fax:

May 29, 1996

Mr. Michael Harrison Ministry of the Environment and Energy 250 Davisville Ave., Toronto, Ontario M4S 1H2



File: RS382-07730-T7

Dear Mr. Harrison:

Environmental Assessment and Preliminary Design Report

One-stage Submission: Highway 6 - Freelton Northerly

16.9 km to Guelph

Thank-you for giving Ontario Hydro the opportunity to review this document. Please be advised that Ontario Hydro has no comments on or concerns with the subject document.

Ontario Hydro's concerns were discussed with the proponent during the planning for this project.

If you have any questions, please call or fax me at the numbers given above.

Fred Podealuk

Senior Planner

Transmission Projects - Central/Western

FTP/



THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH

Department of Public Health Services 25 Main Street West, 2nd Floor Hamilton, Ontario

546-3570 Fax: 546-2787 Mailing Address: P.O. Box 897 Hamilton, Ontario L8N 3P6

June 5, 1996

Michael Harrison Environmental Planner Environmental Assessment Branch Ministry of Environment and Energy 250 Davisville Avenue Toronto, ON M4S 1H2 Environmental Assessment Branch
RECEIVED

JUN 1 2 1996

To_____Ea. File #___
Public Record Full Text

Dear Mr. Harrison:

RE:

Highway 6 North, Freelton to Guelph

EA File No. TC-CE-02

The Environmental Health Branch of the Hamilton-Wentworth Regional Public Health Department has reviewed the above-noted proposal.

This Department's concerns are limited to the impact that the road widening may have on individual site sewage disposal systems serving the dwellings adjacent to the Right of Way (R.O.W.) in Hamilton-Wentworth Region.

While in principle, this Department has no objections to the road widening, it must be made clear to the homeowners in the subject area within Hamilton-Wentworth Region, that if construction of the road alters or impacts upon the existing sewage disposal systems, repairs or replacements of the sewage disposal systems would be required in accordance to the requirements of Ontario Regulation 358 of Revised Regulation under the Environmental Protection Act (Sewage System Regulation).

The exact location of each septic system is not currently known and therefore impacts to the septic systems of the homes in the construction area may not be immediately identified. Remediate or replacement costs of these septic systems may be substantial and homeowners must be made aware of this potential.

Should any homeowner require assistance, the Regional Health Department is available to help. A Certificate of Approval issued from this Department is required before any repairs or replacements of onsite sewage disposal systems can be made.

Should you require any further information, please contact Public Health Inspector Supervisor Robert Hall at 546-3570.

Yours_truly.

William Hunter, C.P.H.I.(C)

Director of Environmental Health

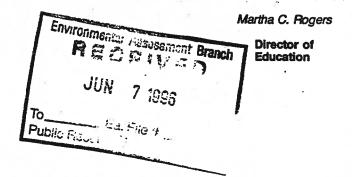
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A Teaching Health Unit Affiliated with McMaster University



THE WELLINGTON COUNTY BOARD OF EDUCATION

June 4, 1996



Mr. Michael Harrison Ministry of Environment And Energy 250 Davisville Avenue Toronto, ON M4S 1H2

Dear Mr. Harrison:

RE: Highway 6 - Environmental Assessment

Please be advised that the Wellington County Board of Education has received and reviewed the Environmental Assessment Report for Highway 6, Freelton to Guelph.

Board Staff have no concerns regarding the Environmental Assessment.

Sincerely,

Dennis S. Cuomo Planning Officer

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The Hamilton-Wentworth Roman Catholic Separate School Board Le Conseil des écoles séparées catholiques romaines de Hamilton-Wentworth

90 MULBERRY ST., P.O. BOX 2012 HAMILTON, ONTARIO, CANADA LEN 3R9 TEL (905) 525-2930 Environmental Assessment (905) 525-1724



June 13, 1996

JUN 2 4 1996

To _____Ea. File #_____

Public Record Full Text

Mr. M. Harrison,
Environmental Assessment Branch,
Ministry of Environment and Energy
250 Davisville Ave.,
5th Floor,
Toronto, Ontario,
M4S 1H4

RE: R05: HIGHWAY 6 ENVIRONMENTAL ASSESSMENT - YOUR FILE NO. TC-CE-06

Dear Sir:

I have reviewed the Environmental Assessment Report (Volumes 1 to 3) regarding Highway 6, north of Freelton. This area is serviced by Our Lady of Mt. Carmel Catholic Elementary School (Jr. Kindergarten to Grade 8) situated on Centre Road near the 10th Concession Rd. E. Ecole Notre Dame, the elementary French language school, in Hamilton, also has students from this area. Secondary school students attend St. Marys' Catholic Secondary School in west Hamilton. All these students are transported by bus. It has been this Board's practise to restrict the use of Highway 6 as a transportation corridor for bussed students.

School bus routes use Highway 6 to pick up and discharge pupils who live on the highway. Generally, Highway 6 acts as a watershed separating the former East Flamborough township buses from the West Flamborough buses. If it is absolutely necessary to cross Highway 6 than school buses cross at a signalized intersection (Hwy. 5 and Hwy. 6) or at intersections where there are left hand turn lanes. As a safety precaution the last three rows of seats on the buses are kept vacant when travelling on Highway 6 in case of a rear end collision.

Continued....

"BELIEVING, ACHIEVING, SERVING" "CROIRE, RÉUSSIR, SERVIR" The board is concerned with two issues;

a) vehicles not stopping when the school bus is stopped to pickup or discharge students and the four-way flashers and stop arm are engaged.

-2-

and

b) on certain highways, buses pick-up and drop off students on the shoulder of the road and as such the four-way flashers and stop arm cannot be activated. School busses should be allowed to activate the flashers and stop arm if they are on the public right-of-way.

The Board supports the upgrading of Highway 6 similar to the section from Hwy. 5 to Freelton and the realignment of access roads entering Hwy. 6. However, the Board will continue to restrict the use of Hwy. 6 by school buses unless it is absolutely necessary.

If you require further information please contact the writer.

Yours truly,

E. S. GERA, MANAGER

PLANNING, STATISTICS & TRANSPORTATION

/JA

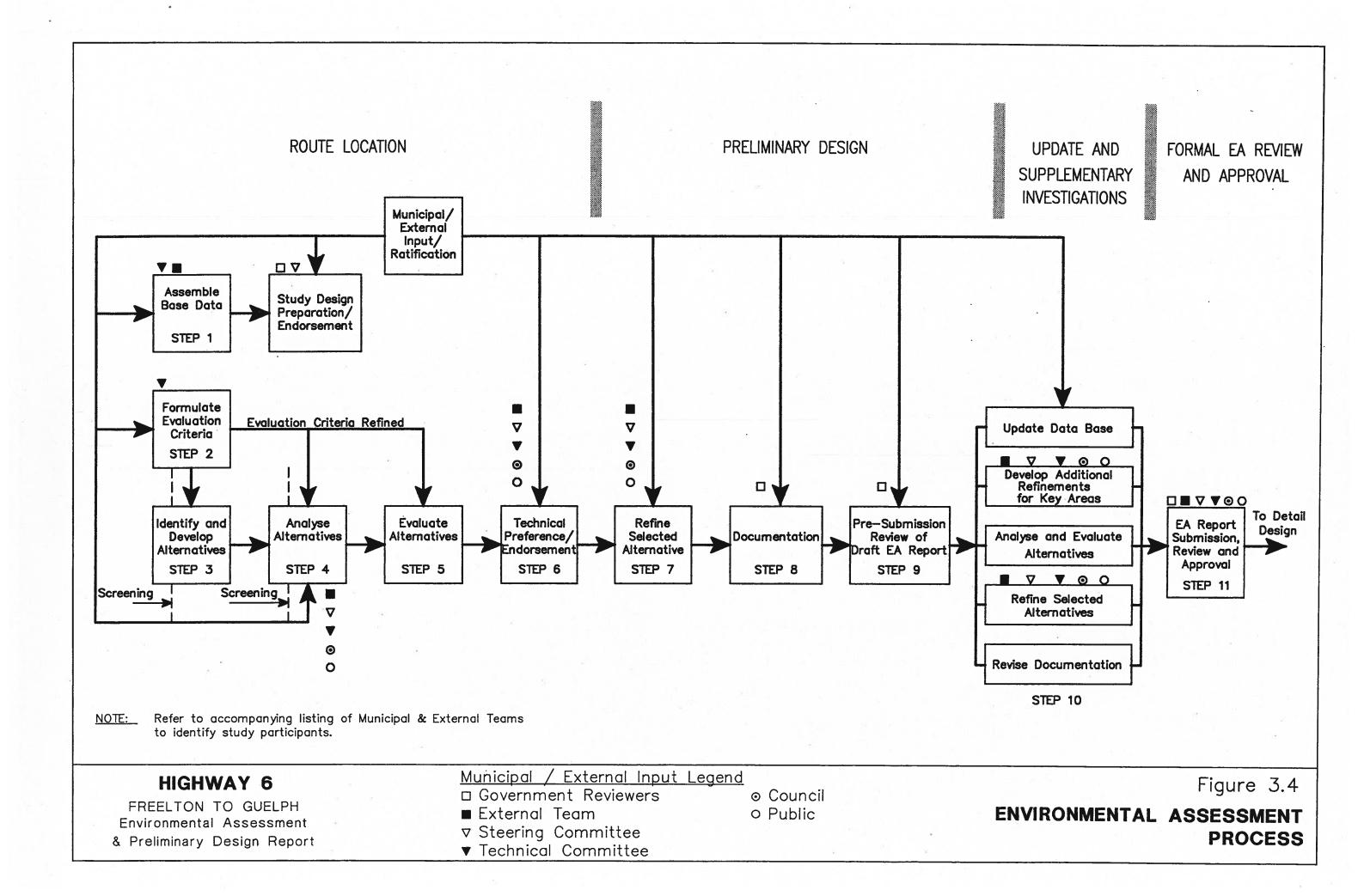
c.c. L. Varrasso, Superintendent

(WP)ROS-HWY-6-MOEE-REPLY



APPENDIX B CHRONOLOGICAL SUMMARY OF STUDY PROCESS AND DECISIONS





MUNICIPAL AND EXTERNAL TEAM PARTICIPANTS

The following municipalities were formally represented on the project and played a major role in defining the study Terms of Reference and in the decision-making process:

City of Guelph

County of Wellington

Regional Municipality of Hamilton-Wentworth

Township of Puslinch

Town of Flamborough

The study was conducted under the auspices of a <u>Steering Committee</u>, comprising elected and appointed municipal representatives, which provided direction and information related to municipal concerns, and reported directly to their respective Councils. The Committee also included MTO representation.

The following designated individuals constituted the Steering Committee:

K. Hammill, Chair (1984-89) -

Alderman, City of Guelph

W. Benson/M. Bridge/W. Quanz/

- Warden, County of Wellington

R. Wilson

A. Holmes/G. Ough

County Engineer, County of Wellington
Planning Director, County of Wellington

G. Cousins R. Funnell

City Engineer, City of Guelph

M. Venditti
J. Pavelka/T. Gill/H. Salatandre

 Planning Director, City of Guelph
 Transportation Planning, Regional Municipality of Hamilton-Wentworth

A. MacRobbie, Chair (1992-94)

- Reeve, Township of Puslinch

R. Cook/T. Bacigalupo/

- Deputy Reeve, Township of Puslinch

B. Whitcombe K. Hood

D. Smith

Councillor, Town of FlamboroughDirector of Engineering, Town of

Flamborough

A. Wittenberg

Head, Planning and Design Section.

MTO Central Region

Access to specific input related to municipal concerns was through designated representatives sitting on a <u>Technical Committee</u>. Municipal representatives on this Committee directed Project Team information requests to their respective staff as deemed appropriate.

The Technical Committee comprised the following members:

A. Holmes/G. Ough G. Cousins

County Engineer, County of Wellington Planning Director, County of Wellington

R. Funnell
M. Venditti
A. MacRobbie

City Engineer, City of Guelph
Planning Director, City of Guelph
Reeve, Township of Puslinch

T. Bacigalupo/B. Whitcombe

Deputy-Reeve, Township of Puslinch

D. Smith

J. Lane

Director of Engineering,Town of FlamboroughWorks Superintendent.

H. Vander Kooij

Town of Flamborough Senior Project Manager, Planning & Design,

MTO Central Region

H. Wojcinski

Senior Project Engineer, Planning & Design,

MTO Central Region

J. Desrochers

Senior Project Manager, Planning & Design,

MTO Southwestern Region

N. Bot

Area Engineer, Planning & Design,

MTO Southwestern Region

K. Bentley

Senior Project Engineer, Planning & Design,

MTO Southwestern Region

L. House/A. Minchev

- Project Manager, Fenco MacLaren Inc.

Representatives of all Government Ministries who have responsibility for reviewing environmental assessments (Official Government Reviewers or delegated contacts) and public/private agencies comprised the External Team for the project. A list of constituent External Team members is presented below.

