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Ontario Ministry of Transportation

FINAL

TRANSPORTATION ENVIRONMENTAL STUDY REPORT

Highway 6 – 500 m South of Highway 5 to 5th Concession East

Preliminary Design and Environmental Assessment Study

W.O 00-23011

April 2003

EO 00550/47539

Prepared by:

EARTH TECH

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CLASS ENVIRONMENTAL ASSESSMENT CATEGORY "B"

W.O 00-23011

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Preliminary Design and Environmental Assessment Study

Prepared for the Ministry of Transportation by:

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April 2003

The Public Record

Copies of this document have been filed with the following office of the Ministry of the Environment to be placed in the public record and can be viewed during normal business hours:

Ministry of the Environment
Hamilton Regional Office
12th floor
119 King St. W.
Hamilton ON L8P 4Y7

To facilitate public review of this document, copies have also been filed at the following locations for review during normal business hours:

Ministry of Transportation
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1201 Wilson Avenue
Toronto, Ontario
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The New City of Hamilton
Clerk's Department
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Hamilton, Ontario
L8P 4Y5

Flamborough Municipal Services Centre – City of Hamilton
(Formerly the Flamborough City Hall)
163 Dundas Street East
Waterdown, Ontario
L0R 2H0

Executive Summary

Highway 6 is an important transportation link providing an integral economic and commuter connection between the numerous nearby and growing communities and between Highways 403 and 401. Recently, Highway 6 has been widened to five lanes north of Highway 5 resulting in improved traffic operations and safety. In addition, the detailed design of Highway 6 from Highway 403 to just south of Highway 5 is currently underway. This work involves the construction of interchanges, a northbound truck climbing lane and a concrete median barrier, effectively transforming Highway 6 to a controlled access highway through this area.

However, there are increasing development pressures in the vicinity of the Highway 5/6 intersection and traffic volumes are expected to increase significantly over approximately the next twenty years placing additional pressures on Highway 6 and causing future capacity and safety concerns. The new development in the area must be carefully planned so as to protect for future transportation needs.

For these reasons, the Ministry of Transportation (the Ministry) initiated a preliminary design study in accordance with the Class Environmental Assessment for Provincial Transportation Facilities (July 2000) (Class EA) to proactively address these issues for the section of Highway 6 from 500 m South of Highway 5 northerly to 5th Concession East in the City of Hamilton.

Planning Alternatives Considered

In response to these issues, five planning alternatives were generated and comparatively evaluated:

- Planning Alternative #1 - Do Nothing
- Planning Alternative #2 - Promote Transit/Increased Vehicle Occupancy
- Planning Alternative #3 - Use Alternate Routes
- Planning Alternative #4 - Improve Existing Highway 6 Corridor
- Planning Alternative #5 - Construct New Route

Improving the Existing Highway 6 Corridor was selected as the preferred planning alternative for the study based on a detailed qualitative comparative evaluation. Since improving the Highway 6 corridor was selected as the preferred planning alternative, preliminary design alternatives were generated for both the Highway 5/6 intersection and the Highway 6 corridor (north of the Highway 5/6 intersection).

The Highway 5/6 Intersection

In terms of the Highway 5/6 intersection, it was concluded that it must be replaced with an interchange in order to accommodate future traffic capacity requirements. Various horizontal and vertical alignment alternatives were then considered for the proposed interchange. It was concluded that Highway 5 should

be shifted slightly to the north and Highway 6 should be shifted slightly to the east. The preferred vertical alignment configuration for grade separation was concluded to be Highway 5 over Highway 6.

Following confirmation of the horizontal and vertical alignments for the proposed Highway 5/6 interchange, a total of eighteen interchange configuration design alternatives were generated. These eighteen interchange alternatives were screened down to a "short-list" of five representing the most "reasonable" alternatives for addressing the problem statement:

- Interchange Design Alternative No. 1 - Parclo A4 Interchange
- Interchange Design Alternative No. 1A – Modified Parclo A4 Interchange
- Interchange Design Alternative No. 1B – Shifted Parclo A4 Interchange
- Interchange Design Alternative No. 5 – Buttonhook
- Interchange Design Alternative No. 5A – ½ Buttonhook, ½ Parclo A4

Interchange Design Alternative No. 1A was selected at the "Preferred Interchange Design Alternative" based on a detailed qualitative comparative evaluation, taking into account traffic safety and operations and the natural, socio-economic and cultural environment.

The Highway 6 Corridor

In terms of the Highway 6 corridor between Highway 5 and 5th Concession East, north of the proposed Highway 5/6 interchange, six corridor alternatives were considered. Since all six corridor alternatives would address the traffic capacity and safety requirements, an analysis of tall wall barriers and their relationship to safety was examined. This safety analysis determined that the need for tall wall barriers exists between the proposed interchange and Parkside Drive. Therefore, in order to minimize potential negative effects (i.e. loss of access) to local residents in the short term, Corridor Alternatives 1 and 2 were carried forward for further analysis:

- Corridor Alternative 1 includes four lanes with raised a median barrier within the interchange limits, a signalized intersection at Parkside Drive, and no changes north of the interchange limits;
- Corridor 2 is the same as Corridor Alternative 1, but includes wide paved shoulders throughout project limits.

Upon evaluation, Corridor Alternative 2 (Four lanes with a median barrier within the interchange limits and wide shoulders) was selected as the preferred Corridor Alternative based on traffic operations/safety and flexibility for the future.

The Preliminary Design Alternative

As a result, the preferred Preliminary Design Alternative consists of the following:

- Realign Highway 6 slightly to the east in the vicinity of the Highway 5/6 intersection;

- Realign Highway 5 slightly to the north in the vicinity of the Highway 5/6 intersection;
- Construct a Parclo A4 interchange in place of the existing Highway 5/6 intersection including ramps and a Highway 5 bridge over Highway 6;
- Construct a concrete median barrier (Tall Wall) within the interchange limits;
- Provide full illumination within the interchange limits;
- Install two new traffic signals at each ramp terminus;
- Relocate the traffic signal at Parkside Drive;
- Extend the twin 6.0 x 2.0 m concrete box and 4.27 x 1.56 m relief flow concrete box at Borer's Creek;
- Widen and fully pave shoulders within the interchange limits;
- Construct a concrete curb and gutter within the interchange limits; and
- Provide closed drainage within the interchange limits.

An Enhanced Agency/Public Consultation Program

As part of this study, an enhanced agency/public consultation program was undertaken. This included Notice of Project Commencement, Value Planning Workshops, Stakeholder Meetings, two Public Information Centres, an Information Session, and Notice of Completion to external agencies and the public. External agency and public respondents had a wide range of concerns in regards to how the preferred Preliminary Design Alternative would affect them in terms of access, scheduling, property requirements, and natural environmental effects with comments ranging from very supportive to extremely opposed. Extensive consultation was undertaken with the City of Hamilton, Ministry of Natural Resources, Conservation Halton, Hamilton Conservation Authority and local landowners.

Potential adverse effects and concerns associated with implementing the proposed improvements will be addressed through a series of recommended mitigation measures, commitments to further work, and the monitoring requirements outlined in this report subject to finalization during detail design.

The City of Hamilton Council endorsed the proposed design on December 11, 2002.

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1. INTRODUCTION

This Transportation Environmental Study Report (TESR) documents the Group 'B' Class Environmental Assessment (EA) process undertaken and conclusions reached for the proposed improvements to Highway 6 from 500 m South of Highway 5 North to 5th Concession East in the City of Hamilton (see Figure 1-1). This section of Highway 6 is an important transportation link providing an integral economic and commuter connection between the numerous nearby and growing communities and Highways 403 and 401.

Recently, Highway 6 has been widened to five lanes north of Highway 5 resulting in improved traffic operations and safety. However, there are increasing development pressures in the vicinity of the Highway 5/6 intersection. In addition, traffic volumes are expected to increase over approximately the next twenty years placing additional pressures on Highway 6 causing future capacity and safety concerns. For these reasons, the Ministry of Transportation (the Ministry) initiated a preliminary design study in accordance with the *Class Environmental Assessment for Provincial Transportation Facilities* (July 2000) (Class EA) to proactively address the above issues.