Federal Department of Fisheries and Oceans

Management Board Secretariat

Ministry of Agriculture and Food Ministry of the Attorney General

Ministry of Colleges and Universities

Ministry of Community and Social Services

Ministry of Culture Tourism and Recreation

Ministry of Education and Training

Ministry of Economic Development and Trade Ministry of the Environment and Energy

Ministry of Health Ministry of Labour

Ministry of Municipal Affairs

Ministry of Housing

Ministry of Natural Resources

Ministry of the Solicitor General and Correctional Services

Halton Region Conservation Authority Hamilton Region Conservation Authority Grand River Conservation Authority

Ontario Hydro CP Rail

TransCanada Pipelines University of Guelph

*Listing based on 1993 Ministerial portfolios

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
ROUTE LOCATION S	TAGE				A second	in a second of
STEP 0 STUDY INITIATION (Note: Not shown on Figure 3.4 Environmental Assessment Process)	Establish Terms of Reference (TOR) and provide notification to study participants	September 1984 - February 1985	Steering Committee (September 5, 1984)	TOR prepared by MTO in co- operation with participating municipalities	Endorsement of TOR which establish that study will be conducted under the general direction of a municipal Steering Committee and call for preparation of Study Design	Appendix A
					Establishment of Steering Committee and Technical Committee	Section 3.2.5
	E CONTRACTOR OF THE CONTRACTOR		10 kg		Release of public Notification of Study Initiation (February 1985)	Section 3.2.6
STEP 1 ASSEMBLE BASE DATA/ STUDY DESIGN PREPARATION AND ENDORSEMENT	Collect base line information and refine the basis on which the study will be conducted	October 1984 - April 1985		MOE (March 1, 1984)	Establishment of study area based on 1982 Corridor Study, expanded to cover traffic investigation requirements, maximum anticipated alignments and potential impacts. Agreed to revisit Watson Road corridor (Eastern Corridor) to conduct general assessment of transportation planning, engineering and environmental aspects	Section 3.3.2 Section 3.3.3
			External Team (February 6, 1985)		Receipt of Study Design and information requests and subsequent provision of information and endorsement of Study Design by External Team	Appendix C (Minutes of Meeting) Chapter 4
,		= v1	Steering Committee (February 15, 1985)		Endorsement of Study Design by Steering Committee	Section 3.3.3
			Technical Committee (April 3, 1985)		Technical Committee provided input on appropriate approach to Eastern Corridor in Study Design (refer to April 3 meeting results in Step 3 below)	Appendix C (Minutes of Meeting)

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
STEP 2 FORMULATE AND REFINE EVALUATION CRITERIA	Develop and refine the criteria upon which the development, analysis and evaluation of the route and alignment alternatives will be based, including relative weightings	March 1985 - February 1986 (iterative process which ran in parallel with activities in Steps 3, 4 and 5)				
			Technical Committee (May 7, 1985)	Information package containing Draft Evaluation Criteria sent to Technical Committee by Project Team (May 3, 1985)	Technical Committee requested some minor modifications to Evaluation Criteria which were incorporated by the Project Team	Section 3.2.4 Section 3.2.5 Section 5.2 Appendix C (Minutes of Meeting)
			External Team (May 22, 1985)	Information package containing Draft Evaluation Criteria sent to External Team by Project Team (May 10, 1985)	No concerns expressed by External Team which required modification of Draft Evaluation Criteria	
			Technical Committee (February 5, 1986)		Technical Committee finalized Evaluation Criteria weightings for use in route assessment, affording additional weight to safety and community impacts/noise, and less to natural environment, agricultural activities and cost	
			External Team (March 12, 1986)	Information package showing Evaluation Criteria weightings as determined by the Technical Committee sent to External Team by Project Team (March 5, 1986)	External Team accepted in principle the Evaluation Criteria and their weightings	
			Public Information Centre, including presentation of draft evaluation criteria (June 20, 1985)	Notice of Public Information Centre (June 1985)	No concerns expressed which required modification of Evaluation Criteria	Section 3.2.6
STEP 3 IDENTIFY AND DEVELOP ALTERNATIVES	Develop and screen project alternatives to carry forward for detailed analysis and evaluation	January 1985 - February 1986				Chapter 5

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.1	Alternatives To the Undertaking	Rationalize need and justification for project via elimination of reasonable alternatives	January - April 1985				Section 5.3
	<u>Modal</u>					·	Section 5.3.1
•	Do Nothing		7			NOT RECOMMENDED since existing unsafe conditions, low level of service and high maintenance costs would prevail	Section 5.3.1.1
•	Commuter Rail/Bus		nd .		GO Transit (August 21, 1985)	NOT RECOMMENDED since GO Transit had no plans to extend regular service to the study area	Section 5.3.1.2 Appendix B (Selected Correspondence)
•	Upgrade Existing Municipal Roads					NOT RECOMMENDED since Eastern Corridor and expansion of Brock Road, Victoria Road and Watson Road would result in disproportionately severe environmental impacts relative to projected transportation benefits	Section 5.3.1.3
				Technical Committee (April 3, 1995)		Agreed that consideration of Eastern Corridor will be as a future/long term municipal initiative and will be separated from this study	Appendix C (Minutes of meeting)

COMPLETION OF 'ALTERNATIVES TO' ASSESSMENT

The following conclusions and decisions were reached with respect to alternatives to the Undertaking:

- i) The Do Nothing alternative is not a feasible solution to meeting project objectives. However, it was carried forward for consideration of Alternative Methods of Carrying Out the Project to serve as a baseline comparator against which viable solutions could be assessed.
- ii) The extension or expansion of commuter bus and rail facilities to resolve identified transportation problems in the study area cannot be considered a viable alternative, at least in the foreseeable future, and was not recommended as a solution to meet project objectives.
- Based on the concurrence by the Project Team with the results of earlier investigations, the supplementary Eastern Corridor investigations, and the fact that no other such feasible options were identified in the course of alternatives development, major upgrading of the municipal road network was not recommended as a solution to meet project objectives and was discarded as a viable scenario.
- iv) Based on the rejection of reasonable modal and municipal network improvement alternatives to the undertaking, the need to introduce a new provincial highway route or upgrade existing Highway 6 in the study area as the only means of resolving the identified transportation problems was established.

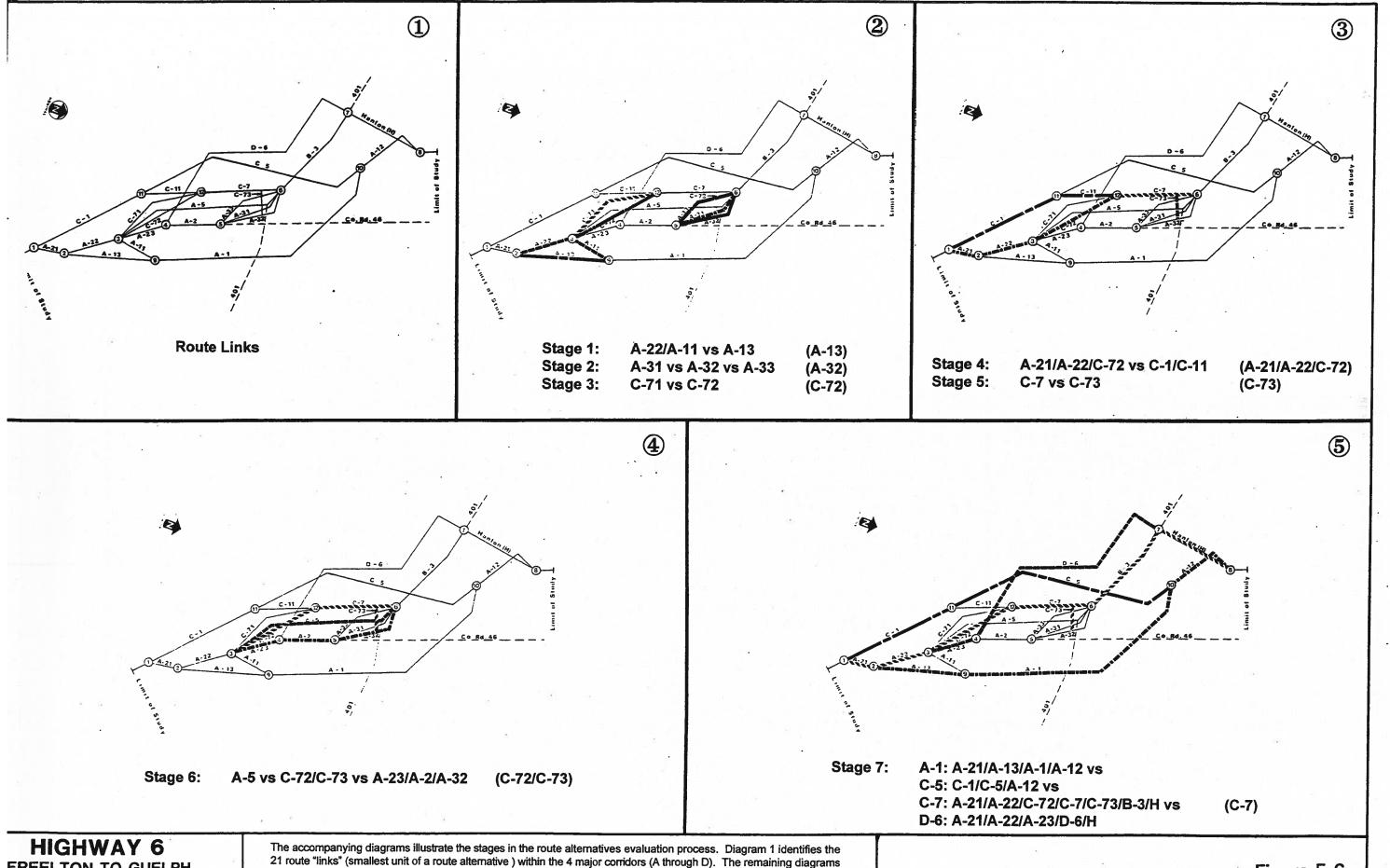
	STUDY STEP	OBJECTIVES/ KEY ACTIVITIES	TIME FRAME	MEETINGS KEY	INPUT CORRESPONDENCE	DECISIONS/PRODUCTS	REPORT SECTION
.2	Alternative Methods of Carrying Out the Undertaking						Section 5.4
•	Corridors Series A - East Series B - Highway 401 Series C - Central Series D - West Series E - Extreme West	Develop and screen major corridor concepts based on need to introduce new provincial highway or upgrade existing Highway 6	January - April 1985			Development of five (5) corridors to provide a range of transportation service options across the study area No corridors eliminated based on coarse screening since full traffic analysis was not available. Full screening of corridors to be conducted in parallel with development, analysis and evaluation of route location alternatives	Section 5.4.1 Exhibit 5.1 following Page 5-7 Section 5.4.1.1
	<u>Routes</u> (Round 1)	Develop optimum number of route location options in established corridors to demonstrate possible corridor connections or combinations	February - June 1985	Technical Committee (April 3, 1985)		Technical Committee endorsed range of corridors and routes being examined with proviso that route options north of Highway 401 through mineral aggregate extraction operations be added	Section 3.2.5 Section 5.4.2.1 Exhibits 5.2 - 5.5 following pag 5-10
		Screen route location options to select most reasonable alternatives to carry forward for detailed analysis and evaluation Retain at least one route from each corridor to maintain flexibility to reinstate any alternative at a later date based on results of detailed traffic analyses		Technical Committee (May 7, 1985)	Information package containing preliminary assessment of route alternatives sent to Technical Committee by Project Team (May 3, 1985)	In addition to the 24 initial options (including Do Nothing), the Project Team agreed to add Highway 6 bypasses of the Hamlet of Puslinch and the Village of Morriston (to satisfy the Township of Puslinch) and a route through the mineral aggregate extraction operations north of Highway 401, for a total of 26 route alternatives	Section 3.2.4 Section 5.4.2.1 Appendix C (Minutes of Meeting) Appendix E (Summary Analysis)

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
-	KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
<u>Routes</u> (Round 1) (continued)			External Team (May 22, 1985)	Information package containing preliminary assessment of route alternatives sent to External Team by Project Team (May 10, 1985) Subsequent correspondence from Halton Region Conservation Authority, OMAF, MNR, MMA expressing concerns/comments	Comments from External Team incorporated in assessment of alternatives	Section 3.2.4 Appendix C (Minutes of Meeting)
			Ministry of Transportation Senior Management (May 29, 1985)	on various corridor and route options	Project Team incorporated management desire to optimized use of existing highway facilities to produce a cost-effective solution in assessment of route alternatives	Section 3.2.3 Section 5.4.2.1
			Steering Committee (June 4, 1985) .		Steering Committee accepts Technical Committee's recommendation as to which route alternatives to show publicly as those to be carried forward: A-1, A-3/4, A-7, B-3, C-5, D-6, E-2	Section 3.2.5 Section 5.4.2.1
	7		Public Information Centre to present evaluation criteria and preliminary assessment of route alternatives under consideration (June 20, 1985)	Public Notice of Information Centre - Development of Alternatives (June 1985)	Project Team decides that, based on input received during May - June 1985, refinements to the route alternatives are warranted Technical Paper No. 1 - Results of Public Information Centre No. 1, June 20, 1985 (August 1985)	Section 3.2.6 Section 5.4.2.1

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
Routes (Round 2)	Revisit decisions to date on route location alternatives being retained and refine options based on results of detailed traffic analysis and recent municipal input Provide study participants with the opportunity to review and contribute input on modifications	July - November 1985		Township of Puslinch (July 25,1985). The Township took an initial position that any new route should be located in the Concession Road 2 corridor and connect directly to the existing Hanlon Expressway/Highway 401 interchange to provide potential direct access to mineral aggregate reserves in the area. The July 1985 correspondence indicated Council's desire to now have any new route south of Highway 401 located at midconcession in Concession 7 (west of Highway 6 and east of Concession Road 7)	Between August and October, Project Team modified major routes: - modified A-3 at Morriston - added C-7 re Puslinch concern - deleted A-7 (geometrics) - reinstated A-5 (close bypass) - deleted E-2 (low traffic service) - deleted A-4 (duplicated A-3) and added localized sub- alternatives (links) to reduce potential environmental impacts and improve local road network operations	Section 5.4.2.2 Appendix C (Minutes of Meeting)
			Technical Committee (August 12 and September 4, 1985)		Technical Committee endorsed Project Team recommendations on routes to be carried forward (A-3, A-5, C-5, C-7, C-6), with the exception that A-1 should also be retained based on traffic service benefits	Section 3.2.5 Section 5.4.2.2
			Steering Committee (September 4, 1985)		Steering Committee requests presentation to municipal councils prior to approving routes to be carried forward	Section 3.2.5 Section 5.4.2.2
		5)	Joint presentation made to Councils of participating municipalities (for information only) (September 20, 1985)		No major concerns or dissenting positions identified	Section 3.2.5 Section 5.4.2.2

STUDY STEP	OBJECTIVES/ KEY ACTIVITIES	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	REFACIIVITES		MEETINGS	CORRESPONDENCE		
Routes (Round 2) (continued)			Steering Committee (September 20, 1985)	Town of Flamborough (September 16, 1985 Council resolution). The Town of Flamborough (as well as the County of Wellington) indicated a desire to see an option which utilized the existing Highway 6 corridor through Flamborough before diverging to a new route, preferably using a Series A route.	Steering Committee endorsed route development process and Technical Committee recommendations as to alternatives to be carried forward, with the proviso that the Town of Flamborough and County of Wellington comments be addressed Project Team developed new connecting Links A-11 and C-71 to address Flamborough and Wellington comments	Section 3.2.5 Section 5.4.2.2
			Project Team conducts its route location evaluation (November 5/6, 1985)		Project Team selects Alternative A-3 (improve existing Highway 6 to Puslinch Road 35, bypass Morriston to the west and connect to Highway 401) as technically preferred route. Further progress in adopting route delayed by request by the Township of Puslinch (October 15, 1985) that MTO convene on additional public information session in order to keep the residents of the Township apprised of study progress	Section 5.4.2.2
	8		Public Open House (November 21, 1985)	Notice of Public Display of Proposed Modification and Additions to Route Alternatives (November 1985)	In response to October 15, 1985 request from the Township of Puslinch, the Project Team provided display of routes at Township's Municipal Offices between November 18 and 29, 1985 (including Open House)	Section 3.2.6 Section 5.4.2.2

STUDY STEP	OBJECTIVES/ KEY ACTIVITIES	TIME FRAME		INPUT	DECISIONS/PRODUCTS	REPORT SECTION
			MEETINGS	CORRESPONDENCE		
<u>Routes</u> (Round 3)	Modify route location alternatives based on input received during	November 1985 - January 1986	Public Information Centre to present additions and	Notice of Public Information Centre - Development of	Project Team added Link C-72 to	Section 3.2.6
	November 18 - 29 display period		modifications to route alternatives under consideration (January 26, 1986)	Alternatives (January 1986)	reduce potential localized impacts to agricultural operations and provincially significant wetland	Section 5.4.2.2
			(January 20, 1960)		Technical Paper No. 2 - Open House, November 21, 1985 and Public Information Centre No. 3,	
		*			January 26, 1986 (March 1986)	
STEPS 4-5 ANALYSE AND EVALUATE ALTERNATIVES	C-72, C-73, D-6, H (Hanlon Expressway). Conduct staged analysis and evaluation of 1:5,000 scale alternatives to select Technically Preferred Route to carry forward for refinement during Preliminary Design Stage	February - August 1986	Project Team conducts second round of route evaluation based on revised evaluation criteria weightings (February 11/17, 1986) For rationale on revised Evaluation Criteria, refer to notes accompanying February 5, 1986 Technical Committee meeting in		See below for results of staged evaluation of alternatives	Refer to Section 5.4.2.3 and Exhibits 5.2 - 5.6 for description and location of route alternatives subjected to detailed analysis and evaluation
			Step 2 (Page 2 of this matrix)			
.1 Stage 1 (A-22/A-11 vs A-13)	Select best sub-alternative for connecting existing Highway 6 from Freelton to Route A-1 east of Highway 6				Link which resulted in fewer safety concerns and social impacts (Link A-13) was selected to become part of Route A-1 for further analysis	Refer to Section 5.4.2.4 and Appendix E (Summary Analysis) for results of analysis
.2 Stage 2 (A-31 vs A-32 vs A-33)	Select best sub-alternative for incorporation in close bypass of Morriston (Route A-3 and Route A-5)				Link which provided optimum combination of traffic service and least impacts to natural environment (Link A-31) was selected to become part of Routes A-3 and A-5 for further analysis	



FREELTON TO GUELPH

Environmental Assessment & Preliminary Design Report show the route "segments" (combinations of links) compared in each stage, with the preferred segment label in brackets. The first 6 stages focussed on identifying the preferred localized sub-alternative, while the final stage (Stage 7) compared 4 routing options between the southern and northern project limits. The different tape patterns show the distinction amongst the various segments being compared at each stage.

Figure 5.6

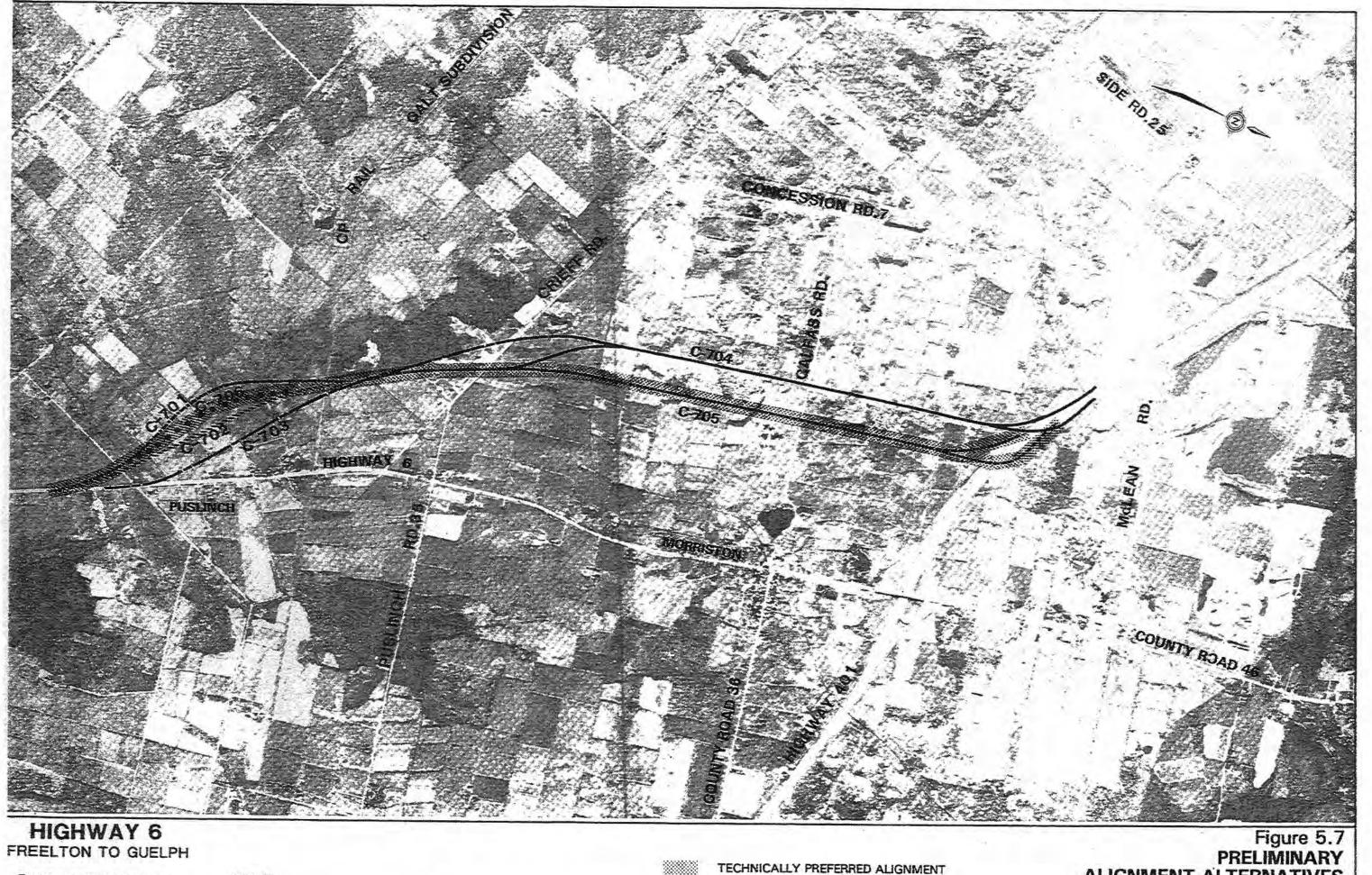
ROUTE LOCATION EVALUATION LINKS

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.3	Stage 3 (C-71 vs C-72)	Select best sub-alternative for connecting existing Highway 6 at the Hamlet of Puslinch to new midconcession route (Route C-7) west of Highway 6				Link which resulted in less impacts to provincially significant wetland and agricultural operations (Link C-72) was selected to become part of Route C-7 for further analysis	
.4	Stage 4 (A-21/A-22/C-72 vs C-1/C-11)	Select best sub-alternative for connecting existing Highway 6 to new mid-concession route (Route C-7) west of Highway 6 from Freelton to Crieff Road				Link which maximized use of existing Highway 6 (A-21/A-22/C-72) was selected to become part of Route C-7 for further analysis	
	Stage 5 (C-7 vs C-73) in this context refers to localized larger Route C-7 in the Morriston/401	Select the best sub-alternative for connecting new mid-concession route west of Highway 6 (Route C-7) to Highway 401 and existing Highway 6				Link which involved less complex interchange and lower cost (Link C-73) was selected to become part of Route C-7 for further analysis	
.6	Stage 6 (A-3 vs A-5 vs C-7)	Select best option for connecting Highway 6 south of the Hamlet of Puslinch to Highway 401 north of Morriston				Route which minimized impacts to property and the natural environment (Route C-7) was carried forward for further analysis	
.7	Stage 7 (A-1 vs C-5 vs C-7 vs D-6)	Select the best route for connecting Highway 6 at Freelton to the Hanlon Expressway at the south limits of the City of Guelph				Route C-7 was unanimously selected as the option which would result in the best balance between transportation benefits and net environmental effects	
			* * * * * * * * * * * * * * * * * * *	Technical Committee (February 5, 1986)		Technical Committee accepted the evaluation procedure but instituted Evaluation Criteria weighting modifications (afforded more weight to safety and community impacts/noise, and less to natural environment, agricultural activities and cost	Section 3.2.5

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
ANALYSE AND EVALUATE ALTERNATIVES (continued)			Technical Committee (February 20, 1986)	Briefing package and results of Project Team evaluation sent to Technical Committee by Project Team	Technical Committee agreed with results of staged evaluation process (selection of Route C-7), subject to more detailed development and assessment (1:2,000 scale analysis similar to the basis on which Route A-3 was developed and analyzed) for Routes A-5 and C-7 in Stage 6	Section 3.2.5 Appendix C (Minutes of Meeting)
			External Team (March 12, 1986)	Information package containing route analysis and evaluation results was sent to External Team by Project Team (March 5, 1986)	External Team agreed in principle with results of staged evaluation procedure, pending further detailed review. No concerns expressed subsequently which altered evaluation results	Section 3.2.4 Appendix C (Minutes of Meeting)
			Ministry of Transportation Senior Management (March 25 and April 7, 1986)		Project Team prepared an internal document entitled Definitive Review and Comparison of Alternatives A-3, A-5 and C-7 For MTO Regional Personnel Meeting April 7, 1986 in response to March 25, 1986 request The results of Stage 6 were a critical point in the evaluation. MTO Senior Management also requested a more detailed assessment of the candidate	Section 3.2.3 Appendix C (Minutes of Meeting)
			Technical Committee (April 10, 1986)		routes and subsequently approved the selection of C-7 Technical Committee reconfirms selection of C-7 over A-5 in Stage 6 based on more detailed assessment conducted by Project Team	Section 3.2.4

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
STEPS 4-5 ANALYSE AND EVALUATI ALTERNATIVES (continued)	E		Steering Committee (April 10 1986)		Steering Committee endorses Technical Committee recommendation on route evaluation and directs Project Team to proceed with public presentation of results. Final endorsement of technically preferred route withheld pending results of PIC	Section 3.2.4
			Public Information Centre to present evaluation of route alternatives (April 30/May 1, 1986)	Notification of Public Information Centre - Evaluation of Alternatives (April 1986)	Public expressed general agreement with selection of C-7 as technically preferred route Technical Paper No. 3 - Results of April 30/May 1, 1986 Public Information Centre (Route Location) (June 1986)	Section 3.2.6
200	ALTERNATIVES ANALYSIS AND EVAI Technically Preferred Route and recomme		micipal elected representatives and th	ne Minister of Transportation.		
STEP 6	Secure official endorsement of June Technically Preferred Route (C-7)	June - November 1986	Steering Committee (May 27, 1986)		Steering Committee resolved to	
ENDODSEMENT OF			1986)		approve in principle the Project	Section 3.2.4
ENDORSEMENT OF TECHNICALLY PREFERRED ROUTE	from municipalities and Minister of Transportation		1986)			Section 3.2.4 Section 3.2.5 Section 5.4.2.4

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	KEY ACTIVITIES	1 0 10 10 10 10 10 10 10 10 10 10 10 10	MEETINGS	CORRESPONDENCE		
STEP 6 ENDORSEMENT OF TECHNICALLY PREFERRED ROUTE (continued)			Presentations to Ministry of Transportation Senior Management (July 3, 1986) and Strategic Policy Committee (July August 7, 1986) to secure clearance to proceed to ministerial level	Minister's Announcement (press release) of Selected Route to municipalities (October 21, 1986) and public (November 6, 1986)	Minister endorses Project Team selection of Technically Preferred Route (C-7)	
COMPLETION OF ROUTE LO Route C-7 carried forward for refir	CATION STAGE nement in Preliminary Design Stage.					
PRELIMINARY DESI	GN STAGE					
STEP 7 REFINE SELECTED ALTERNATIVE	Refine the Technically Preferred Route in accordance with established MTO Preliminary Design standards which permit completion of required documentation for internal and external review and approval	July 1986 - January 1988				Section 5.4.3
.1 Preliminary Assessment of Alignment Alternatives	Develop specific 1:5,000 scale horizontal and vertical alignments for new route portion of Highway 6 between Maddaugh Road and Highway 401)	September 1986 - January 1987			Six (6) alignments (C-701 through C-706) developed based on Route C-7 and assessed (refer to accompanying Figure 5.7 from EAR) In addition, requirements for improving the existing Highway 6, Highway 401 and Hanlon Expressway segments of the route were determined	Section 5.4.3.1/Figure 5.7 Appendix E (Summary Analysis)
	Analyze alignment options on a link- by-link basis to account for localized sensitivities and provide flexibility for further combination of alternatives: - Maddaugh Road to CP Rail				C-706 preferred because safety and social advantages outweigh impacts to natural environment and agricultural operations	