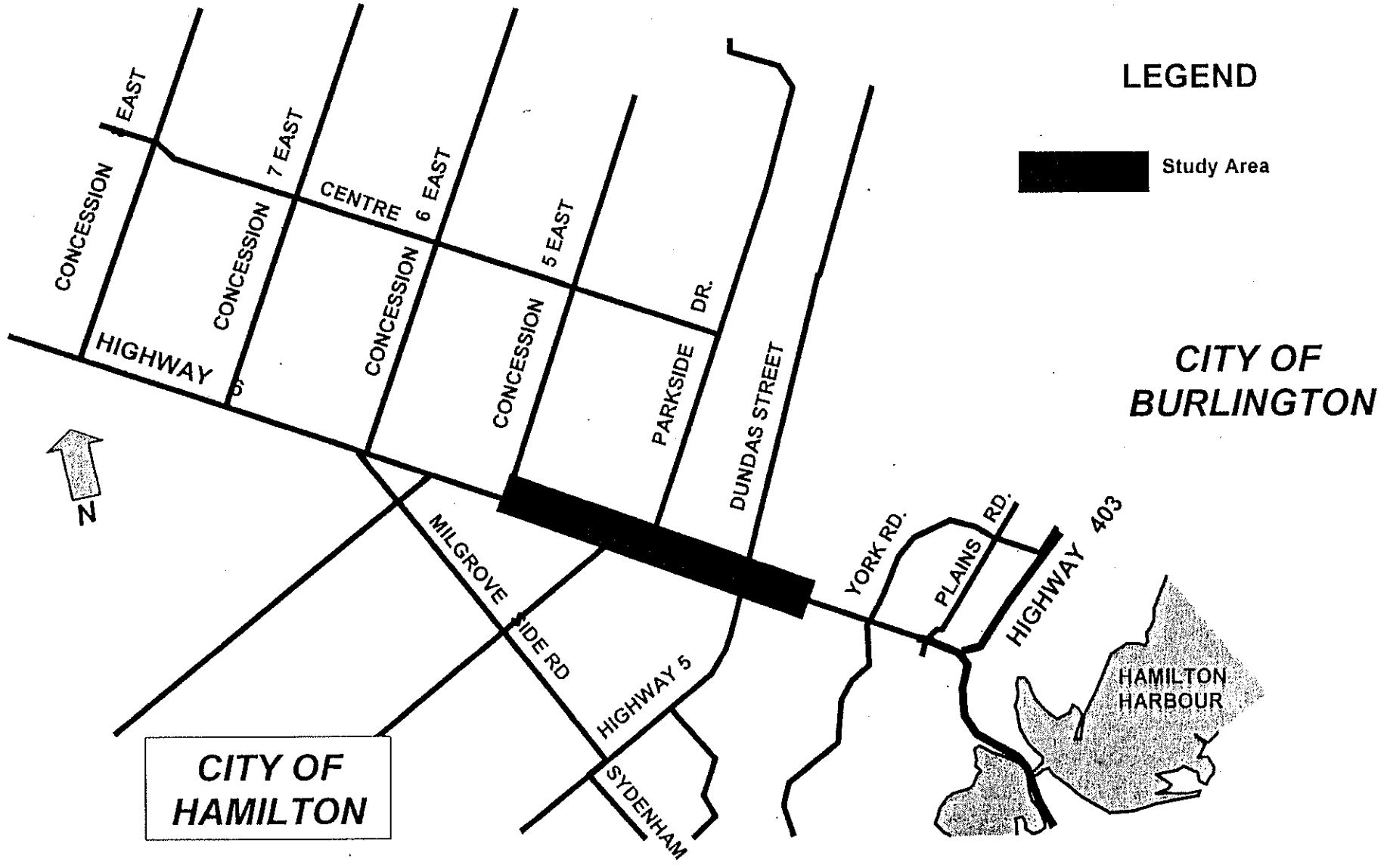

Figure 1-1: Study Area Limits

W.O 00-23011, Highway 6
500 m South of Highway 5 North to 5th Concession East

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2. OVERVIEW OF THE CLASS ENVIRONMENTAL ASSESSMENT PROCESS FOLLOWED FOR THIS STUDY

This study was carried out in accordance with the Ministry's *Class Environmental Assessment for Provincial Transportation Facilities, 2000* (Class EA). The Class EA is an approved planning document under the *Environmental Assessment Act* (EA Act) that defines the EA process to be followed by groups of similar projects and activities. Provided the appropriate EA process is followed, projects and activities included under the Class EA do not require formal review and approval separately under the EA Act.

Under the Class EA, the project and activity groups are generally categorized as follows:

Group A: Projects which are new facilities.

Group B: Projects which are major improvements to existing facilities.

Group C: Projects which are minor improvements to existing facilities.

Group D: Activities which involve operation, maintenance, administration, and miscellaneous work for provincial transportation facilities.

The Class EA process is principle-based rather than prescriptive in nature. The following principles underlie the Class EA process to be undertaken for all Group A, B, and C projects:

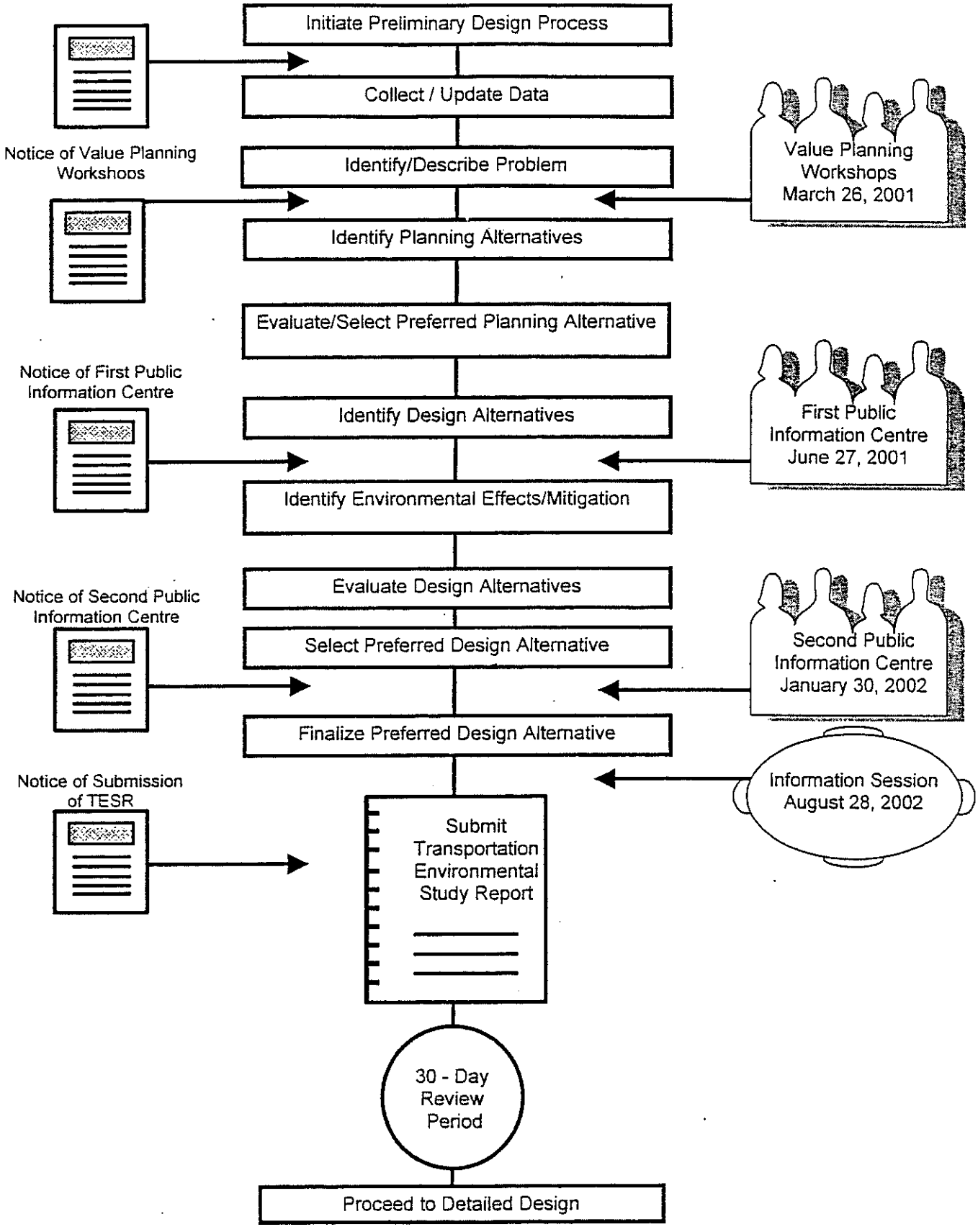
- Transportation engineering;
- Environmental protection;
- External consultation;
- Evaluation;
- Documentation;
- Part II Order ("bump-up" / reclassification to an individual EA for Group A and Group B classifications only); and
- Environmental clearance.

According to Section 2 of the Class EA[1], the proposed Highway 5/6 improvements are classified within the Group 'B' category because the existing Highway 6 right-of-way footprint, traffic access patterns, and local municipal roads are significantly modified. An overview of the Group 'B' Class EA process as it relates specifically to this study is illustrated in Figure 2-1.

[1] Ministry of Transportation, *Class Environmental Assessment for Provincial Transportation Facilities*, 2000, p. 2-3

FIGURE 2-1:

Overview Of The Group 'B' Class Environmental Assessment Process



3. IDENTIFICATION AND DESCRIPTION OF THE PROBLEM

3.1 Highway 6 Context and Role

Highway 6 is a strategic link in the transportation infrastructure of southern Ontario. Highway 6 provides a direct connection between the communities of Guelph and Hamilton-Burlington and Highways 401 and 403. Given the strategic orientation of Highway 6, motorists in parts of the Cambridge, Kitchener, and Waterloo areas find the Highway 6 corridor a convenient link for accessing areas to the south, such as Burlington, Hamilton and Oakville. The Highway 6 corridor is also an attractive route for truckers from the Cambridge, Kitchener / Waterloo, and Guelph areas to connect to the Queen Elizabeth Way (QEW) and the Niagara International Crossings.

As such, Highway 6, within the context of the Provincial Highway Network, provides a well-located link between Highway 403 and Highway 401 connecting the Guelph/Waterloo and Hamilton urban areas. Within the study area, Highway 6 also provides local access to the various highways and retail related businesses in the corridor and performs a significant commuter route function. The role of Highway 6 is evolving to that of a strategic long-term connection between the two freeways (Highway 401 and Highway 403) that will be expected to carry an increased travel demand in the corridor.

3.1.1 Alignment

Horizontal

The existing Highway 6 horizontal alignment within the Study Area limits is generally on tangent except for the 3500 m curve north of Parkside Drive. Speed limits within project limits vary from 60km/h to 80km/h.

Vertical

Highway 6 is generally flat north of Highway 5 and begins to rise from the Parkside Drive intersection northerly to the 5th Concession Road intersection. On Highway 6, north of Highway 5, the terrain could be characterized as rolling, with one short grade of less than 3% in slope. In terms of vehicles slowing due to the northbound grades, the grades are not serious enough to cause severe capacity restrictions. However, commercial vehicles do experience slower speeds through this section, and smaller vehicles tend to drive in the passing lane to avoid the slower heavy vehicles.

The section of Highway 6 at the south limits of the project to Highway 5 is within the Niagara Escarpment. The existing profile of Highway 6 through the Niagara Escarpment is on 7% grade. The minimum grade for a design speed of 100 km/h is between 3% and 4% in accordance with the Geometric Design Standards.

3.1.2 Existing/Future Traffic Volumes

The strategic nature of Highway 6 makes it a key corridor in serving the growth of north-south traffic demands through the Kitchener / Waterloo, Guelph, and Hamilton-Burlington areas. Since 1990, there has been an average 5.5% growth in traffic, averaged across the Study Area, based on a preliminary review of traffic volume counts taken in 1996.