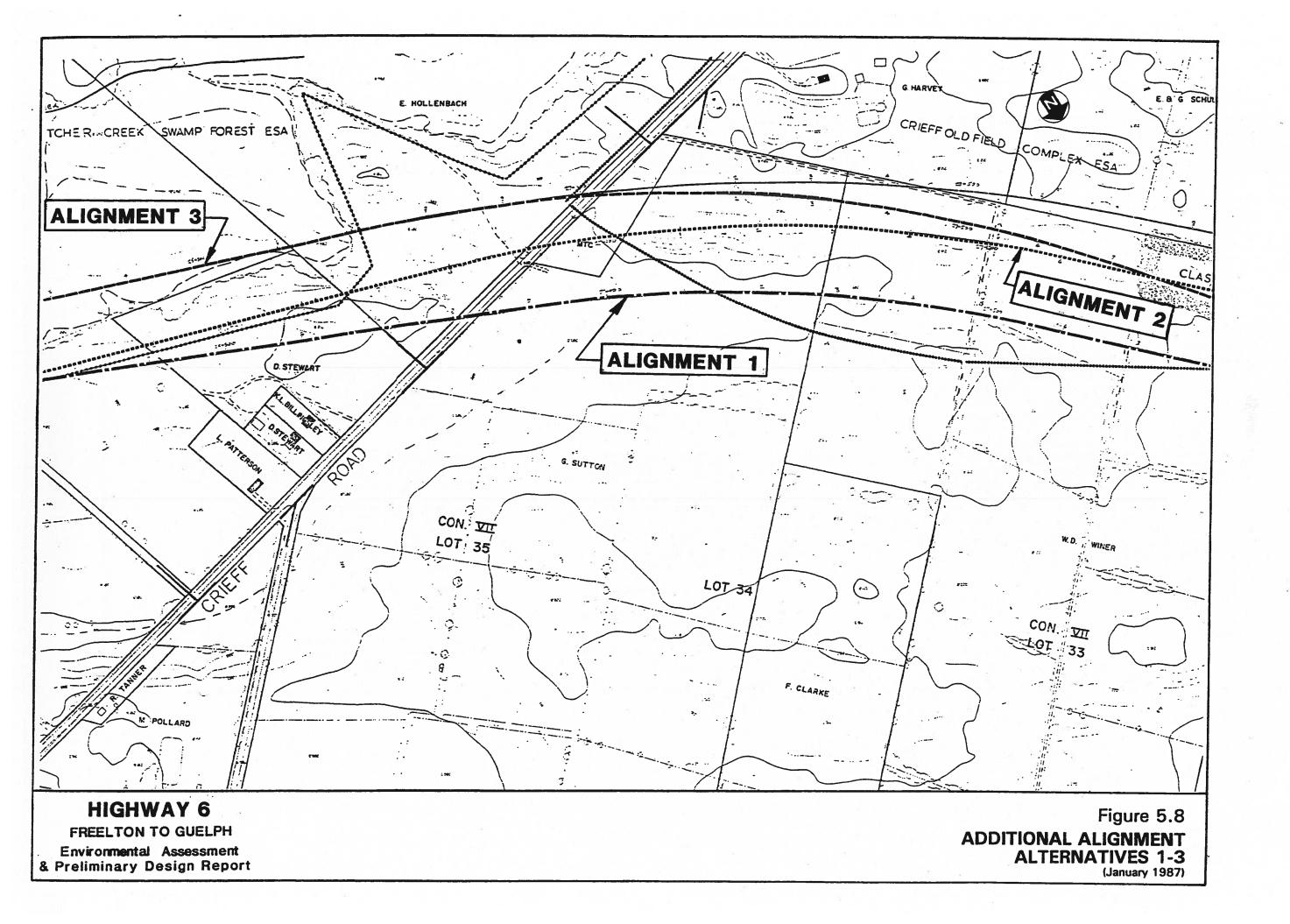


Environmental Assessment & Preliminary Design Report SCALE:

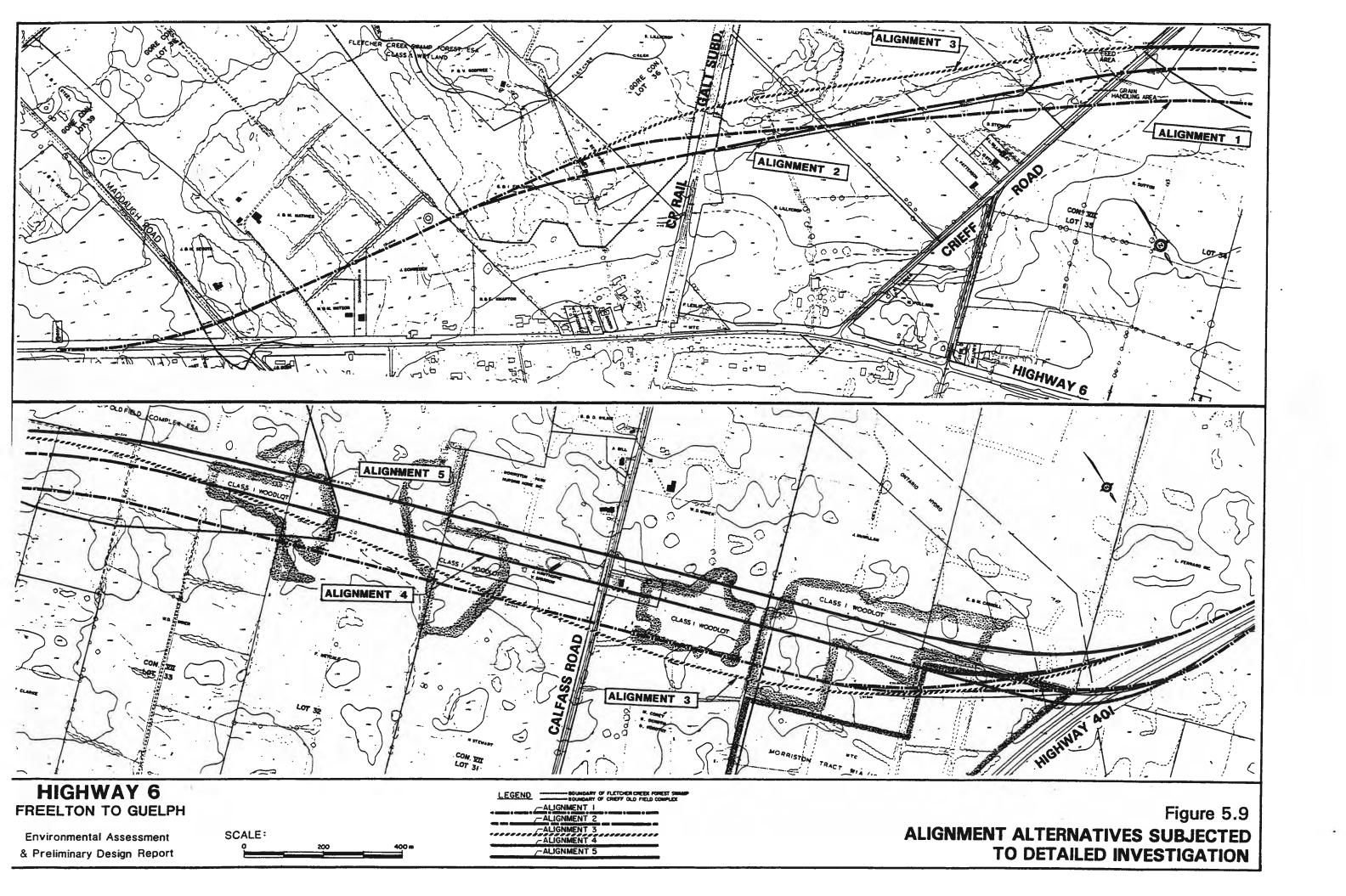
Figure 5.7
PRELIMINARY
ALIGNMENT ALTERNATIVES C-701 TO C-706 (NOVEMBER 1986)

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.1	Preliminary Assessment of Alignment Alternatives (continued)	- CP Rail to Crieff Road	1			C-702 preferred because natural and economic advantages outweigh the marginal social advantages of C-703	
		- Crieff Road to Calfass Road				C-705 preferred because of fewer potential impacts to the natural environment	
		- Calfass Road to Highway 401				C-705 preferred because it would create fewer adverse impacts to the natural and social environments and would be less costly	
				Technical Committee (November 10, 1986) Note: Project Team advised the meeting that it had requested that a representative of the Township of Puslinch sit on the Technical Committee for the Preliminary Design Stage. No representatives had been identified by the Township to this point.	Township of Puslinch to Fenco (November 17, and December 4, 1986) confirmed that the Reeve, Deputy Reeve and Road Superintendent would be the Township's representatives on the Technical Committee for the Preliminary Design Stage	Technical Committee approved the alignment selection and other design elements in principle, pending further deliberation on Highway 6/Highway 401 interchange design (possible protection for extension of new route north of Highway 401) and discussions with the Region of Hamilton-Wentworth and the Town of Flamborough regarding proposed improvements to the realignment of Gore Road and Campbellville Road	Section 3.2.5 Section 5.4.3.1 Appendix C (Minutes of Meeting)
				Property owners, as part of standard Preliminary Design Stage procedure to describe implications of proposed design to "directly affected" individual property owners on a one-on-one basis (Puslinch Community Centre, December 10, 1986)		Technical Memorandum outlining property owner responses and concerns (December 1986). Project Team addressed and incorporated possible solutions in the recommended design	Section 3.2.6 Section 5.4.3.1 Section 6.2

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.1	Preliminary Assessment of Alignment Alternatives (continued)					Project Team developed two alternative (more westerly) alignments in the Crieff Road area to address concerns of two agricultural operators (Sutton, Winer), which would create additional impacts to a third agricultural operation (Hollenbach). Initially preferred alignment (C-705) redesignated as Alignment 1 and the two new options as Alignments 2 and 3 (refer to accompanying Figure 5.8 from EAR)	
				Ministry of Agriculture and Food/Ontario Federation of Agriculture (Wellington County Branch) (January 23, 1987) OMAF/OFA and affected agricultural operators (Sutton, Winer, Hollenbach) (January 27, 1987)	OFA (January 28, 1987)	OMAF and OFA representatives agreed with Project Team's agricultural assessment of localized alignment options in Crieff Road area. Most easterly alignment (Alignment 1) has least significant impacts and is preferred.	Section 5.4.3.1 Appendix B (Correspondence)
				Technical Committee (January 28, 1987)		Based on concerns from Township of Puslinch (questioned accuracy of soils capability mapping for Sutton farm and expressed a desire to see alignment as close as possible to mid-concession line to minimize impacts to Sutton and Winer farms), Project Team agreed to investigate whether facilities on the Hollenbach operation affected by Alignments 1 and 2 could be relocated on the landlocked portion of the adjacent Lillycrop farm which would be purchased by the Province	Section 3.2.5 Section 5.4.3.1



	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.1	Preliminary Assessment of Alignment Alternatives (continued)	·			OMAF (February 13, 1987). Advised that no acceptable options for relocating Hollenbach facilities on either the Lillycrop farm or elsewhere on the Hollenbach farm exist and confirmed concurrence with Alignment 1 as having least agricultural impacts, pending implementation of mitigating measures	Most easterly alignment (Alignment 1) reconfirmed as technically preferred option	Section 5.4.3.1 Appendix B (Correspondence)
.2	Refinement of Alternatives	To refine and assess the set of alignment alternatives from south of CP Rail line to Highway 401 based on property owner, municipal and External Team input received between December 1986 and February 1987, focussing on resolution of most sensitive environmental issues (forestry (Class 1 woodlots), vegetation and wildlife, fisheries, noise, visual aesthetics and agricultural operations)	February 1987 - January 1988			Initial alignments from south of CP Rail line to Highway 401 were refined to address concerns and redesignated as Alignments 1 through 5 (refer to accompanying Figure 5.9 from EAR Following Project Team assessment of alternatives, Alignments 1 and 2 were deemed to be technically acceptable. Project Team recommended Alignment 1 based on agricultural considerations (Alignment 2 represented a compromise in distributing agricultural impacts but created more significant impacts than Alignment 1) Technical Paper No. 4 - Development, Analysis and Evaluation of Preliminary Design Alternatives Between Maddaugh Road and Highway 401 (April 1987)	Refer to Section 5.4.3.2 and Figure 5.9 for description of alignments Appendix B (Correspondence) Appendix E (Summary Analysis) Table 5.4 for summary analysis of Alignments 1 and 2



	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	NPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES	333	MEETINGS	CORRESPONDENCE		
.2	Refinement of Alternatives (continued)			Presentation to Township of Puslinch council (May 22, 1987). Council requested hybrid of Alignment 2 (shifted westerly to reduce impacts to Sutton and Winer) and Alignment 4 (mid- concession)		Alignment 4 was not acceptable to Project Team due to social impacts at Calfass Road Project Team agreed that Alignment 2 with a nominal (20 m) westerly shift through the Sutton and Winer farms (and additional impacts to the Hollenbach operation) and an easterly shift at Calfass Road to reduce impacts to two residential properties (Hawthorne and Descary) would be technically acceptable	Section 5.4.3.2
				Presentation of modified Alignment 2 to Township of Puslinch council (June 11, 1987)		Council endorsed modified Alignment 2	Section 5.4.3.2 Appendix C (Minutes of Meeting)
				Presentation of modified Alignment 2 to directly affected property owners (June 11, 1987)		All but three owners expressed satisfaction with alignment selection. Concerns were addressed through subsequent individual meetings with owners and refinement/mitigation of the preliminary design scheme	Section 6.2 Refer to Appendix K (Special Considerations) for documentation of deliberations on mitigation of impacts to Long Lane Farms (Hollenbach) operation
				Technical Committee (June 23, 1987) Steering Committee (July 6, 1987)		Technical Committee and Steering Committee approved preliminary design to present to the public	Section 3.2.5 Appendix C (Minutes of Meeting)

	STUDY STEP	OBJECTIVES/ KEY ACTIVITIES	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		ACT ACTIVITIES		MEETINGS	CORRESPONDENCE		
.2	Refinement of Alternatives (continued)			Ministry of Natural Resources working meeting (August 24, 1987)	Ministry of Natural Resources to MTO (May 21 and July 28, 1987) regarding potential impacts to Class 1 woodlots in Concession 7 and fisheries and wetland resources at the Hanlon Expressway/County Road 34 interchange location Fenco Engineers to MNR (August 5, 1987)	In an effort to resolve a number of outstanding issues prior to the August 26 External Team meeting, the Project Team addressed concerns expressed by MNR regarding potential impacts to Class 1 woodlots in Concession 7 and fisheries and wetland resources at the Hanlon Expressway/County Road 34 interchange location. Defended need for and configuration of County Road 34 interchange and offered MNR additional information, as it became available Project Team developed additional County Road 34 interchange alternative (basketweave) and conducted additional detailed field investigations to refine vegetation and wildlife impact analysis (Technical Paper No. 6 - Supplementary Vegetation and Wildlife Investigation of Selected Alternative (October 1987)	Appendix B (Correspondence) Section 5.5.1 Interchange Configurations at Hanlon Expressway/County Road 34 Appendix F (Natural Environmental Information Supplement)
				External Team (August 26, 1987)		Further working meetings will occur with agencies as required	Section 3.2.4
				Public Information Centre (September 30, 1987)	Notice of Public Information Centre (Preliminary Design) (September 1987)	Technical Paper No. 5 - Results of September 30, 1987 Public Information Centre (Preliminary Design) (October 1987)	Section 3.2.6 Section 5.4.3.2
				MNR working meeting (October 30, 1987)		MNR received copies of County Road 34 interchange alternatives to prepare preliminary response to design proposal. Project Team received MNR concerns and suggestions for improvements to recommended design	Appendix B (Correspondence)

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.2	Refinement of Alternatives (continued)			Joint Technical/Steering Committees (November 3, 1987)		Technical and Steering Committees agreed modified Alignment 2 should be recommended to councils for endorsement	Section 5.4.3.2 Appendix C (Minutes of Meeting)
				Joint presentation to councils of participating municipalities and news media (November 19, 1987)		Project Team adopts modified Alignment 2 as basis on which to finalize preliminary design	
			9,040		Participating municipalities (November 1987 - January 1988)	Council resolutions endorsing recommended preliminary design scheme	Appendix B (Correspondence)
	30°				MNR (January 6, 1988)	MNR provided new information on Hanlon/County Road 34 area and an assessment of MTO alternatives. Reiterated general preference to avoid an interchange at County Road 34 due to potential wetland (hydrologic) and fisheries impacts. Offered additional mitigation suggestions, several of which the Project Team incorporated in preliminary design scheme	Appendix B (Correspondence)
COM	PLETION OF REFINEME	NTS TO TECHNICALLY PREFERRE	D ROUTE (PRELIMINARY	DESIGN)			
The T	echnically Preferred Alignr eady for documentation in	nent from south of the CP Rail Line to l the form of an Environmental Assessmo	Highway 401, as well as preliment and Preliminary Design Ro	inary design for improving the exis	ting Highway 6, Highway 401 and	Hanlon Expressway sections of the r	oute had been determined and
STEP	8 JMENTATION	Finalize preliminary design scheme and assemble/consolidate study documentation in accordance with approved MTO Environmental Assessment and Preliminary Design Report format for submission to the Ministry of the Environment	January 1988 - September 1989	-	Official Government Reviewers (September 18, 1989)	Ministry of Transportation transmitted Draft Environmental Assessment and Preliminary Design Report to Official Government Reviewers and municipalities for Pre-Submission Review. Comments requested by October 30, 1989)	

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
STEP 9 PRE-SUBMISSION REVIEW	To provide Official Government Reviewers and municipal technical representatives with the opportunity to review the Draft Environmental Assessment and Preliminary Design Report prior to formal submission To identify and address any outstanding issues, through correspondence or in a working meeting forum, prior to formal submission in order to facilitate the review and approval process	September 1989 - February 1991				
				Ministry of the Environment, Environmental Assessment Branch (December 6, 1989) EA Branch outlined procedural questions and concerns with respect to: - further inclusion of the Do Nothing alternative - net effects analysis - traceability - Regulation 205 requirements	Project Team incorporated appropriate revisions to draft report and prepared Regulation 205 summary material	
				Ministry of Natural Resources, Cambridge District (January 29, 1990) MNR essentially reiterated its technical concerns with the proposed preliminary design scheme and indicated that the EA document was not acceptable to the Ministry. Specific concerns included:	Project Team made arrangement to address MNR's concerns further in a working meeting (February 27, 1991)	

STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
	KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
PRE-SUBMISSION REVIEW (continued)			- request for additional investigations regarding sensitivities, impact assessment and mitigation potential for wetlands and fisheries resources and the West Virginia butterfly - re-definition and re-evaluation of Hanlon Expressway/County Road 34 interchange alternatives - modifications to the EA document to strengthen the description of natural environmental sensitivities; justification for technically preferred alternative; and assessment of impacts			
				Ministry of the Environment, Approvals Branch (March 22, 1990) Approvals Branch provided comments and concerns on technical elements related to evaluation criteria; water quality; noise; soils; and land use and indicated that support for the preferred alterative would be premature at this time due to the outstanding concerns regarding potential adverse impacts	Project Team determined that most concerns could be clarified for formal submission or would most appropriately be addressed during the Detail Design Stage	

STUDY STEP	OBJECTIVES/ KEY ACTIVITIES	TIME FRAME	KEY I MEETINGS	NPUT CORRESPONDENCE	DECISIONS/PRODUCTS	REPORT SECTION
STEP 9 PRE-SUBMISSION REVIEW (continued)			Working meeting with MNR (February 27,1990) to discuss pre-submission concerns outlined in January 1990 correspondence		Discussion focussed on additional information needs related to addressing existing policies (fisheries, wetlands, aggregate resources) and new resource management directions (forestry, stormwater quality, fisheries, West Virginia butterfly) in the	
					Agreement was reached on information needs, including further investigations, and MNR offered to provide the most recent data available since some of their pre-submission comments were based on such data which was not available to the Project Team at the time of the impact assessment Agreements on updating baseline data precipitated and were instituted during Update and Supplementary Investigations	
UPDATE AND SUPPL	EMENTARY INVESTIGAT	IONS STAGE			Stage	
STEP 10		# * * * * * * * * * * * * * * * * * * *		S		Chapter 5
.1 Update Data Base	Update data where required due to: 1) changes in information over the time frame of the project 2) additional data/investigations required to address specific concerns in the Draft EAR	September - November 1992			Updated base information and constraint plans	Section 4.1.5 Section 4.1.6 Section 4.1.7 Section 4.2.2.2 Section 4.3.2 Section 4.5 Appendix F (Natural Environmental Information Supplement Appendix J (Agricultural Impact Analysis (Supplementary)

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.2	Develop Additional Alternatives	Develop alternatives in order to:	November 1992 - June 1993				
	Antel Hatives	Address Ontario Ministry of Natural Resources concerns related to woodlands/forestry, fisheries and wetland resources					2
		- Crieff Road to Highway 401 to respond to woodlots/forestry concerns				Developed 2 new alignment alternatives at 1:2,000 scale Crieff Road to Highway 401	Section 5.4.4.2 Figure 5.13 for alignment graphics
ш		- County Road 34 interchange with Highway 6 (Hanlon Expressway) to respond to fisheries and wetlands concerns				Developed 6 concept alternatives at 1:5,000 scale for County Road 34 interchange which moved the interchange away from the most sensitive wetland / fisheries areas	Section 5.4.4.1 Figures 5.10 - 5.12 for concept graphics
		2) Address significant (higher than predicted) traffic increases on Highway 6 and Highway 401 (1985-1990)				Developed directional ramp for Highway 6 (Hanlon) southbound to Highway 401 eastbound (N-E) move	Section 5.5.7 Section 5.5.6
						Developed cross-sectional alternatives for Highway 401 corridor Developed direct ramp for Highway 6 South to Highway	Section 5.5.9
	3	8				401 East at Connection Road/Brock/Road interchange	

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
2	Develop Additional Alternatives (continued)	Confirm alternatives	April - June 1993	OMAF (April 16, 1993)		Crieff Road to Highway 401 → reiterated endorsement of Alternative 1 (previous Technically Preferred Alternative) County Road 34 interchange → noted preferred alternative should avoid lands designated as Agricultural in Puslinch Official Plan and severance of agricultural operations	Appendix C (Minutes of Meetings)
	t	1					
				MNR (April 19, 1993)		MNR expressed satisfaction with the alternatives developed to address their concerns	Appendix C (Minutes of Meetings)
			=	Property Owners - Crieff Road to Highway 401 (May 26, 1993)		Property owners had not changed their position → willing to accept Alternative 1 (previous Technically Preferred Alternative) but had concerns with other alternatives	
				MTO Senior Management (June 2, 1995)		MTO Senior Management endorsed alternatives developed	Appendix C (Minutes of Meetings)
		Initial Screening of alternatives for County Road 34 interchange	June 1993	Public Information Centre to present new interchange, new route alignment and cross-sectional options currently under consideration (June 15, 1993)	Notice of Information Centre (Development of Alternatives - Update and Supplementary Investigations) (June 1993)	Alternatives 3 and 5 (in the vicinity of County Road 34) were considered to have the least impact. Alternative 1 (previous Technically Preferred Alternative) was noted as preferred in the Crieff Road to Highway 401 section.	Section 5.4.4.1 Section 3.2.6

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.2	Develop Additional Alternatives (continued)			Joint Steering/Technical Committee (June 24, 1993)		Steering/Technical Committee endorsed initial screening of County Road 34 interchange concepts which carried Alternative 5 forward to be evaluated against Alternative 7 (previously preferred alternative modified to accommodate interchange modifications at Hanlon Expressway / Highway 401)	Appendix C (Minutes of Meeting)
.3	Analyse and Evaluate Alternatives	Analyse and evaluate alternatives for three sections:	July - September 1993				
		- Crieff Road to Highway 401 →3 alternatives at 1:2,000 scale				Crieff Road to Highway 401 →Alternative 1 selected as Technically Preferred Alternative	Section 5.4.4.2
		- County Road 34 interchange →2 alternatives at 1:2,000 scale				County Road 34 interchange →Alternative 5 (Modified) selected as Technically Preferred Alternative	Section 5.4.4.1
		- along Highway 401 →Cross-section alternatives		Affected property owners in Highway 401 corridor (August- September 1993)		Along Highway 401 →15 m/12.5 m rural median between Highway 401 and Highway 6 extended ramps selected as Technically Preferred Alternative	Section 5.5.6 Appendix C (Minutes of Meeting)

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.4	Refine Selected Alternatives	Confirm and review design of Technically Preferred Alternative	September 1993 - January 1994	Grand River Conservation Area (GRCA) (September 2, 1993)		GRCA noted effects at the existing Hanlon Expressway / County Road 34 intersection must be minimized	Section 5.4.4.1 Section 5.4.4.2
						GRCA also noted concern with respect to hydraulic affects of new N-E and W-N elevated ramps (at Highway 401 / Hanlon Expressway) on Regional Storm flooding. This was subsequently reviewed and it was concluded the ramps would have a negligible effect	Section 5.5.8
				MNR (October 26, 1993)	MNR memo (October 26, 1993) MNR letter (November 30, 1993)	No concern with the selection of Alternative 5 (Modified) as Technically Preferred Alternative for County Road 34 vicinity	Appendix B (Correspondence) Appendix C (Minutes of Meetings)
						Significant concern with selection of Alternative 1 as Technically Preferred Alternative (previous selection) for Crieff Road to Highway 401 section. MNR noted this selection did not address their previous concerns	
				Public Information Centre to present the Technically Preferred Alternative (January 18, 1994)	Notice of Public Information Center - Evaluation of Alternatives and Preliminary Design (January 1994)	Generally positive or neutral comments. The limited number of negative comments pertained to specific properties or the project as a whole. Only one comment sheet expressed a different alternative selection than was presented (preferred Alternative 7 over 5 Modified)	Section 3.2.6

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.4	Refine Selected Alternatives (continued)					Comment sheet from owner in the southeast quadrant of Highway 6/Maddaugh Road requested that intersection be reviewed to reduce property requirements. A review resulted in the intersection being redesigned	Section 5.5.11
				Property Owners Farkas - southwest quadrant Hanlon/County Road 34 (January 18, 1994) to review property impacts associated with proposed changes to Hanlon Expressway/ County Road 34 interchange		Project Team advised owners of proposed grade raise on County Road 34 and the need to acquire property and modify its access. Two alternatives for access relocation and reconstruction were presented to the owners. Owners expressed concerns over loss of visual screening and potential noise increases. Owners were also provided with information on their rights during acquisition (Highway Property Purchasing)	Section 5.5.10 Appendix C (Minutes of Meeting)
				Petrusa - northwest quadrant Hanlon/County Road 34 (January 25, 1994) to review property impacts associated with proposed changes to Hanlon Expressway/ County Road 34 interchange		Review of 5 interchange options shown at June 1993 Public Information Centre and explanation as to why options were discarded. Owners expressed concern over severance effects of Connecting Road between interchange and County Road 34 (i.e., lower development value of parcel). Project Team explained access benefits, MTO property purchasing process and potential for "hardship" status if future difficulty in selling the parcel is encountered	

	STUDY STEP	OBJECTIVES/	TIME FRAME	KEY	INPUT	DECISIONS/PRODUCTS	REPORT SECTION
		KEY ACTIVITIES		MEETINGS	CORRESPONDENCE		
.4	Refine Selected Alternatives (continued)	Refine Technically Preferred Alternative to respond to concerns raised	February 1994 - April 1995	MNR (February 17, 1994)		MTO noted selection of Alternative 1 as Technically Preferred was based on a consideration/balancing of input from all affected parties. MNR noted that while Alternative 1 was not preferred from the perspective of their mandate it was not their intent to pursue the matter in the form of a formal objection.	Appendix C (Minutes of Meeting)
				MOEE (March 9, 1994)	Review of MOEE Pre- Submission comments and discussed how MTO addressed them.	Appendix C (Minutes of Meeting)	
					Township of Puslinch (May 19, 1994) County of Wellington (May 26, 1994)	Endorsements of the Technically Preferred Design by affected Municipalities	Appendix B (Correspondence)
.5	Revise Documentation	Finalize preliminary design scheme and assemble/consolidate study documentation in accordance with approved MTO Environmental Assessment and Preliminary Design Report format for submission to the Ministry of Environment and Energy	May - September 1995			Final Draft Environmental Assessment and Preliminary Design Report	

STEDY STEP	OBJECTIVES/	ZEME ERAME	KE	YINPUT SE	DECISIONS/PRODUCTS	REPORTSECTION
	KEYACTIVITIES		MEETINGS	CORRESPONDENCE		Programme and the second secon
FORMAL EA REVIE	W AND APPROVAL STAGE	100				
STEP 11				is a line of the same		
FORMAL SUBMISSION, REVIEW AND APPROVAL OF ENVIRONMENTAL ASSESSMENT AND PRELIMINARY DESIGN REPORT	9.97					
1. Formal Submission and Review	Review of EAR by government agencies and public	February - November 1996		MTO to MOEE (February 16, 1996)	Ministry of Transportation submitted Environmental Assessment and Preliminary Report to MOEE to co-ordinate formal review and approval process	
			MTO/MOEE EA Branch (May 8, 1996)	MOEE to MTO (April 11, 1996) MOEE Environmental Assessment	MTO prepared letter response to MOEE EA Branch, including	* 2 11 2 1 1 1 2
			MTO/FMI/MOEE EA Branch (July 28,1997)	Branch requests clarification on planning process	summary matrix of planning process	
·			MTO/HRCA/MNR/EC (April 24, 1997)	Government responses included concerns from Hamilton Region Conservation Authority (June 11, 1996), Ontario Ministry of Natural Resources (November 28, 1996) and Environment Canada (October 8, 1996) regarding impacts to potential habitat for Endangered Henslow's Sparrow	MTO commissioned study of potential Henslow's Sparrow habitat by expert consultant	
2. Environmental Conditions Update	Identification of Henslow's Sparrow habitat potentially affected by project activities	June - July 1997	#		MTO documented that no Henslow's Sparrow habitat was found within the right of way and no additional studies are planned	
3. EAR Addendum	Provide fully documented responses to government and public concerns emerging from EAR review	November 1997				



APPENDIX C SELECTED ADDITIONAL CORRESPONDENCE





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March 1, 1984

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135 ouest, avenue St. Clair Bureau 100 Toronto (Ontario) M4V 1P5

Ms. Carolyn Southey
Ministry of Transportation and
Communications
Central Region
5000 Yonge Street
Willowdale, Ontario
M2N 6E9

Dear Ms. Southey:

Re: Highway 6 Corridor Study Freelton to North of Guelph

Thank you for allowing us the opportunity to review the Highway 6 corridor study prior to starting work on your individual environmental assessment document. This report has demonstrated to our satisfaction that the easterly alternatives, including improvements to the existing Brock Road, will not fulfill the study objectives (relieving congestion on Brock Road).