Over the 1999 to 2021 planning horizon, Highway 6 is forecast to experience a 50% increase in peak traffic volumes north of Highway 5, and approximately a 100% increase in peak traffic volumes south of Highway 5. This aggressive growth forecast is based on extensive re-development of the Clappison's Corners and Waterdown areas, both served by the Highway 5/6 intersection, and a steady increase in longer distance travel demands due to continued growth in trucking.

3.2 Recent Improvements to Highway 6

The Ministry has undertaken a number of improvements on Highway 6 over the past few years to address short term operational and safety concerns generated by the numerous commercial and private entrances adjacent to the highway. These include:

- The Highway 5/6 intersection improvements to accommodate heavy left turn demands at the intersection (W.P. 155-88-00, Cont. 97-71)
- The Highway 6 widening from Highway 5 to 1.5 km North of Millgrove Sideroad to include a two-way left turn lane north of Highway 5 (W.P. 163-80-01, Cont. 99-010).
- The Highway 5 was resurfacing project from Highway 6 to Highway 8 to improve pavement conditions (W.P. 350-98-00, Cont. 2000-0072).

In addition to these Ministry projects, the former Town of Flamborough (new City of Hamilton) recently undertook the widening of Highway 5 from west of Centre Street to east of Highway 6 to address capacity issues.

3.3 Related Projects Affecting Highway 6

Highway 6 from Highway 403 to Highway 5

The recently completed Preliminary Design Study for Highway 6, between Highway 403 and Highway 5 (GWP 19-95-00) recommended the widening of Highway 6 and the construction of an interchange and associated service roads to replace the existing Plains Road/Northcliffe Avenue and York Road intersections. These improvements, combined with the introduction of a northbound truck-climbing lane and construction of a median barrier on this section of Highway 6 will begin the transformation of Highway 6 to a controlled access freeway facility. This project is currently in the detailed design phase with construction to follow.

Highway 6 By Pass

The proposed Highway 6 by-pass (based on the technically preferred alternative from the Preliminary Design for this section-WP 65-76-05, September, 1995), will intersect Maddaugh Road just to the west of the current Highway 6 / Maddaugh Road intersection and extend northerly to Highway 401 west of existing Highway 6. This work also includes a new interchange at Highway 6 (Hanlon Expressway) and County Road 34.

Aldershot / Waterdown Master EA Transportation Network Study (September 1999)

The Aldershot / Waterdown Master EA Transportation Network Study (September 1999), a joint report prepared for the former Town of Flamborough (now part of New City of Hamilton) and the City of Burlington, was initiated to address existing roadway capacity and operational deficiencies while retaining an effective level of service for regional and local mobility. The development of the Waterdown Bypass was of prime importance in regards to this plan.

The east-west component of the recommended network begins at Highway 5 at Waterdown Road and includes the following:

- A four lane urban section from Highway 5 northerly to just north of Parkside Drive.
- A new alignment with a two lane urban cross section north of Parkside Drive westerly.
- The alignment crosses Highway 6 at Parkside Drive.
- The alignment turns southerly and ties into Highway 5 across from Technology Drive.

Mid Peninsula By Pass Study (Ongoing)

The recently completed Needs and Justification Study identified the Mid-Peninsula Highway as a key element in the province's Transportation Development Strategy. The preparation of the Terms of Reference for the Route Location Study is currently underway.

It was recommended that the development of a new Mid-Peninsula Corridor was required from QEW between Niagara Falls and Fort Erie, westward to south of John Monroe International Airport and around Hamilton.

3.4 Increasing Traffic Volumes on Highway 6

Intersections

Despite the recent improvements to the Highway 5/6 intersection, the intersection will break down by 2011 due to the heavy left turn demands in both of the westbound and northbound directions. This intersection currently features double left turn lanes for each of these movements which requires the use of fully protected left turn phasing (the left turn movements are controlled by separate signal heads and

only move on their own dedicated phase). It is projected that the Highway 5/6 intersection will reach its ultimate capacity in the year 2009.

The Highway 6/Parkside Drive signalized intersection will operate at acceptable level of service in the 2011 horizon year. However, the unsignalized intersections will feature Level of Service (LOS) F for all left turn movements from the sideroads. Despite the low sideroad volumes, delays for left turning and crossing traffic at these intersections will be extensive.

In 2021, the Highway 6/Parkside Drive signalized intersection will continue to operate satisfactorily, although some localized left turn movements may be approaching capacity. Again, the low volumes on the majority of the sideroad approaches will not warrant the installation of traffic signals based on Ministry standards. However, sideroad delays and even main line left turn delays in some cases will increase dramatically and may impact the safety of the highway as frustrated motorists begin to accept shorter gaps.

Highway 6 Corridor

The section of Highway 6 to the south of Highway 5 will operate satisfactorily until the 2016-2018 horizon year. At this time, the northbound lanes (at a 7% grade) will be operating at capacity. The significant truck volumes in this section of Highway 6 heavily influence the capacity on the 7% grade. Therefore, a fourth northbound will be required at this stage. However, the section of Highway 6 north of Highway 5 will be sufficient to accommodate projected traffic volumes until the horizon year of 2026.

3.5 Increasing Development Pressures in the Vicinity of the Highway 5/6 Intersection

There are currently fourteen development applications submitted on lands in the vicinity of the Highway 5/6 intersection. The number of applications will fluctuate as they are approved and completed, or refused/withdrawn, but are expected to increase in the future. The majority of these applications are Site Plan Applications within the Flamborough Business Park clustered around the Highway 5/6 intersection.

In addition, the New City of Hamilton is currently in the preliminary planning stages of reviewing the development of an interpretive/informative centre called the "Giant's Rib Discovery Centre". The intended location for this centre is along the Niagara Escarpment, on the East side of Highway 6, south of Highway 5 with the entrance for the park on Highway 5. The New City's Planning Department does not expect applications for the development of this site for at least two years.

It is important to recognize that while the need to construct the proposed highway improvements is not imminent, the opportunity to do so in the future may be significantly restricted, if steps are not taken at the present time to develop a long term strategy aimed at preserving corridor flexibility. Ongoing and planned developments within the area will require a strategy to address the additional traffic growth. Consequently, future corridor requirements must be identified so that planned development within the area can proceed.

3.6 Problem Statement

In terms of traffic at the Highway 5/6 Intersection, it is nearing capacity, and is projected to reach capacity in the next 8 to 12 years. Furthermore, traffic volumes are anticipated to increase due to increasing area developments and traffic growth along corridor. In relation to the Highway 6 Corridor, through traffic volumes are expected to increase thereby making the corridor less safe, especially when making left turns.

Therefore, the purpose of this study is to protect for the long-term transportation needs of the Highway 6 corridor while developing a strategy to enhance safety and address future capacity issues within the Study Area.

4. DESCRIPTION OF THE STUDY AREA

The Study Area is from 500 m south of Highway 5 north to 5th Concession East in the City of Hamilton situated adjacent to the Niagara Escarpment. It is currently composed of a number of environmental features within a mixture of rural and urban land uses that is experiencing increasing development pressures (see Figures 4-1a and 4-1b).

4.1 Natural Environment

4.1.1 Vegetation

The vegetation in the Study Area, particularly within in the vicinity of the Highway 5/6 intersection, is primarily composed of fields (i.e., grasses with some trees and shrubs) with a variety of other smaller vegetation communities located throughout.

The vegetation south of Highway 5 is made up of fields with relatively small and shallow marsh areas dominated by cattails. The Niagara Escarpment is located just south of the fields and is vegetated predominately by deciduous species of trees and shrubs. In addition, a small red mulberry shrub, which is very rare in Ontario and is classified as an "endangered species", is located approximately 600 m south of Highway 5 east of Highway 6 (see Figure 4-1a).

Vegetation north of Highway 5 is also composed primarily of fields. However, a variety of smaller vegetation communities exist north of Borer's Creek, which include orchards, pastures, thickets, shallow marshes and cattails. (see Figures 4-1a and 4-1b)

4.1.2 Environmentally Significant Areas

Within this vegetation framework, there are three Environmentally Significant Areas (ESAs) in or adjacent to the Study Area. Two of the ESAs are associated with the Niagara Escarpment located near the southern limits of the Study Area. The other is situated further north on the west side of Highway 6(see Figure 4-1a and 4-1b) [2].

Borer's Falls – Rock Chapel:

Borer's Falls-Rock Chapel is located at the southern edge of the Study Area, within the lower reaches of the Borer's Creek subwatershed. This area includes a portion of the Bruce Trail and a forested segment of the Niagara Escarpment that faces southeast. The escarpment rim, face and sloped forests are considered to provide important habitat for significant species.

[2] Natural Environment Report, Earth Tech Canada Inc., March 2002

Clappison's Escarpment Woods:

The western portion of the Clappison's Escarpment Woods is located adjacent to Highway 6 (on the eastern extent of the highway ROW) and includes an escarpment face and associated vegetation communities. This forested talus slope is dominated by sugar maple, in association with other upland woods species.

While the Clappison's Escarpment Woods is a natural forested extension of the Borer's Falls – Rock Chapel ESA, the former is located within the Grindstone Creek subwatershed. Although the existing Highway 6 corridor bisects the continuous forested cover, an important ecological link between the Clappison's Escarpment Woods and Borer's Falls – Rock Chapel exists.