In light of information presented in this report, it seems appropriate for your Ministry to concentrate further investigations within the recommended study area. It is our understanding, that your further studies will involve the usual presubmission consultation process, in order to identify and resolve any site specific concerns.

If you wish to discuss these comments or any other aspects of your study in greater detail, please feel free to contact me at 965-4139.

Yours truly,

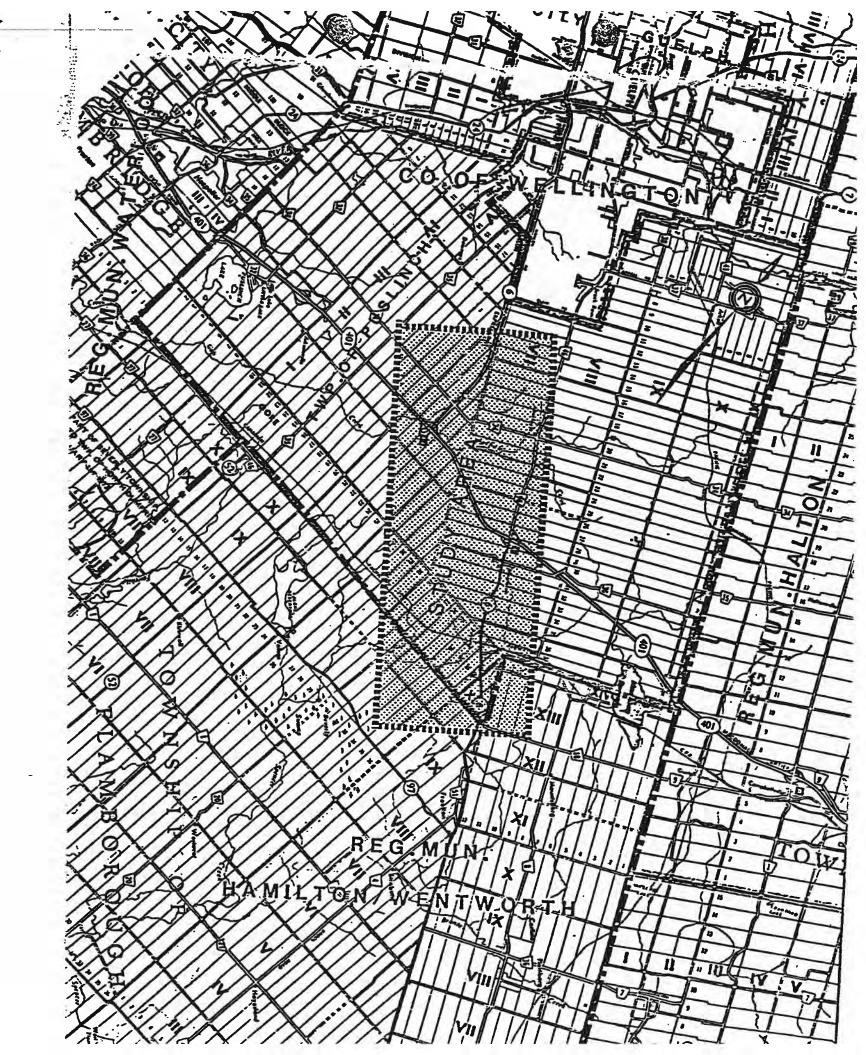
Kay Morgan

Environmental Planner

Environmental Assessment Branch

KM/ma







Ministry of Agriculture and Food

Foodland Preservation Branch Queen's Park TORONTO, Ontario M7A 2B2

TELEPHONE: 416-965-9433

February 13, 1987



Mr. Ian K. Upjohn Senior Environmental Co-ordinator Fenco Engineers Inc. 33 Younge Street TORONTO, Ontario M5E 1E7

Dear Mr. Upjohn:

Re: W.P. 65-76-05 Highway Number 6 - Freelton to Guelph Route Location and Preliminary Design Study. Agriculture Impact Assessment - Hollenback, Sutton, Winer Properties.

As requested, staff have had an opportunity to conduct site visits. review relevant information and arrive at an assessment of the agricultural impact of the proposed route alternatives on the above noted farm properties. The following represents this evaluation and the Ministry's position regarding the route with the least impact upon the agricultural resource.

Soils and C.L.I. Classification:

According to the Wellington County Soil Survey at a scale of 1:63,360 and the Canada Land Inventory at a scale of 1:50,000 the subject properties have the following agricultural capability ratings.

Land Owner	Total Farm	C.L.I.	Lands Affected	C.L.I.
George Sutton (120 acres)	Guelph Loam (Hwy. #6 to	1 73T 3		
(120 acres)	frontage) Donney brook sandy loam (Crief Rd.	6 t 6 t f 4 m	Donney brook sandy loam .	6 t 6 4 f 4 m
	frontage) Dumfries loam (Central Area)	3fm ⁵ 5t ⁵	Dumfries loam	. 3fm 55 t ⁵
Wm. Winer (126 acres)	Guelph loam (Hwy, #6 frontage) Dumfries loam	1 ⁷ 3T ³ 3fm ⁵ 5t ⁵	Dumfries loam	3fm 55 t 5
	(Rear Portion)	orm ob	Domittee Toam	этш ээ Б



GOOD THINGS GROW IN ONTARIO

Land Owner	Total Farm	C.L.I.	Land Affected	C.L.I.
F. Hollenback	Donney brook sandy loam	6 5 4m 4m	Donney brook sandy loam	$6_s^{t^6} 4_m^{f^4}$
	Killean loam	5p	Killean laom	5p

- 2 -

Based on this information as well as site visits it is obvious that the easterly route would affect a greater acreage of higher quality agricultural land (Sutton and Winer farms). The three identified alternative routes affect marginal crop land (Class 6^{t6}_{5} 4^{f4}_{m} and 5p). on the Hollenback farm.

It needs to be noted that the mapping utilized is at a scale where site specific accuracy may be difficult to obtain and in fact may be incorrect. Without conducting a site $_{7}$ specific soils analysis it may be that the Guelph loam soils (Class $1\ _{3}T\ _{3}$) extend further to the west than is identified on the soils survey map. If this is the case then the most easterly proposed route would in fact be affecting land of a higher agricultural capability rating than that identified on the existing maps. Considering only the quality of the agricultural land it is clear that the easterly route is less desirable in that more prime agricultural land would be affected. In providing a proper agricultural impact assessment, however, factors other than soil quality must be considered.

Farm Operations and Impact

Wm. Winer:

Mr. Winer owns 126 acres at the subject site. A vacant livestock barn and associated farm buildings exist on the property. The barn has been utilized for dairy purposes, it could effectively be used for beef housing.

Mr. Winer rents a portion of the workable land to Mr. Sutton.

Mr. Winer is in the process of retiring from farming.

Impact

The lands affected by the routes are used for forage, pasture or cash crop purposes. No matter which route is selected some agricultural land will be taken out of production.

Mr. Winer will have no access to his fields no matter which route is selected.

The most easterly route allows for the creation of fields to the west of the proposed highway which will be of a size useful for cultivation. The two westerly routes would create smaller fragmented parcels, less easily worked.

The two westerly routes would seriously impact on the woodlot at the rear of the farm.

George Sutton:

Mr. Sutton owns 120 acres at the subject site and rents additional lands including some of Mr. Winer's farmland. Mr. Sutton operates a dairy farm milking 34 cows. The Suttons have farmed in the area for a long period of time and plan on staying on the farm.

Impact

The lands affected by the routes are used for forages and cash crop purposes. No matter which route is selected some land will be taken out of agricultural production.

Selecting the most easterly route would create a large workable field to the west of the proposed highway. This field would be of a size useful for cultivation purposes whereas the two westerly routes would create smaller fargmented parcels less desirable from a cultivation perspective.

Selecting either of the two easterly routes would create drainage and salt spray problems for the Sutton operation. This issue is of a major concern from an agricultural perspective.

Franz Hollenback:

Mr. Hollenback owns 200 acres at this site and rents an additional 800 acres in the area for cash crop and feed production purposes. A 220 head purebred cow/calf operation is being developed on the farm. At present there are approximately 150 purebred cows on the farm.

Mr. Hollenback purchased the land since 1980 for cow/calf and horse breeding purposes. A significant capital investment is represented in the cattle and horse breeding stock.

Impact

The lands affected by the westerly two alternative routes are crucial to the cow/calf operation (30 acres fronting on Crief Road). These lands are utilized as a natural winter feeding and shelter area for the cow/calf operation. This area is seen to be of extreme importance to the operation in that a feeding/shelter area is provided without the outlay of vast sums of money for barn facilities.

Alternative Winter Feeding/Shelter Area

The subject and abutting lands (Lillycrop) were walked to determine whether an alternative natural winter feeding/shelter area could be found.

1. Hollenback Farm.

It was determined that no similar acceptable winter feeding area existed on the Hollenback farm. The affected lands (30 acres fronting on Crief Road) are essentially the only lands on the farm well suited to such a feeding/shelter area. The subject lands are easily accessible as well as providing good protection from winter winds in that the treed area provides protection form the south and west and the gravel hills provide protection from the east and north. The only other possible consideration was the area to the south of the wooded area. This area, however, has direct exposure to the south and west as well as requiring the construction and winter maintenance of a long lane (3000 feet plus) from the farm buildings.

2. Lillycrop Land.

As directed by yourself, staff traversed the Lillycrop land along with

Mr. Scott Davison, Mr. Hollenback and Mr. Phil Ritter to assess the possibility of an adequate and acceptable winter feeding area being available on this property. Based on a thorough site visit it was determined that no acceptable area existed on this property.

The only possible site was the abonardoned gravel pit in the centre of the wooded area. This site was ruled out for the following reasons.

- i) The two westerly routes would traverse this gravel pit area and destroy its potential as a winter feeding area.
- ii) The gravel pit area if it would be used was small (at least 1/3 the size of the existing area) and unable to accommodate the size of the cow herd needing protection.
- iii) If a site were found in this area a road in excess of 3000 feet would need to be constructed and maintained. Both the road construction costs as well as the winter maintenance requirements were seen to be impractical and less than ideal.

Agricultural Impact Assessment - Route Selection

It is obvious that no matter which of the three possible routes are selected farm owners will be impacted to one extent or another. The objective from an agricultural perspective is to identify and select the route which has the <u>least overall</u> impact on the agricultural resource in the area. This being the objective of the task we would indicate that the easterly route has in our opinion the least impact on the agricultural resource. This position is being taken conditional upon several design and access issues being resolved.

Reasons for Position.

- 1. Mr. Hollenback's winter feeding/shelter area is crucial to his purebred cow/calf operation. No other similar acceptable feeding area was found on his land or on Mr. Lillycrop's land. If this natural feeding/shelter area were disturbed or removed the entire cow/calf operation would be in jeopardy.
- 2. The easterly route would create field areas to the west of the proposed highway of a size useful for cultivation. The two westerly routes would create smaller fragmented fields.
- 3. Mr. Sutton would loose productive agricultural land no matter which route was selected. The drainage and salt spray impact would occur with either of the two easterly routes. This impact would need to be mitigated no matter which route were selected.

Mitigation Measures Required

In supporting the easterly route we wish to clearly make it known that several mitigation measures <u>must</u> be undertaken to lessen the adverse impact of this route on the Sutton and Winer properties.

1. The drainage and salt spray impact on the Sutton property needs to be recognized and measures implemented to remedy the problem.

. . . 5

2. If the easterly route is selected Mr. Winter will no longer have access to his land to the west of the new highway. Access to Mr. Winer's property must be provided either by way of an underpass or a right of way across Mr. Sutton's property.

In conclusion, the Ministry supports the easterly most route for the above noted reasons.

If you require further information concerning this matter, please feel free to contact Harold Flaming at 1-519-856-0941.

Yours very truly,

Donald Dunn Director .

Harold Flaming/kg

cc - Harry Vander Kooij

- Shirley Bailey

- Harold Flaming



Ministry of

Transportation and

Communications.

Office of the

Minister

c.c. L. House I. Upjohn Original to A. Minchey

OCT, SZ 1986

RECTIVED

OCT 25 1986

CENTRAL REGION PLANNING & DESIGN

Fersi on Block Guest a Park Terer ... Ontario M7A 128 416/965-2101

Mr. W. Sears, Chairman Regional Municipality of Hamilton-Wentworth P.O. Box 910 Hamilton, Ontario. L8N 3V9

Dear Mr. Sears:

During the past 2 years the Highway 6 Project Team under the direction of the Steering Committee has worked diligently to develop a plan that will improve Highway 6 between Freelton and Guelph. The purpose of the study was to establish a route that will enhance Highway 6 continuity and reduce traffic in local communities while minimizing environmental impacts.

I have reviewed the route study results and concur with the technically preferred alternative C-7. This route bypasses the communities of Puslinch and Morriston on the west by following the approximate middle of Puslinch Township Concession 7 to Hwy. 401.

The Project Team will now proceed with the preliminary design of the selected route. I trust that the Team will continue to receive positive direction from the Steering Committee as well as the Technical Committee. Upon satisfactory conclusion of the preliminary design stage an environmental assessment report will be prepared and forwarded to the Ministry of the Environment for the Government review.

I very much appreciate the support of your Council and look forward to its continued cooperation.

Yours sincerely,

ORIGINAL SIGNED BY BON. ED FULTON

MAILED OCT 2 1990

Ed Fulton Minister

MINISTERS OFFICE

EF/HVK/mw

cc: Minister's File M.P.P. File (2) B.D. Riddell G.R. Browning P.D. Billings

A. Wittenberg J. Percy H. Vander Kooij

20 0 1,000 2 0

news release

FOR IMMEDIATE RELEASE 06/11/86

Ed Fulton announces selection of Highway 6 bypass route

Nov 25, 2000

TORONTO -- Ontario Minister of Transportation and Communications Ed Fulton has approved a new Highway 6 bypass route between Guelph and the Town of Freelton.

"I am especially pleased this route has been endorsed by the five municipalities (County of Wellington, City of Guelph, Township of Puslinch, Municipality of Hamilton-Wentworth and Town of Flamborough) it affects," said the minister. "When completed, it will improve the level of service, reduce accidents and traffic congestion in the area."

The selected route will follow Highway 6 northerly from Freelton to the Wellington County boundary, then bypasses the communities of Puslinch and Morriston to the west and ties into Highway 401.

Traffic will then be able to follow Highway 401 west to the Hanlon Expressway, leading into the City of Guelph.

"This route has many benefits, including a significant increase in the level of safety on this part of the Highway 6 corridor. It will also minimize the environmental impact and improve access in and out of Guelph," said Fulton.

When preliminary design of the bypass is completed, an environmental assessment report will be prepared and forwarded to the Ministry of Environment for review.

- 30 -

From: Public and Safety
Information Branch
1201 Wilson Avenue
DOWNSVIEW, Ontario
M3M 1J8
Telephone: (414) 248 3501

Same letter sent of the following:

Mr. W. Sears, Chairman
Regional Municipality of Hamilton-Wentworth
P.O. Box 910
Hamilton, Ontario.
L8N 3V9

His Worship Mayor J. A. Smith Town of Flamborough P.O. Box 50 Waterdown, Ontario. LOR 2H0

Mr. M.R. Bridge, Warden County of Wellington 70 Woolwich St. Guelph, Ontario. N1H 3T9

His Worship Mayor J. Counsell City of Guelph 59 Carden St. Guelph, Ontario. N1H 3A1

Mr. A. MacRobbie, Reeve Township of Puslinch R.R. #3 Guelph, Ontario. N1H 6H9

Air Quality Impact Assessment of the Proposed Hwy. 6 Realignment (Freelton to Guelph Section)

The proposed realignment will replace the two-lane section of Hwy. 6 between Freelton and Guelph with a new four-lane section, running mainly to the southwest of the current route. The project will include a number of lane improvements to Hwy. 401 and Hanlon Expressway. The new route will miss Morriston and Puslinch thus alleviating the traffic and associated environmental consequences currently experienced by these communities. However, it will run closer to a small number of existing rural homes and a housing subdivision that is currently under construction. The purpose of this assessment is to estimate the potential air quality impacts of the new Hwy. 6 traffic on the inhabitants of these specific homes.

Road vehicles emit significant quantities of carbon monoxide (CO), oxides of nitrogen (primarily NO and NO₂), hydrocarbons (HC), and particulate matter (PM). The experience gained in a rigorous air quality impact study for the Hwy. 404 widening project indicates that, of these pollutants, only NO₂ and CO are emitted in large enough quantities to raise their ambient concentrations to the magnitude of their respective provincial ambient air quality criteria (AAQC). Therefore, the rest of this assessment deals only with these two pollutants.

The ambient concentration of pollutants experienced by residents living near highways depends primarily on the following variables:

- traffic volume,
- composition of the traffic (light- vs heavy-duty vehicles),
- vehicle exhaust emission rates,
- distance from the highway,
- meteorological conditions (primarily, wind velocity), and
- background ambient concentrations of pollutants.

In circumstances where large air quality impacts are expected, a detailed study, accounting for all these variables, may be warranted. However, where the potential impacts are smaller, a worst-case scenario approach may be adopted, whereby one adopts best estimates for those parameters that are predictable with a relatively high degree of accuracy while using worst-case estimates for the remaining parameters. If the ambient pollutant concentrations thus estimated fall within the AAQC, then one can assume that the site will not experience any exceedence of these criteria throughout the prediction period.

The prediction period for the current study extends to 2011, and worst-case assumptions are used for traffic volume, emission rates, and meteorological conditions. The worst case traffic volume is the one that prevails during the peak hour. The study team estimates that the annual average daily traffic (AADT) on the new Hwy. 6 section

will reach 32,960 vehicles in 2011. It is anticipated that the bulk of this traffic involves commuting. Under these conditions the maximum peak hour traffic volume is expected to be 12% of the AADT. This would indicate a peak hour traffic volume of approximately 4,000 vehicles. Based on current observations on Hwy. 6, 80% of these vehicles are expected to be automobiles and light-trucks while the remaining 20 % primarily heavy-duty trucks.

Vehicle emission rates are the most difficult parameter to estimate. They depend on a very large number of variables, including the composition of the traffic, vehicle and fuel characteristics, driving cycle (speed profile), road grade, and climatic conditions. Progressively stricter vehicle emission standards have resulted and will continue to result in lower emission rates (mass of pollutant emitted per vehicle per distance travelled). In future, similar but more modest improvements may be expected from stricter gasoline and diesel fuel standards and the adoption of cleaner alternative fuels. These mechanisms ensure that vehicle emission rates will decline with time. Thus, the worst-case assumption entails adoption of current emission rates, adjusting only for historically established fleet turn-over rates to arrive at figures appropriate for the 2011 vehicle fleet age distribution. In this analysis, the base emission rates are based on those deduced in the Hwy. 404 study, with only an adjustment for the higher heavy-duty diesel truck presence on Hwy 6 (namely 20% rather than 6%). These trucks emit more oxides of nitrogen but less carbon monoxide than automobiles and light-trucks. The resulting NO_x and CO emission rates for Hwy. 6 are listed below. Note that these rates are much higher than indicated by current new vehicle emission standards.

- Fleet NO_x emission rate: 4 gram/vehicle-mile
- Fleet CO emission rate: 6.3 gram/vehicle-mile

The worst case meteorological conditions entail the lowest credible wind speed (1 metre/second), a wind direction almost parallel to the highway (at 5 degrees to highway), and the most stable mixing condition represented by a stability class of F. It is assumed that this worst-case meteorological conditions will prevail during the peak traffic hour, a very rare event, resulting in the highest credible ambient pollution concentrations.

The best source for background ambient concentrations is the Ministry of Environment and Energy (MOEE) who have monitoring stations in Hamilton as well as in Guelph. One-hour annual averages recorded in Hamilton are most appropriate for this study. The MOEE 1994 Comprehensive Report on Air Quality in Ontario readily provides this information that is reproduced below:

- Background NO₂ concentration (annual mean value): 0.02 ppm
- Background CO concentration (annual mean value): 0.5 ppm

The distance of the nearest homes to the new highway section are in the range of

approximately 100 to 250 metres. For the worst case, namely 100 m, the concentrations of NO2 and CO that are expected to occur during the worst-case scenario developed above were predicted by using the results of the Hwy 404 study. These results apply, strictly speaking to the year of 2011 and are listed below, along with the corresponding AAQC, in parenthesis:

Worst-case ambient NO₂ concentration: 0.05 ppm (AAQC: 0.2 ppm)
 Worst-case ambient CO concentration: 1 ppm (AAQC: 30 ppm)

The predicted worst-case concentrations are much lower than the current provincial ambient air quality criteria. Therefore, the air quality consequences of this project for the inhabitants of nearby homes, at 100 metres or further from the edge of the highway, are expected to be well within provincial guidelines in the foreseeable future.

Toros Topaloglu, Ph.D., P.Eng.

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APPENDIX D SELECTED ADDITIONAL MINUTES OF MEETING



The Committee was advised that the subject ramps are located in the north half of the interchange because of the restrictions to the south created by the traffic weave on the Hanlon between vehicles from Highway 401 east and west destined for County Road 34 and the Hanlon northbound.

(xii) E. Traczyk - has secured a 4 ha severance on his property which will be affected by the Hanlon/County Road 34 interchange.

At the time of preparation of these Minutes, the Project Team had met with and received input from all directly affected property owners or their representatives.

The Committee was advised that "indirectly" affected owners will be provided with the opportunity for input at the upcoming Public Information Centre scheduled for the spring of this year. Proposed mitigation measures will be described at the information centre. In response to G. Cousins and T. Bacigalupo's query regarding noise mitigation, C. Southey explained M.T.C.'s policy of not providing off-right-of-way noise attenuation.

4. Alternative Alignments

(i) H. Vander Kooij presented two alternative alignments in the vicinity of Crieff Road. The alternatives were developed to examine the tradeoffs associated with moving the alignment westerly to address the aforementioned concerns of Messrs. Sutton and Winer (see attachment).

The analysis of only agricultural impacts of the three alignments to the Sutton, Winer and Hollenbach operations suggests that the alignment currently preferred by the Project Team requires the least amount of property for right-of-way, the least amount of active agricultural land for the right-of-way, creates the most viable severances and the least amount of pressure for development for other uses (i.e. residential) and results in the least amount of active agricultural land being taken out of production.

The positive effects of a more westerly alignment in reducing impacts to the D. Stewart property were noted by G. Cousins.

ACTION BY

(ii) I. Upjohn advised the Committee that the Project Team had met jointly (January 23, 1987) with H. Flaming (Ontario Ministry of Agriculture and Food area representative) and G. Strachan (President, Wellington County Branch of the Ontario Federation of Agriculture) to discuss the alternatives in question. Both gentlemen agreed with the Project Team assessment, particularly with respect to the amount of production and the adverse affecs to the capital intensive Hollenbach livestock operation (i.e. displacement of grain handling area and winter feedlot). They subsequently confirmed their opinions as a result of meetings on January 27 with Messrs. Sutton, Winer and Hollenbach at their farms.

ACTION BY

A. McRobbie and T. Bacigalupo raised two issues with respect to the assessment of the alternatives:

- When advised that the Canada Land Inventory mapping for agricultural capability suggests that the soils affected on the Sutton farm by the preferred alternative are classified as having relatively significant limitations in terms of crop production, they expressed concern over the accuracy of the mapping.
- When advised that, in the opinion of the aforementioned agricultural representatives, the unique characteristics of the Hollenbach feedlot could not reasonably be recreated by relocating it on the farm, they questioned whether it could be relocated on the adjacent landlocked Lillycrop remainder parcel, given that Mr. Hollenbach would be given right of first refusal if said parcel is in fact purchased and disposed of by the provincial government.

Contd/...7

The Project Team agreed to the Committee's request that the possibility of relocating the feedlot on the Lillycrop property be investigated either through the use of Ministry of Agriculture and Food technical resources or through another external objective source.

A. MacRobbie and T. Bacigalupo expressed a desire to have the alignment as close to the mid-concession lot line as possible.

(iii) With respect to other design elements, A. MacRobbie and T. Bacigalupo raised concerns over the fact that the proposed alignment of the Connection Road between new and existing Highway 6 will not readily facilitate the introduction of a link to the aggregate extraction areas flanking Concession Road 2 west of Concession Road 7. H. Vander Kooij explained that the intent of the proposal is to optimize land use in the immediate vicinity of the roadway and meet the Ministry's geometric design standards. The design, which was endorsed at the previous Technical Committee Meeting, incorporates provision for a westerly extension. This will be a municipal initiative.

(iv) The representatives from Puslinch Township agreed that the grade separation of the new Highway 6 route and Crieff Road is a desirable feature.

5. Future Meetings

Another Technical Committee meeting will be required to resolve the cited outstanding issues. H. Vander Kooij will contact A. Holmes to establish a date.

6. Other Business

T. Bacigalupo reiterated the Township of Puslinch's earlier concerns to the Ministry with respect to their perceived need for an additional public information session at this time to ensure continued public support.

ACTION BY

FENCO

H. Yander Kooij The Committee agreed that although public support is a significant concern, in the interests of efficiency, the intention of the next information centre will be to present the recommended alignment and preliminary design elements and not the alternatives being considered at this time.

ACTION BY

H. Vander Kooij advised the Committee that the additional investigations required will lead create some uncertainty as to study timing. It was agreed that M.T.C. will forward a letter to each of the participating municipalities outlining the status of the study and anticipated timing.

There being no other business, the meeting was adjourn ed at 12:40 p.m.

Ian K. Upjohn

c.c.: Attendees

A. Minchev - Fenco Engineers.

HIGHWAY 6 - FREELTON TO GUELPH ROUTE LOCATION AND PRELIMINARY DESIGN STUDY

DATE:

Wednesday, January 28, 1987 - 10.00 a.m.

PLACE:

The Loft, City of Guelph Recreation & Parks Dept.

PRESENT:

A. Holmes G. Cousins Wellington County Wellington County

R. Funnell M. Venditti

City of Guelph City of Guelph

J. Lane

Town of Flamborough

A. MacRobbie T. Bacigalupo K. Hartung

Township of Puslinch Township of Puslinch

Township of Puslinch M.T.C. H. Vander Kooij

J. Desrochers C. Souther P. Howes

M.T.C. M.T.C. M.T.C.

L. House I. Upjohn Fenco Engineers Inc. Fenco Engineers Inc.

PURPOSE:

To review study progress with respect to the development of preliminary design alternatives.

PROCEEDINGS:

ACTION BY

Minutes of Previous Meeting

The Minutes of Technical Committee Meeting No. 10. convened on November 10, 1986, were adopted without revision.