Millgrove (South) Woodlot:

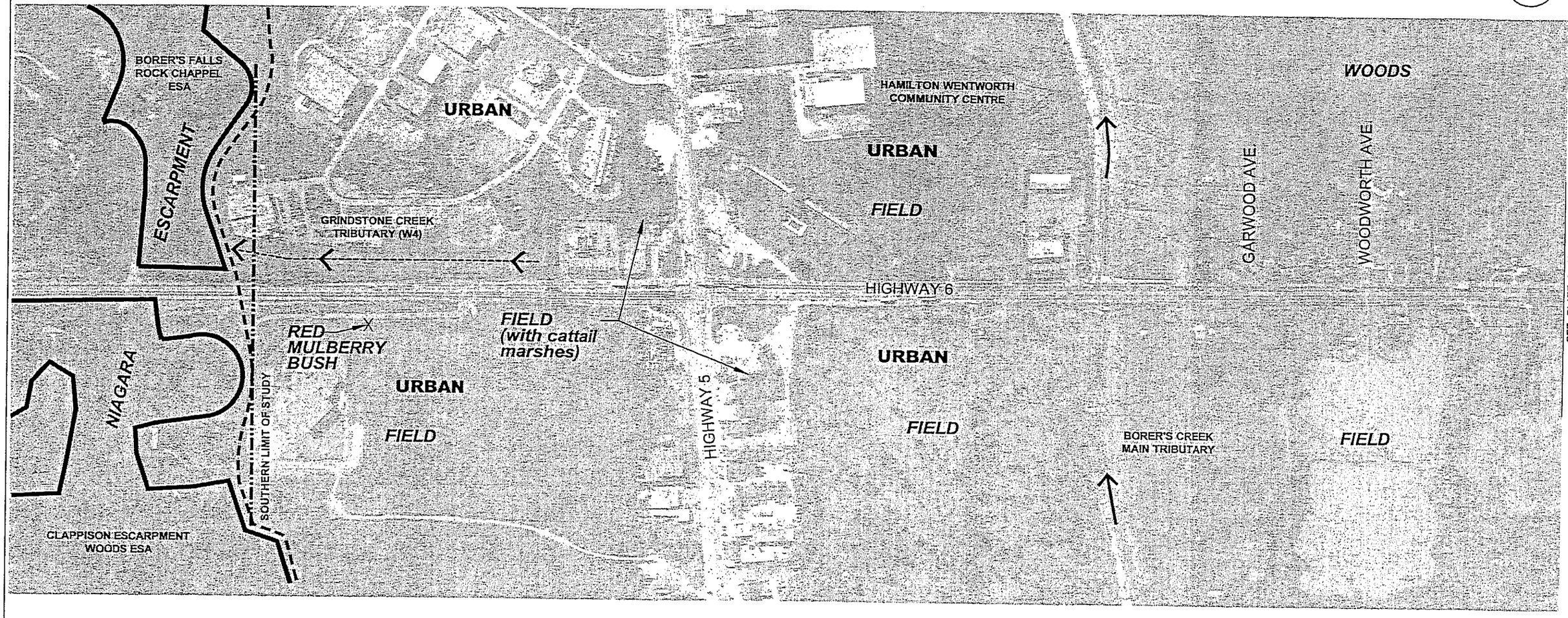
The Millgrove Woodlot, including Logie's Creek Swamp, is a locally significant wetland situated approximately 110 m west of the Highway 6 ROW. The headwater wetlands of the Millgrove Woodlot are located within the Borer's Creek subwatershed and are considered to serve an important hydrological function in moderating fluctuations in stream flow. In addition, the maple–beech woodlot is considered to provide important habitat for significant floral and faunal species. Parts of the woodlot are selectively logged, and there is an oil pipeline that runs through its northern extent.

4.1.3 Wildlife

The preceding ESAs have a number of regionally significant bird, butterfly and reptile species. However, all of these species are dependent on the interior forest habitat and would not be expected near Highway 6. Any of the observed species (e.g., red tailed hawk, raccoon, and white tail deer) are common and mobile enough to not be adversely affected by any proposed works in the Study Area.[3]

The potential herpetofaunal (reptile) habitat found in the talus of the Niagara Escarpments rocky slope is considered to be most at risk in this area; however, these habitats are far enough from the Study Area not to be directly affected.

[3] Ibid.



LEGEND

- ESA BOUNDARY
- URBAN DESIGNATION BOUNDARY
- INTERMITTENT STREAM
- PERMANENT STREAM

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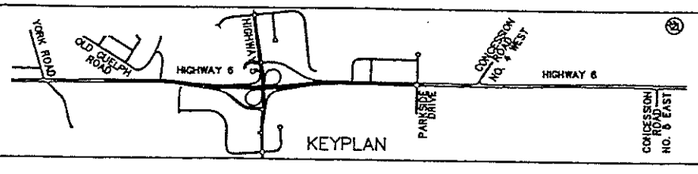
KEYPLAN



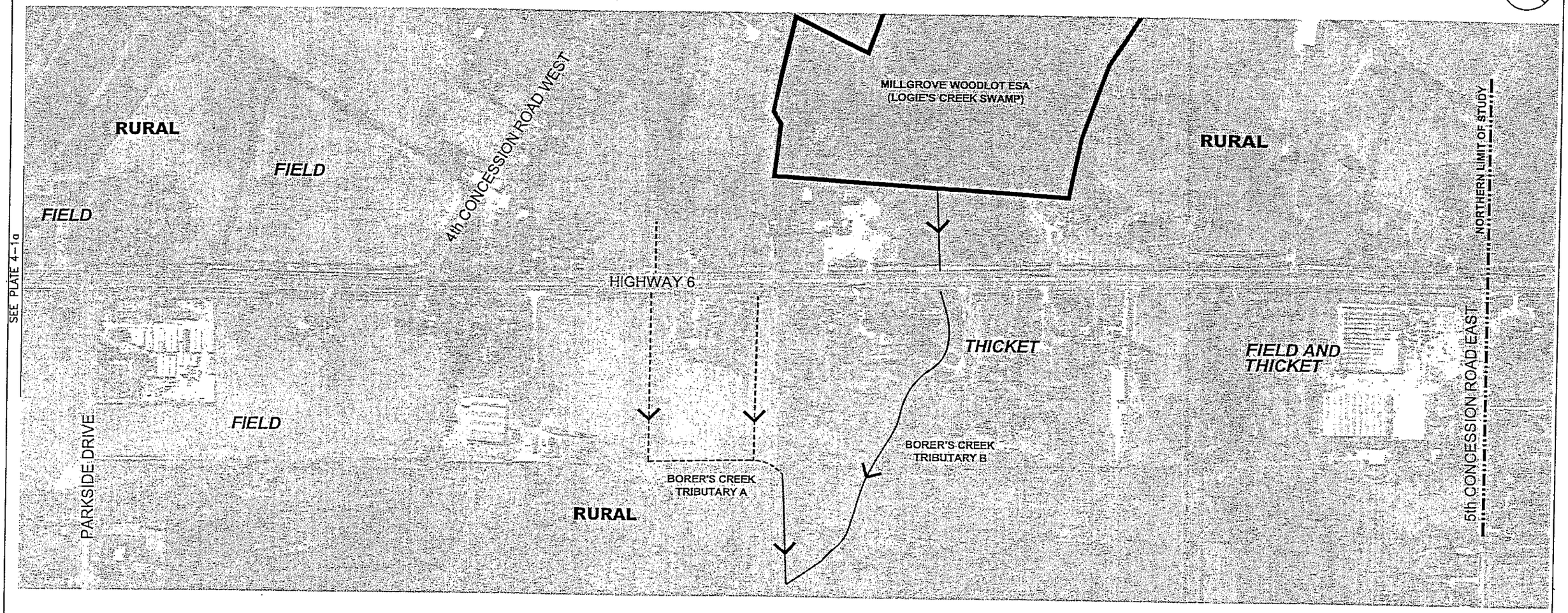
HIGHWAY 6

From 0.50 km South of Highway 5 to 5th Concession E

EXISTING LAND USE AND NATURAL FEATURES

Scale: 1:5,000

Figure No. 4-1a



LEGEND

- ESA BOUNDARY
- URBAN DESIGNATION BOUNDARY
- INTERMITTENT STREAM
- PERMANENT STREAM

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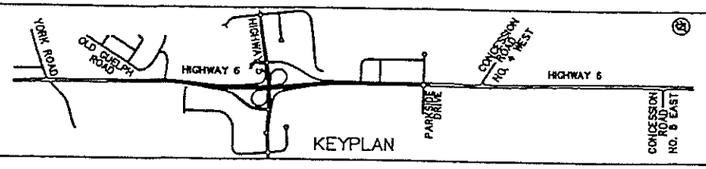

HIGHWAY 6
From 0.50 km South of Highway 5
to 5th Concession E

EXISTING LAND USE AND NATURAL FEATURES

Scale: 1: 5,000

Figure No: 4-1b

4.1.4 Surface Water

The Study Area surface water and drainage system is comprised of primarily Borer's Creek, Grindstone Creek, Logie's Creek Swamp Wetland, associated tributaries, and roadway ditches and swales. Borer's Creek crosses Highway 6 three times in the Study Area. The Hamilton Region Conservation Authority, under Ontario Regulation 151/90, regulates the channels. The Borer's Creek main channel crosses Highway 6 approximately 500m north of Clappison's Corners while two smaller tributaries cross Highway 6 approximately 400m and 600m north of Concession Road 4 (Tributary A (intermittent) and B).

The smaller tributary crossings are of particular concern because of their proximity to the Regionally Significant Logie's Creek Swamp Wetland that is part of the Millgrove South Woodlot Environmentally Significant Area.

In addition to Borer's Creek, there is an intermittent tributary of Grindstone Creek within the Study Area on the west side of Highway 6 south of Highway 5, which is regulated by Conservation Halton.

4.1.5 Groundwater

With regards to groundwater, municipal water, sanitary, and storm sewers service all areas along Highway 5. Those areas along Highway 6 from 500 m south of Highway 5 to Parkside Drive have municipal water service, limited sanitary sewers, but no storm sewers. The presence and/or location of septic beds could not be determined and should therefore be investigated further prior to commencing construction.

There are a large number of wells (approximately 69) present in the Study Area. The wells are all freshwater wells that obtain their groundwater supply from a confined bedrock aquifer that ranges from approximately 10 m to 20 m below the ground surface, with the exception of 4 wells in Concession 5 that draw their water from a confined overburden aquifer that overlies the bedrock. The wells are used primarily for domestic / livestock, irrigation, or commercial purposes. No municipal public supply wells are located within this region.[4]

In addition, there are two active waste disposal sites (WDS) in the Flamborough area, but neither is bordering, nor within, the Study Area. Therefore active WDS are not considered a potential concern to groundwater or surface water receptors in the Study Area.

Sensitive areas were judged to be where the groundwater and/or surface water resources have the highest susceptibility to adverse impact or disruption of flow. Since there are two regulated creek crossings, an environmentally sensitive wetland area, and numerous potable wells within the Study Area, it can be concluded that many areas within the Study Area are sensitive to construction activities to some degree.

[4] Ibid

Based on a review of the background documentation, site visit, and discussions with various regulatory agencies, the most sensitive areas are:

- Southern portion of the Study Area in the vicinity of the Clappison's Corners, Garwood and Woodsworth Avenues: Presence of numerous potable water wells.
- Southern and northern crossings of Borer's Creek and drainage ditches.
- Approximately 500 m north of Highway 5 on east side of Highway 6 (Golfland Driving Range): Surface Water Intake from Borer's Creek (southern crossing).

4.1.6 *Fisheries and Aquatic Habitat*

Fisheries and aquatic habitat within the Study Area is primarily associated with Borer's Creek. The subwatershed supports a variety of vegetation, baitfish communities as well as sport fish such as largemouth bass.[5] The main tributary of Borer's Creek is a warm water system that originates several kilometres north of Highway 5. The Borer's Creek main tributary crosses Highway 6 approximately 500m north of Highway 5 and provides low habitat diversity with areas of significant aquatic habitat limited to the small areas of watercress that occur sporadically along the channel margins.

Borer's Creek Tributary 'A' is a small, densely vegetated (cattails and grasses), and highly intermittent channel that does not directly support fish habitat.

Borer's Creek Tributary 'B' conveys flow eastward from Logie's Creek Swamp, part of the Millgrove Woodlot, and supports a variety of fauna such as cattails, grasses, sporadic golden road and elm trees, watercress, and aquatic macrophytes. Borer's Creek Tributary 'B' also supports a tolerant warm water baitfish community, including brook stickleback, central mudminnow, and pearl dace. Rainbow trout have been reported to occur approximately 2 km downstream of Highway 6 in an on-line pond of this tributary.

In addition to Borer's Creek, a small cattail dominated, intermittent, and steeply incised tributary of Grindstone Creek flows southward toward the brow of the escarpment. Due to the intermittent flow regime in the upper section, and the presence of migration barriers further downstream, the upper reach of the tributary does not directly provide fish habitat. However, Conservation Halton has identified a warm water baitfish community further downstream.

[5] Natural Environment Report, Earth Tech Canada Inc., March 2002

4.2 Social Environment

4.2.1 Historical Land Uses

The Highway 6 Study Area has evolved from a primarily rural/agricultural setting to a more urban setting since its settlement in the nineteenth century. This is especially true of the area surrounding the Highway 5/6 intersection. Development built largely to service the needs of the local agricultural economy have been replaced over the years by land uses to aid the motoring public (i.e., retail fuel outlets, restaurants, hotel) and expanding residential base (i.e., services, businesses).

4.2.2 Existing Land Uses

Current land uses in the vicinity of the Highway 5/6 intersection are primarily urban, comprised of businesses (commercial, retail and industrial) and community uses, while the remaining corridor within the Study Area has an agricultural, rural and residential composition (see Figures 4-1a and 4-1b). The following is a brief overview of the key existing land uses within the Study Area:

- South-west of the Highway 5/6 Intersection – there are a variety of businesses located in an industrial park, as well as B&W Radio, Tim Horton's, Wendy's and a Petro-Canada Gas Station located on the southwest corner.
- North-west of the Highway 5/6 Intersection – businesses include Clappison's Inn and Boonstra Heating & Air Conditioning. Community facilities include the North Wentworth Community Centre and the Flamborough Information Centre.
- North-east and South-east of the Highway 5/6 Intersection – there are a variety of employment land uses, including UAP Auto Parts, Cattle Baron Steak and Sea Food, Stonage Lighting, Aunt Lou's Antiques, Parson's Welding, Flamborough Upholstery, Sideboard Fine Furniture Company, the Landscape Store, Gedas Motors, Waterdown Collision, Dick's Transmission and Tune-up, New England Antiques and Liburdi Engineering.

In terms of utilities, there are a number of utilities servicing residences and business in the area including several Union Gas natural gas lines, Bell Canada aerial and buried conduit facilities and fibre optic cable, City of Hamilton sewer lines, Cogeco Cable Solutions aerial and buried cables, two Hydro One hydro lines on steel towers across Highway 6, and Hamilton Hydro lines on the east side of Highway 6.

In regards to school bus routes, a number of school buses utilize Highways 5 and 6 and pass through the intersection. The Hamilton-Wentworth Public School Board has approximately 20 to 30 bus routes that use the intersection Monday to Friday between 7:00am – 9:00am and 2:45pm - 4:45pm. Additionally, the Hamilton-Wentworth Catholic School Board has between 10 and 12 bus routes that use the intersection during the same time periods. The total number of stops and routes vary annually according to the number and distribution of students attending different schools within each respective school district.

4.2.3 Highway and Construction Noise

There are a number of existing Noise Sensitive Areas within the Study Area. These areas are primarily composed of residences. Existing noise conditions at the NSAs are dominated by traffic on Highways 5 and 6 with measured sound exposures in the 60 dBA range[6].

In terms of construction noise, the former Town of Flamborough "Noise By-Law" (89-164-N) is still in effect since it has not been repealed or rescinded through the recent amalgamation with the new City of Hamilton. The Noise By-Law prohibits the operation of construction equipment in residential and agricultural areas from 11pm to 7am Monday to Saturday and all day Sundays and statutory holidays.

4.2.4 Property Contamination

There are currently five properties within the study area containing adversely impacted soils (i.e. soil data above applicable MOE generic clean-up guideline criteria). Since the area in the vicinity of the Highway 5/6 intersection has become increasingly urbanized over the years with a variety of industrial and commercial businesses including gas stations, a preliminary site screening exercise was performed to identify areas of potential environmental concern[7]. This exercise identified several areas and recommended that a Phase II Environmental Site Investigation (ESI) program be undertaken of those areas as part of this study.

The purpose of the Phase II ESI was to characterize the identified potential areas of environmental concern and determine the extent, if any, of impacted soils and associated environmental liabilities.[8] The Phase II ESI utilized several different approaches to characterize and assess environmental conditions and identify environmental liability issues including borehole drilling, soil sample collection, and chemical analysis, a review of previously completed Phase II ESI reports prepared by others, and previous and current usage. The results of applying the different approaches were assessed in light of MOE generic clean-up criteria to identify existing properties with adversely impacted soils.

4.2.5 Current Land Use Designations

The current land uses and designations within the Highway 6 Study Area are governed by the following four planning documents:

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[6] Noise Impact Assessment, Highway 5 and Highway 6 Interchange Proposed Improvements, RWDI. July, 2002

[7] Preliminary Environmental Site Screening Report, Highway 6 W.O. 23011/Consultant Agreement #2005-A-000291, Flamborough, Ontario, June 2001.

[8] Preliminary Phase II Environmental Site Investigation Final Report, Highway 6-500m South of Highway 5 to 5th Concession East (W.O. 00-23011), Earth Tech January 2002.

Niagara Escarpment Plan

The Study Area includes a section subject to the provisions of the Niagara Escarpment Plan (NEP).[9] The NEP designates the area south of, and adjacent to Highway 5 on the east and west sides of Highway 6 as "Urban Area", and the lands further to the south, along the western side of Highway 6, as "Escarpment Protection Area".

The Urban Area designation is described in the NEP as areas of the Escarpment that are largely underdeveloped although surrounded by existing development, and areas where urban growth has already encroached substantially on the Escarpment.[10] According to the NEP, the objective in these areas is to minimize the impact of further encroachment of urban growth on the Escarpment environment. Within the Escarpment Protection Area, the policy aims to maintain the remaining natural features and the open, rural landscape character of the Escarpment and lands in its vicinity.[11] In terms of mitigation measures within Escarpment Urban Areas, the Niagara Escarpment Commission defers to the municipalities. The new City of Hamilton was consulted and no standard mitigation criteria have yet been introduced.

However, there are a number of changes proposed to the Plan in this area. According to Niagara Escarpment Commission staff, the land along the western side of Highway 6, which is currently designated Escarpment Protection Area, is to be re-designated as Urban Area.[12] All lands south of the new Urban Area not currently contained within in the Niagara Escarpment Planning Area will be considered protected lands. These changes are anticipated to take effect in the summer of 2003.

Parkway Belt West Plan

The southeast limit of the Study Area is situated within the Parkway Belt West Plan. In addition to urban planning, the Plan's goals include providing a land reserve for future linear facilities and developing a connected open space network. The area adjacent to the Study Area (east, west) is designated "Public Use Area"; however, according to the Parkway Belt West Plan transportation corridors are permitted.[13] Conversely, natural features on any adjacent vacant lands must be retained and protected until the land use is more clearly defined. Additionally, attention to the appropriate use of landscaping is an important consideration outlined in the Parkway Belt West Plan.

It is presently anticipated that the lands within the Study Area designated under the Parkway Belt West Plan will be added to the Niagara Escarpment Plan early in 2003 through Amendment 71.

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[9] The Niagara Escarpment Plan (1994), Office Consolidation (April 2001).
[10] Ibid, Page 23.
[11] Ibid, Page 9.
[12] David Johnston, Niagara Escarpment Commission, January 29, 2002.
[13] Parkway Belt West Plan, Section 5.4.1- Uses in Public Use Area, Page 14.

The Hamilton-Wentworth Official Plan

Although the New City of Hamilton has been created, the Official Plans for Ancaster, Dundas, Flamborough, Glanbrook, Hamilton, Stoney Creek and the Region of Hamilton-Wentworth will remain in effect until a new Plan is adopted for the New City.

According to the Hamilton-Wentworth Official Plan, the Study Area is composed of the Niagara Escarpment Plan Area and Parkway Belt West Plan south of Highway 5, a Business Park Area surrounding the Highway 5/6 intersection and a Rural Area north of Parkside Drive[14].

The Town of Flamborough Official Plan

According to the Town's Official Plan, the southern portion of the Study Area along Highway 6 (identified as a Business Park in the Regional Official Plan) is within Waterdown and is recognized as the Town of Flamborough's Urban Area.

The portion of the Study Area in Waterdown is within the Clappison's Corners Industrial-Business Park designated land use area. According to the Official Plan, the Town of Flamborough will vigorously promote the Clappison's Corners Industrial-Business Park as its industrial development and employment centre.[15]

The remaining half of the Study Area, north of the Business Park, is designated as Rural which permits both agricultural and rural uses such as farming and related activities, greenhouses, forestry and reforestation. In addition, residential and non-farm related developments are permitted where the lands are not suitable for agriculture.