Preliminary Design Alignment

- L. House provided a review of and the rationale for the recommended preliminary design, to supplement the presentation of November 10, 1986, highlighting modifications made in the interim and major areas where design issues have yet to be resolved. These include:
- (i) Resolution of drainage issue at Concession Road 12. Flamborough area.
- Realignment of Campbellville Road Gore Road (ii) to facilitate future regional through traffic. The Region of Hamilton - Wentworth has endorsed the principle of the realignment; the Town of Flamborough prefers an alternative scheme to that recommended by the Project Team.

(iii) The widening of existing Highway 6 will include a full 5-lane cross-section (continuous left-turn lane) between Gore Road and Maddaugh Road (vis-a-vis previously recommended 4-lanes with 1m flush median and no protection for a fifth lane) for safety reasons.

- (iv) The Maddaugh Road intersection will be signalized with a flashing amber on the north leg to warn of the signals.
- The left-turn lane on the north leg of the (v) Maddaugh Road intersection will be extended north to a point opposite the Mathies farm entrance to provide for safer access to the property for left-turning vehicles.
- Discussions with directly affected (i.e. property required) property owners has resulted in the development and analysis of two additional alignment alternatives in the Crieff Road area (refer to Item 4 herein).
- (vii) The design now includes a proposal for grade separation of the new highway route and Crieff Road (over), including no interchange between the two, for the following reasons:
 - There are no warrants for signals at this intersection. However, based on potential safety problems created by an at grade intersection confronting high speed traffic coming south from 401, the Ministry now prefers a grade separation at this location;
 - (b) The Ministry has decided not to introduce ramps at this location since the property impacts and costs associated with the interchange outweigh the provision of access to such a low volume of forecast turning traffic (year 2004 AADT of 540) for which reasonable alternative access exists at existing Highway 6 and Maddaugh Road.

ACTION BY

Contd/...3

(viii) Fenco is preparing a drainage strategy for the Hanlon/County Road 34 interchange in an attempt to comply with the Grand River Conservation Authority's recommendation that the County Road 34 profile and the Galt Creek flood plain remain unaltered. The study includes investigation of downstream remedial measures at the Hanlon. The interchange scheme and associated impact analysis will be completed once the drainage strategy has been determined.

In response to A. Holmes' query as to the definition of the limits of M.T.C.'s jurisdiction at County Road interchanges with the highway, H. Vander Kooij indicated that the Ministry would prefer to retain full control of the interchange for the full length of the speed change lanes. The Ministry will define all jurisdictional changes and responsibilities, with imput from participating municipalities, through the offices of its appropriate regional municipal engineer.

K. Harting expressed concern over the maintenance of the Calfass Road after it is discontinued.

In response to T. Bacigalupo's concern over the use of County Road 46 north of Aberfoyle by increased E-W traffic on County Road 34, P. Howes advised that the Hanlon/County Road 34 interchange has been introduced to rectify safety problems and is not expected to draw significantly more traffic to County Road 34.

3. Property Owners Meetings

The purpose, conduct and results of the December 10, 1986 meetings with owners directly affected by the proposed preliminary design scheme were presented by H. Vander Kooij.

All of the owners were identified and those areas were major concerns were expressed are as follows:

- (i) D. Cummins concern over the loss of trees on Highway 6 frontage. Unavoidable due to lateral clearance requirements.
- (ii) J. Bell concern over flooding of basement as a result of previous widening. Urban cross-section, curb/gutter and reverse shoulder should rectify the problem.

Contd/...4

ACTION BY

(iii) B. Lillycrop - would like Ministry to purchase landlocked remaider parcel. Concern over potential affects on exposure of farm implement sales business from new highway route.

The Committee was advised that there have been no commitments made regarding the disposal of any remainder parcels which may be purchased by M.T.C. The Ministry attempts to retain as much flexibility as possibly but normally provides right of first refusal to the adjacent landowner. Landlocked parcels are not put on the open market. The committee was also advised that the Ministry of Government services, as the disposal agent, will be heavily involved in any property transactions.

- (iv) D. Stewart expressed great concern over severance of his lot which is currently used for storage of salvage materials and as a garden plot.
- (v) F. Hollenbach concern over impacts to his winter feedlot and grain handling area and the associated effects on the integrity of his cow/calf operation.
- (vi) G. Sutton concern over the location and nature of the farm severance created and its effect on his dairy operation. Also concerned about potential salt spray effects and access to the remainder parcel via Crieff Road with heavy equipment.
- (vii) W. Winer concern over amount of land landlocked due to farm severance, plus loss of woodlot on remainder parcel.
- (viii) F. Metcalf concern over impact to integrity of farming operation and loss of property value created by severance.
- (ix) N. Stewart concern over impacts to woodlot.
- (x) L. Descary concern over proximity to their home and loss of frontage.
- (xi) E. & B. Wozniak concern over proximity of Hanlon/County Road 34 interchange ramps to their home and impacts to their pond and associated Galt Creek headwater springs.

Contd/...5

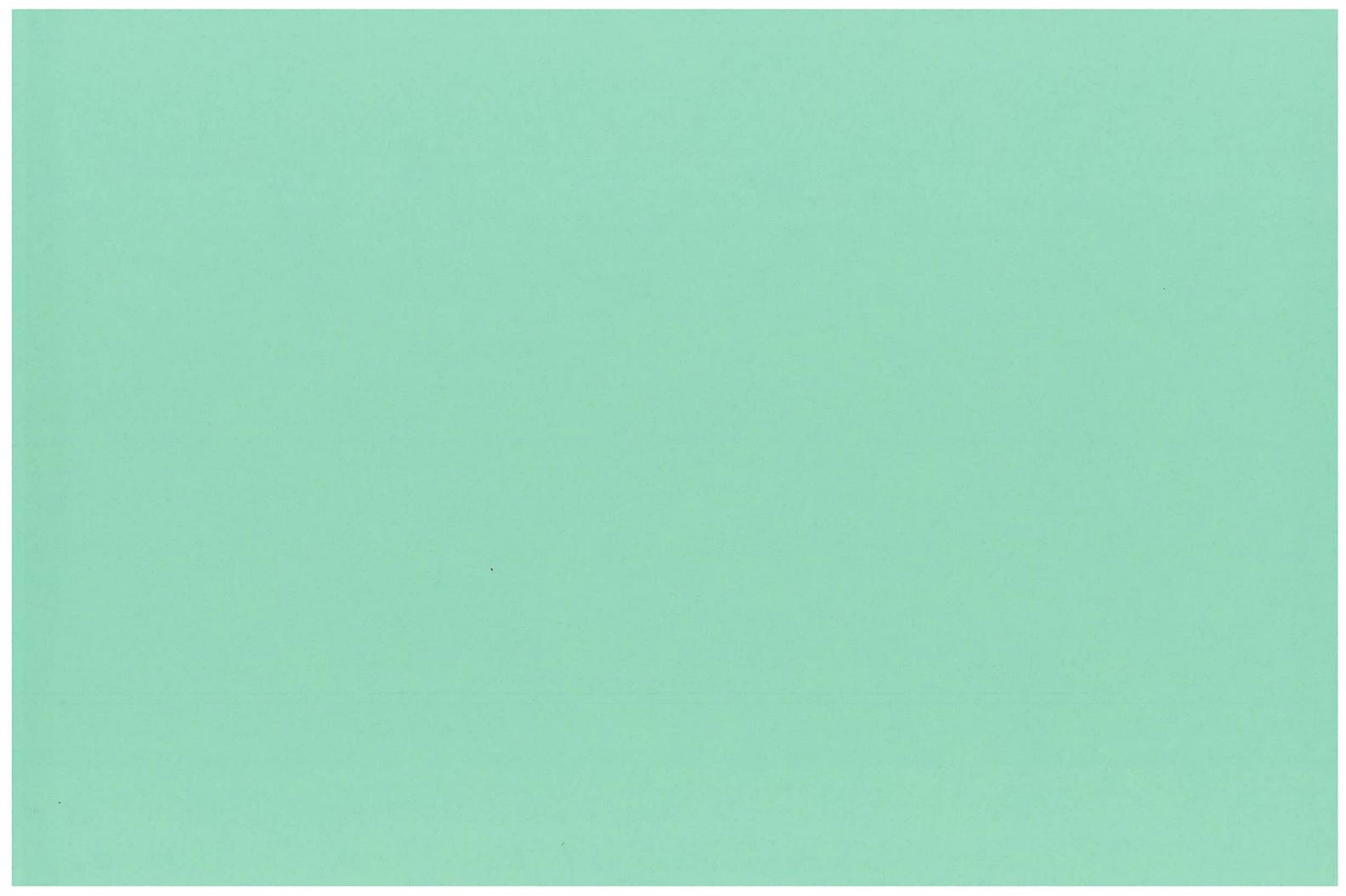
ACTION BY

HIGHWAY 6 - FREELIGON TO GUBLPH ROUB LOCATION AND PREMINARY DESIGN AIGHWAY 6 AITERNATIVE ALIGHMENTS AT CRIEFF ROAD COCHEMATIC ONLY) SCALE 1:5000 23/01/8

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APPENDIX E ERRATA AND POINTS OF CLARIFICATION



ERRATA AND POINTS OF CLARIFICATION

Volume 1

Page 1 of Preamble, para 3, line 5 - change "Highway 97" to Hamilton-Wentworth Road 97".

Page 1-4, para 1, line 4 - expand reference to Figure 5.2 to Figures 5.2 through 5.5.

Page 3-7 - After Stage 3, add new Stage to identify Minister of Transportation's public announcement of Selected Route and change Stages 5 and 6 to Stages 6 and 7, respectively. After Stage 7, add Stage 8 to reflect public notification of EA review opportunities.

Figure 3.4 following Page 3-16 - Add Step 0 to show public notification of project initiation (referred to as Stage 1 of public involvement on Page 3-6).

Page 4-4, para 6, line 3 - change endnote reference from (11) to (12).

Pages 4-6 and 4-7 - remove reference to Figure 4.1 illustration of wetlands, springs, watershed boundaries and constituent watercourses. Wetlands and significant springs are shown in Figure 4.2. Reference should be made to Volume 3 Technical Paper 9 - Background Fisheries Information and Impact Assessment for watershed boundaries and constituent watercourses.

Page 4-8, para 1, line 2 - change to "...published and unpublished fisheries investigations in the study area (21, 22, 23, 24, 25, 58, 59, 60) were used most extensively to determine existing conditions and trends."

Page 4-36, Table 4.6, Hydrology, second point - change to "Wetlands associated with West Bronte System are provincially significant and serve important hydrologic function and enhance wildlife/fisheries habitat diversity" to reflect wetland complexing that occurred in 1991.

Page 4-41, Reference 14 - change to Ministry of the Environment, "Water Well Records for Ontario: Waterloo, Wellington, 1946-1979", Water Resources Bulletin 2-26 Ground Water Series, MOE Water Resources Branch, Toronto.

Page 4-42 - Add, as Reference 34, Fernald, M.L. 1970. <u>Gray's Manual of Botany</u>. Eighth Edition, D. Van Nostrand Company, Toronto. and increase the numbering of all subsequent references accordingly.

Page 4-42, Reference 36 - change to Ecologistics 1976, "Hamilton-Wentworth Region Environmentally Sensitive Areas Study".

Pages 5-5 to 5-40 - Sections 5.3 and 5.4 could be restructured to reflect more recent Provincial Highways Class EA definitions of Alternatives to the Undertaking and Alternative Methods of Carrying Out the Undertaking (i.e., Section 5.4.1 Upgrading of Existing Municipal Road Network will become Section 5.3.1.3, to be included in Alternatives to the Undertaking, and Section 5.4 Alternative Methods of Carrying Out the Undertaking will commence with consideration of the Corridor concepts). However, as indicated in the response to the MOEE Environmental Assessment Branch, the document complied with the contemporary requirements.

Page 5-20, following para 12 and preceding discussion of alignment alternatives - Add the following description of closure of Route Location phase of study

"The Technically Preferred Route was approved by the Technical Committee (February 20, 1986) and the Steering Committee (May 27, 1986). It was then presented publicly at an information centre on April 30/May 1, 1986, where it received general approval. The route

was then presented to a joint session of municipal councils on June 19, 1986 and subsequently received formal municipal endorsement during the summer of 1986 (refer to council resolutions in Appendix B). The Minister of Transportation formally announced the selection of the Technically Preferred Route to the municipalities (via correspondence) on October 21, 1986 and to the public (via press release) on November 6, 1986 (refer to Appendix B). This completed the Route Location phase of the study and the Project Team proceeded to the Preliminary Design phase, starting with Step 7 of the process illustrated in Figure 3.4, in which the alignment of the new route was defined."

and delete the first paragraph in existing Section 5.4.4.1 accordingly.

Page 5-22, para 7, line 3 - change reference to Technical Committee from January 18, 1987 to January 28, 1987.

Page 5-23, para 2, line 3 - change reference from Appendix C to Appendix B.

Page 5-23, para 7 (Section 5.4.4.2), line 2 - pluralize "alternative".

Page 6-17, para 4, line 9 - change "...125-18 m from the pavement (53)" to "12 - 18 m from the pavement (53)".

Page 6-19, para 5, line - delete the sentence and replace with "No instream work will take place between September 1 and June 1."

Page 6-28, para 6, line 8 - This sentence requires completion and should read as follows:

"In addition, the Township of Puslinch and Town of Flamborough currently enforce applicable noise control by-laws. In Puslinch, by-law timing constraints restrict construction operations between 11:00 p.m. and 7:00 a.m. Sunday through Thursday and between 1:00 a.m. and 7:00 a.m. on Friday and Saturday. No specific references to any identified noise sensitive locations within the study area are included in either municipal by-law."

Volume 2

Appendix B (Selected Correspondence) - Add:

- March 1, 1984 letter from Ministry of the Environment to MTO (Morgan to Southey) re concurrence with study area definition per reference on Page 3-15 of Volume 1;
- February 13, 1987 letter from Ministry of Agriculture and Food to Fenco Engineers Inc. (Dunn to Upjohn) re alignment impacts to agricultural operations per reference on Page 5-23 of Volume 1; and
- Minister of Transportation's announcement of Selected Route (October 21, 1986 and November 6, 1986) per new reference on Page 5-20 of Volume 1.

Appendix C (Selected Minutes of Meeting) - Add:

• Minutes of Technical Committee No. 11 (January 28, 1987) per reference on Page 5-22 of Volume 1.

Volume 2 clarification material has been added to Appendix C (Selected Additional Correspondence) and Appendix D (Selected Additional Minutes of Meeting).