4.3 Cultural Environment

4.3.1 Archaeology

A Stage 1 and 2 archaeological assessment of the Study Area has determined that one archaeological site has been registered within two kilometres of the Study Area. Approximately 50 percent of the Study Area south of Parkside Drive was determined to be either previously disturbed (highway shoulder construction and ditching and paving, grading, topsoil stripping and filling, and landscaping related to commercial development occurring adjacent to the highways/roads) or low wet areas. This portion of the Study Area may be considered to be of low archaeological potential.

A small portion (approximately 15 percent) of the study area was pedestrian surveyed at five metre intervals to facilitate the recovery of archaeological material. Two archaeological sites were discovered.

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[14] Official Plan for the Regional Municipality of Hamilton-Wentworth, April 1998.
[15] Ibid.

Due to the rarity of material at one site and the relatively recent abandonment of the second site, neither require additional archaeological assessment.

The remaining 35 percent was not pedestrian surveyed because property access was not granted and/or the lands remained unploughed.[16]

4.3.2 Heritage Resources

Four remnant built heritage features were identified in the north-east, north-west, and south-east quadrants of the Highway 5/6 intersection through a built heritage assessment.[17] A circa 1940 one and a half storey house and remnant tree plantings were located at 522 Highway 6 in the north-east quadrant. Two pre-1900 vernacular farmhouses were located in the north-west quadrant at 31 and 43 Dundas Street West. The built heritage feature located in the south-east quadrant is a single storey structure with a hip roof, which may have been a blacksmith, as indicated in 1909 mapping.

[16] Stage 1 and 2 Archaeology Resource Assessments and Built Heritage Assessment of Highway 6 from Highway 5, Northerly to the 5th Concession East. Archaeological Services Inc., November 2002.
[17] Ibid.

5. CONSULTATION WITH EXTERNAL AGENCIES AND THE PUBLIC

An enhanced agency/public consultation program was undertaken as part of this study. This included Notice of Project Commencement, Value Planning Workshops, two Public Information Centres, an Information Session, Stakeholder Meetings/Presentations, and Notice of TESR Submission.

5.1 Notification of Project Commencement and Invitation for Comments

All relevant review agencies and the public (including property owners within the study limits) were notified of the project being initiated. Provincial Ministries and Agencies were mailed a notice of project commencement letter on September 5, 2000 (see Appendix A). The same letter was sent to local governments and agencies, the Niagara Escarpment Commission, local school boards and fire department, utilities, and other stakeholders on September 15, 2000.

In addition to letter notification, the general public was informed of the start of the project on September 15, 2000 through an advertisement in the Hamilton Spectator and the Flamborough Post (see Appendix).

5.2 Value Planning Workshops

Four Value Planning Workshops were held after initiating the study as part of the project's enhanced consultation program to ensure expanded agency/public involvement and input to the project.[18] The intent of the Value Planning Workshops was to share/obtain information from the public, other project stakeholders and the City of Hamilton, assist in finalizing the problem statement, identify project sensitivities and expectations, and identify project opportunities to enhance the overall value of the project.

5.2.1 MTO / Hamilton Value Planning Workshop

The first Value Planning Workshop was held at the Delta Meadowvale Resort and Conference Centre at 6750 Mississauga Road in Mississuaga on March 22, 2001 between the Ministry and the City of Hamilton. The workshop results indicated that Highway 6 should be able to handle all types of traffic, meaning inter-city, commuter, and local trips. Of prime concern to this group was the capability of the Highway 6 facility to continue to function well in the future (operational and safety) as traffic volumes increase. In addition, they felt that the road must support existing and longer-term development needs in the area to ensure business viability.

[18] Value Management, Value Planning Workshops Summary Report, Highway 6 500m South of Highway 5 N'ly to 5th Concession East, Preliminary Design/EA Study, Earth Tech Canada Inc., June 2001.

5.2.2 Agencies Value Planning Workshop

The second Value Planning workshop was held at the Bohemian Banquet Hall at 215 Dundas Street in Waterdown on March 27, 2001 between 1:00pm and 4:00pm for review agencies. The agencies involved felt that more emphasis should be placed on the non-road user needs within the Highway 6 corridor. Specifically mentioned were the requirements and safety expectations of utility companies and police personnel working on Highway 6. Most felt that the operating speeds were too high in the corridor.

5.2.3 Public Value Planning Workshop

The third Value Planning workshop was held at the Bohemian Banquet Hall at 215 Dundas Street in Waterdown on March 27, 2001 between 6:00pm and 9:00pm for review agencies for the general public. The attendees, primarily property owners and/or their consultants, reiterated the concerns of high speeds and poor driver behaviour in the Highway 6 corridor. The participants indicated that there was really no room to do anything else (beyond what had recently been constructed) to address the increased travel demand between Highways 401 and 403 in the future.

Increased safety was the objective behind suggestions for continuous highway lighting, desire for more enforcement, and lower speed limits north of Highway 5. In addition, many felt that other users of the road (pedestrians and hikers) should have better access across Highway 6.

5.2.4 Final MTO / Hamilton Value Planning Workshop Follow-up

Following the three Value Planning Workshops, the ideas generated were reviewed and screened to a point where the following issues appear to best represent the overall combined perspectives of the three Value Planning groups:

- Issues relating to the Highway 6 and Highway 5 Interchange, which included trigger scenarios for the interchange, visibility of businesses, spacing of future and existing intersections, and interchange configuration flexibility
- Highway access issues relating to safety and the long term needs of the corridor
- Other users in the corridor (i.e. cyclists, pedestrians, etc.)
- Existing and future highway operations

On April 30, 2001 the final Value Planning Session was held between Ministry and City of Hamilton staff to review and develop several of the ideas that emerged from the three Value Planning Workshops. During this workshop, the participants reached a common vision on the future Highway 6 corridor selected four study topics for developing ideas on.

- Highway 6 is to evolve into a high speed, high class, arterial that would provide a strategic link in the Provincial Highway Network connecting Highways 401 and 403. Furthermore, safety would be increased through the reduction of collision severity and intersection conflicts via the construction of interchanges, flyovers, and median barriers. In addition, access to Highway 6

would be primarily at interchanges having existing property accesses modified via new access roads or changed to right-in / right-out only.

In addition, the participants selected the following four topics for idea development:

- Highway 5/6 interchange - Generation of a number of interchange alternatives,
- Secondary Plan Issues and Corridor Access – Discussed area developments, new and existing access roads and intersections, alternative transportation modes (i.e. bicycle, pedestrian, and transit), and future property requirements.
- Existing Development - Considered existing developments and the adherence to the long term vision of the corridor,
- Highway Transition – Discussed driver behaviour to properly transition from a freeway to an arterial highway with fully controlled access.

5.3 Public Information Centres

Following the Value Planning Workshops, two PICs were held during the course of the study.

5.3.1 Public Information Centre No. 1

The first PIC was held on June 27, 2001 from 2:30 p.m. to 4:30 p.m. and from 6:00 p.m. to 8:00 p.m. at the Hamilton Wentworth Community Centre in Hamilton, Ontario to provide an opportunity for Ministries, the local municipalities, special interest groups, and the public to review and comment on the progress of the project to date and information presented. This included the Planning Alternatives and Evaluation Summary, Highway 5/6 Interchange Configuration Alternative Designs, Highway 6 Corridor Alternatives and the Proposed Evaluation Criteria. Earth Tech and Ministry staff were present to discuss their issues or concerns.

It followed an informal "drop-in" format with display boards presenting the relevant project information. In addition, Ministries, government agencies and utility companies were invited to attend the PIC an hour earlier, between 1:30 p.m. and 2:30 p.m., prior to opening the venue to the general public.

Notification of the PIC was provided through the following means:

- Letter notification was mailed directly to interested Ministries, municipalities, utilities and special interest groups on June 18, 2001.
- Registered letters were mailed on June 18, 2001 to property owners (i.e., residents and businesses) that may be affected (i.e., loss of property, loss of residence or business, loss of access) depending upon which of the various design alternatives is selected. Copies of two of the letters were sent by registered mail to their solicitors and to MTO's solicitors because of on-going property negotiations between MTO and these two parties.

- A newspaper advertisement was placed in the Hamilton Spectator and the Flamborough Post on June 20, 2001.
- A PIC Brochure was mailed to all residents, businesses, etc. along the roadway within the project limits.
- A registered letter was mailed on June 18, 2001 to the local MPP along with copies of the PIC Brochure.

Copies of the notification materials are contained in Appendix C.

The PIC was well attended with 51 people signing in over the course of the day including representatives from a number of agencies and local businesses. Attendees were encouraged to provide written comments on comment sheets provided at the PIC. Comments sheets received at the PIC or in the weeks following were responded to by individual letter.

Comments Received

Twenty-four public members provided comments via comment sheets, phone messages, and e-mail in response to PIC No.1. Most of the respondents expressed very similar comments to one another (see Table 5-1). The following issues and concerns were mentioned the most often:

- Requested that copies of the materials presented be provided for further review upon which additional comments would be submitted.
- Generally opposed to a concrete barrier on Highway 6 north of Highway 5.
- Traffic safety is a concern within the Highway 6 corridor north of Highway 5, and turning onto or off of the Highway is dangerous where a centre left turn lane is not available.
- Development in the area has been affected due to the uncertainty that this study has created.

Concerns were also expressed with regard to other issues outside the Study Area. Specifically, many attendees suggested that the grade of Highway 6 south of Highway 5 be lowered. Also many questioned how the recent announcement of the Mid-Peninsula Highway would impact this study.

Of those that submitted comment sheets, there was no clear consensus about a preferred interchange design alternative. Each design alternative provided aspects that appealed to some, but not to others.

5.3.2 Public Information Centre No. 2

The second PIC was held on January 30, 2002 from 2:30 p.m. to 4:30 p.m. and from 6:00 p.m. to 8:00 p.m. at the Nigel Charlong Community Centre (formerly the Valley Community Centre) in Hamilton, Ontario to provide an opportunity for Ministries, the local municipalities, special interest groups, and the public to review and comment on the progress of the project to date and information presented. This included the screened design alternatives and the preferred Preliminary Design Alternative. Earth Tech and Ministry staff were again present to discuss their issues or concerns. As with the first PIC, the second

PIC followed an informal "drop-in" style format with display boards presenting the relevant project information.[19]

Similar to the first PIC, Ministries, government agencies and utility companies were invited to attend an advance viewing of the information between 1:30 p.m. and 2:30 p.m.

Notification of the second PIC was provided through the following means:

- Letters were mailed to interested Ministries, municipalities, utilities and special interest groups and agencies on January 21, 2002.
- Registered letters were mailed on January 21, 2002 to property owners (i.e., residents and businesses) that may be affected (i.e., loss of property, loss of residence or business, loss or modification of access) by the preferred Preliminary Design Alternative. Copies of the registered letters sent to the affected owners currently involved in negotiation with MTO were mailed to their solicitors and to MTO's solicitors.
- A PIC Brochure was mailed on January 21, 2002 to all residents and businesses along the roadway within the project limits that would not be affected and all those on the project contact mailing list.
- A newspaper advertisement was placed in the Hamilton Spectator and the Flamborough Post on January 23, 2002.
- A letter was couriered on January 21, 2002 to the local MPP along with copies of the Brochure.

Copies of the notification materials are contained in Appendix D.

PIC No. 2 was very well attended with approximately 200 people signing in over the course of the day. Those in attendance included representatives from a number of agencies, local business owners and area residents. The local MPP was also in attendance. Attendees were encouraged to provide written comments on comment sheets provided at PIC No. 2. Comments sheets received at PIC No. 2 or in the weeks following were responded to by individual letter.

Comments Received

Sixty public members provided comments via comment sheets, phone messages, and e-mail in response to PIC No.2. Many of the respondents submitted comments similar to those received at and immediately following PIC No. 1 (see Table 5-1). The following issues and concerns were mentioned the most often:

- Requested copies of the materials presented so that they could send in additional comments once the design alternatives were reviewed in more detail.
- Opposed to a concrete barrier on Highway 6 north of Highway 5.

[19] Public Information Centre No.2 Summary Report, Earth Tech Inc., March 2002.

- Traffic safety:
  - Turning on or off the Highway is dangerous where a centre left turn lane is not available.
  - Cloverleaf designs are unsafe particularly during inclement weather.
- Development in the area has been affected due to the uncertainty that this study has created.
- Potential property acquisition (property value reimbursement, area required, expropriation procedures and scheduling).
- Location of the proposed access roads.
- The grade of Highway 6 south of Highway 5 should be lowered.
- Implications of the Mid-Peninsula Highway to this study.
- In terms written comments received, most of them were associated with the preferred design alternative 1A in relation to the following issues:
- The future safety of roadway users and area residents.
- Lowering the grade of Highway 6 south of Highway 5.
- Potential property expropriation.
- Median barriers and access.
- Scheduling.
- The potential location of the access roads and the effect on surrounding properties.

In addition, there was no clear consensus in the written comments regarding the preferred interchange design alternative 1A. The comments received ranged from very supportive to extremely opposed.

TABLE 5-1
Summary Of Key Comments Received at Public Information Centre Nos. 1 and 2 and Their Consideration in the Study

Key Comments Received	Consideration of Comments Received
• Requested copies of the materials presented so that additional comments could be submitted.	▪ The materials presented at both of the PICs were mailed to those public members requesting them.
• Potential effects on traffic safety and access by removing the centre left turn lane and installing a concrete barrier on Highway 6 north of Highway 5 in its place.	▪ Based on proposed developments, it was anticipated that traffic in this area would significantly increase over the next several years. As traffic volumes increase, turning movements to/from Highway 6 will become more difficult and less safe over the next several years. The proposed median barrier will significantly reduce turning related accidents and increase safety. ▪ The cross-section for the preferred alternative consists of a fully paved widened shoulder that may be used by residents fronting Highway 6 as deceleration/acceleration lanes.
• Proposed development in the area has been affected due to the uncertainty that this study has created.	▪ This study identifies the future corridor requirements of Highway 6 so that proposed development within the study area can proceed in a logical fashion.

TABLE 5-1
Summary Of Key Comments Received at Public Information Centre Nos. 1 and 2 and Their Consideration in the Study

Key Comments Received	Consideration of Comments Received

• The grade of Highway 6 south of Highway 5 should be lowered to improve safety.	• Regarding an improved grade for safety and the movement of traffic on Highway 6, consideration was given to lowering the existing grade of Highway 6 below the existing grade of Highway 5 and therefore reducing the grade between York Road and Borer's Creek. Grades ranging from 5% to 3% were investigated and it was determined that these grade reductions would result in an additional vertical cut of between 20 and 40 metres into the Niagara Escarpment. Vertical cuts of this magnitude would result in significant environmental impacts to the Niagara Escarpment and to the adjacent properties, as considerable widening of the existing cut and additional right of way would be required to accommodate traffic during construction.
	• The above noted grade reduction alternatives were screened out and not carried forward for the following reasons:
	  • Significant environmental impacts related to the increased cut, both vertically and horizontally, to the Niagara Escarpment;
	  • Extremely difficult construction staging, as traffic flow must be maintained. This will require significant overbuilding of the cut and increase the duration and cost of construction;
	  • Significant disruption of existing utilities;
	  • Significant increase in construction costs.

TABLE 5-1
Summary Of Key Comments Received at Public Information Centre Nos. 1 and 2 and Their Consideration in the Study

Key Comments Received	Consideration of Comments Received

	• Although the grade reduction is not considered feasible, the following proposed improvements on Highway 6 to the south of our study area would result in a significantly safer driving environment:
	  ◦ Construction of an additional truck climbing lane northbound up the Niagara Escarpment, to separate the slower moving trucks from the higher speed traffic;
	  ◦ Removal of the current intersection at York Road and construction of a grade separated interchange in its place;
	  ◦ Removal of all other intersections and access points between Highway 403 and Highway 5;
	  ◦ Construction of a concrete median barrier from Highway 403 up the Niagara Escarpment.
	• These improvements are already in detail design and property acquisition is underway. Timing of the construction will be determined once the property has been acquired.
	• In addition, the proposed grade separated interchange at Highway 5/6, replacing the existing at grade intersection, will further enhance safety. All of the proposed work described above will translate into significant safety improvements to the Highway 6 corridor.

• Affect of the recent announcement of the Mid-Peninsula Highway on the study.	• The Mid-Peninsula corridor was considered, however, the study is in the very early planning stages. Therefore, no conclusive effects could be considered.

TABLE 5-1
Summary Of Key Comments Received at Public Information Centre Nos. 1 and 2 and Their Consideration in the Study

Key Comments Received	Consideration of Comments Received
▪ Potential property acquisition process (property value reimbursement, area required, expropriation procedures and scheduling).	• Property acquisition costs are based on a property appraisal study undertaken on behalf of the Ministry of Transportation (MTO). Property acquisition costs would be calculated based on area of property required and cost per hectare (varies within study area). Property acquisition negotiations would potentially begin during detailed design. However, MTO does not plan to actively pursue property purchase until approximately 3 years prior to construction.
• Potential location of the proposed municipal access roads and their effect on surrounding properties.	• Local access roads are a municipal initiative. However, the City of Hamilton would create secondary plans that may revise the location of these municipal roadways. This plan should address municipal/secondary roads parallel and east of Highway 6. To this end, the MTO will continue to work with the new City of Hamilton to confirm the location of the proposed municipal access roads in the vicinity of the proposed interchange and construct them as required prior to the interchange being established.

5.4 Information Session

An Information Session, sponsored by the Flamborough Chamber of Commerce, was held on August 28, 2002 from 7:00 p.m. to 9:00 p.m. at the in Hamilton Wentworth Community Centre in Hamilton, Ontario. The purpose of the Session was to keep local business owners and the interested public informed of the project and provide another opportunity to discuss the preferred design alternative. At the request of the Chamber of Commerce, Ministry and Earth Tech staff attended the Information Session to answer questions.

The Chamber of Commerce provided notification of the Information Session through a newspaper advertisement in the Flamborough Post on August 7, 2002.

5.5 Stakeholder Meetings and Presentations

In addition to the value planning workshops, two PICs, and Information Session, a number of meetings and presentations were conducted with key stakeholders throughout the study both to ensure that their interests were reflected in the study and in response to their requests. The key stakeholders included the City of Hamilton, Conservation Halton, Hamilton Region Conservation Authority (HRCA), Ministry of Natural Resources (MNR), Niagara Escarpment Commission (NEC), and area business/property owners. Key meetings and presentations were held as follows:

Stakeholder	Date
City of Hamilton	June, September, and December 2002 (Staff Meetings) August and October 2002 (Council presentations)
Conservation Halton Hamilton Region Conservation Authority	November 2001 and May 2002
Ministry of Natural Resources	May 2002
Niagara Escarpment Commission	November 2001 and May 2002,
Liburdi Engineering	March 2001 and May 2002
Trinity Development Group	June 2002
Giant's Rib Association	March 2001

5.6 External Agency Comments Received and Their Consideration in the Project

External agencies provided comments through a variety of means including submitted comment sheets, telephone conversations, meetings, and e-mails. Table 5-2 summarizes the comments received and their consideration in the project. Copies of the letters received from external agencies are contained in Appendix B. The majority of agency responses received requested that they be kept informed of the project as it progressed and copies of the design alternatives for further review.

The Ministry of Natural Resources did not express any concerns regarding the project, but wished to be kept informed of the project's progress. The Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) and the Ministry of Culture (MCL) (formerly the Ministry of Tourism, Culture and Recreation) expressed concerns regarding potential adverse effects on prime agricultural lands and cultural heritage resources, respectively. Since the proposed interchange associated with the preferred preliminary design alternative is situated within the urban area of Flamborough, no adverse effects on prime agricultural lands are anticipated.

In terms of cultural heritage resources, a Stage 1 and 2 Archaeological Assessment and Built Heritage Assessment was undertaken as part of the study. Appropriate mitigation measures were developed through the Assessments to minimize/eliminate the potential negative effects on the identified resources. The proposed mitigation measures will be investigated further and finalized as part of detail design.

The Town of Dundas considered the project in council on October 2, 2000 and had no specific comments. Since the Town of Dundas's amalgamation with the City of Hamilton, future correspondence was forwarded to the City of Hamilton. The City of Hamilton raised a number of issues through their ongoing involvement in the Study. The City of Hamilton generally supported the project and the preliminary design alternative, but had specific issues with the proposed municipal road network and project implementation and timing. In terms of the proposed municipal road network, it was revised to reflect comments received.

Two City of Hamilton Councillors also raised a number of issues. Councillor Margaret McCarthy expressed concerns regarding the potential adverse affects of the preferred preliminary design alternative on several private accesses to Highway 6. Councillor David Braden also expressed a concern regarding the steepness of Highway 6 through the escarpment.

The preferred preliminary design alternative was presented to City of Hamilton Council in August 2002. In response to the issues raised by City of Hamilton staff and councillors, the preferred preliminary design alternative was revised and presented to City of Hamilton Council in October 2002. Following this, City of Hamilton Council supported the assignment on December 11, 2002 (see Appendix E).

The NEC, HRCA, and Conservation Halton had concerns regarding potential affects on natural features in the area, such as the Niagara Escarpment, local streams and ESAs. In response to these concerns, significant environmental features in the study area that could potentially be affected were identified and

inventoried through a Natural Environmental assessment. This information was taken into consideration in the evaluation of alternatives. Additionally, appropriate mitigation measures were developed to minimize/eliminate the potential negative effects on the identified features. The proposed mitigation measures will be investigated further and finalized as part of detail design.

The Bruce Trail Association enquired about provisions for a Highway 6 crossing for the Bruce Trail. Since a safe route for the Bruce Trail across Highway 6 has been accommodated for within the adjacent study to the South currently in detail design, no provisions for a Bruce Trail Highway 6 crossing are provided for within this study area.

The Flamborough Chamber of Commerce concerns regarding potential effects the proposed changes may have on area businesses and residents were taken into consideration during the evaluation of the preliminary design alternatives and the development of proposed mitigation measures. Additionally, an Information Session was held for area residents and businesses to further clarify any issues in August 2002.

Other stakeholders which expressed interest in the study included the Burlington OPP and the Hamilton-Wentworth District School Board, whom requested a copy of the preferred alternative design and a change of contact information, respectively. The Burlington OPP was subsequently sent a copy of the preferred alternative design and the contact list was updated.

In terms of utilities, Union Gas, Hamilton Hydro, and Bell Canada Access Network expressed interest in the study. Union Gas's request for clarification of the relationship between the current study and the recently completed work and ongoing 5-laning to the north was made clear. As requested, Bell Canada Access Network's contact information was updated. Additionally, Hamilton Hydro requested to be contacted as part of detail design to ensure that their concerns are appropriately reflected in the construction plans for the proposed interchange. In response, Hamilton Hydro was notified that all utilities (existing and proposed) were considered as part of this study and all conflicts were identified. As part of detail design, all utilities will be contacted. In addition, during construction, utility relocations will be coordinated with the appropriate authority.

TABLE 5-2
Summary Of External Agency Comments and Their Consideration in the Study

Review Agencies	Comments Received	Consideration of Comments Received
MINISTRIES		
Ministry of Natural Resources	▪ No specific comments provided, but requested to be kept informed for additional input.	▪ Was contacted throughout the study.
Ministry of Agriculture, Food and Rural Affairs	▪ Concerns regarding effects on prime agricultural areas and agricultural infrastructure as noted in Section 2 of the Provincial Policy Statement.	▪ No impacts on agricultural lands and infrastructure are anticipated based on the preferred preliminary design alternative.
Ministry of Culture	▪ Principle concern was the adverse effects that the undertaking might have on cultural heritage resources and recommended a cultural heritage assessment be conducted as part of the EA. ▪ If any significant heritage or archeological remains are identified, then any negative impacts will have to be mitigated by either avoidance or excavation. ▪ Requested to be kept up to date and be provided with detailed information and maps outlining the extent and type of land disturbance anticipated and the extent of previous disturbance within the study area.	▪ A Stage I and II Archaeological Assessment and Built Heritage Assessment were undertaken as part of the study and provided to the Ministry of Culture.

TABLE 5-2
Summary Of External Agency Comments and Their Consideration in the Study

Review Agencies	Comments Received	Consideration of Comments Received
MUNICIPALITIES		
Town of Dundas	▪ Commencement letter was received and considered by Council on October 2, 2000, but no specific comments received.	▪ Further correspondence was sent to the New City of Hamilton following amalgamation.
City of Hamilton	▪ Issues with the proposed municipal road network and project implementation and timing.. ▪ Two City of Hamilton Councillors expressed concerns regarding the potential adverse affects of the preferred preliminary design alternative on several private accesses to Highway 6 and the steepness of Highway 6 through the escarpment.	▪ The proposed municipal road network was revised to reflect comments received ▪ The cross-section for the preferred preliminary design alternative provides a fully paved widened shoulder that may be used by residents fronting Highway 6 as a deceleration/acceleration lane. ▪ The preferred preliminary design alternative was revised and presented to City of Hamilton Council in October 2002. Following this, City of Hamilton Council supported the assignment on December 11, 2002.

TABLE 5-2
Summary Of External Agency Comments and Their Consideration in the Study

Review Agencies	Comments Received	Consideration of Comments Received
OTHER STAKEHOLDERS		
Niagara Escarpment Commission	▪ Concerned with any potential impacts on the Niagara Escarpment from vertical and/or horizontal alignment changes to Highway 6. As a result, requests to review detail drawings to see how the Ministry of Transportation intends to minimize any potential impacts on the Escarpment and rehabilitate the existing traveled portion of Highway 6 to be closed. ▪ Requested to be kept informed of the project as it progress.	▪ The Niagara Escarpment Commission will be contacted as part of detail design for their review/input on the proposed changes, impacts, and mitigation/enhancement measures. ▪ Was contacted through out the study.
Conservation Halton	▪ A portion of the Study Area lies within Conservation Halton's area. Consideration should be given to a tributary associated with the Grindstone Creek that crosses through the Clappison's Corners intersection and flows south in a realigned channel through the Business Park. Modifications to any affected culverts must provide the necessary flow conveyance to accommodate this tributary. Consideration must also be given to stormwater management. ▪ Requested clarification on the evaluation criteria utilized in terms of the Natural Environmental category and location of the Red Mulberry identified as part of this study. ▪ Requested to be kept informed of the project as it progresses.	▪ Natural environment and stormwater management issues were considered in the Study, including the tributuary associated with Grindstone Creek that crosses through the Clappison's Corners intersection. ▪ Clarification on the evaluation criteria utilized was provided in a letter including a map identifying the location of the Red Mulberry. ▪ Was contacted throughout the study.

TABLE 5-2
Summary Of External Agency Comments and Their Consideration in the Study

Review Agencies	Comments Received	Consideration of Comments Received
Hamilton Region Conservation Authority	▪ Ensure that the Transportation Environmental Study Report (TESR) identifies the key environmental features in the study area (e.g., Borer's Creek, Logie's Creek Swamp Wetland, etc.) and appropriate measures to mitigate any impacts to these features resulting from construction activities.	▪ The TESR identifies all significant environmental features in the study area that could potentially be affected as well as appropriate mitigation measures to minimize/eliminate the potential negative effects. The proposed mitigation measures will be finalized as part of detail design.
Bruce Trail Association	▪ Ensure a safe route for the Trail is provided for as part of any design in the area.	▪ A safe route for the Bruce Trail has been accommodated for with in the adjacent study to the South currently in detail design.
Flamborough Chamber of Commerce	▪ Concern about the effects the proposed changes may have on area businesses and residents.	▪ Concerns were taken into consideration during the evaluation of the preliminary design alternatives and the development of proposed mitigation measures (i.e. short construction related effects, property requirements etc.)
Burlington OPP	▪ Requested a copy of the preferred design alternative.	▪ A copy of the preferred design alternative was provided.
Hamilton-Wentworth District School Board	▪ Change contact from Daryl Sage to Kim Roberts	▪ Contact database was revised accordingly.

TABLE 5-2
Summary Of External Agency Comments and Their Consideration in the Study

Review Agencies	Comments Received	Consideration of Comments Received
UTILITIES		
Union Gas	▪ Clarify relationship between current study and the recently completed work and ongoing 5-laning to the north.	▪ Relationship between current study and previous adjacent work was clarified.
Bell Canada Access Network	▪ Change contact from Pat Friend to Donna Evans	▪ Contact database was revised accordingly.
Hamilton Hydro	▪ Requests that Hamilton Hydro be contacted as part of detail design to ensure that their concerns (e.g., existing aerial high voltage primary conductors are in conflict, additional high voltage lines will be required to service customers in Waterdown, etc.) are appropriately reflected in the construction plans for the proposed interchange.	▪ All utilities (existing and proposed) were considered as part of this study and all conflicts were identified. As part of detail design, all utilities will be contacted. In addition, during construction, utility relocations will be coordinated with the appropriate authority.

5.7 Notice of TESR Submission

As part of filing this TESR for public review, a Notice of TESR Submission letter was mailed to all review agencies, municipal governments, utilities, special interest groups and property and business owners on the project contact database. The general public was notified via a newspaper advertisement in both the Hamilton Spectator and the Flamborough Post. The notice was announced the beginning of the 30 calendar day public review period, including notification of the public's right to request a Part II Order ("bump-up") to an individual EA. Appendix F contains a copy of the notice.

6. DESCRIPTION OF THE PLANNING ALTERNATIVE PROCESS

6.1 *Generation of the Planning Alternatives*

The following five planning alternatives were generated for evaluation based on the problem statement, the Class EA for Provincial Transportation Facilities, and the existing Study Area conditions.

Alternative #1 "Do Nothing"

- No changes or improvements to the existing Highway 5/6 intersection or corridor would be undertaken. Since no changes or improvements are proposed, this alternative provides a comparative benchmark for evaluating the other alternatives.

Alternative #2 "Promote Transit/Increased Vehicle Occupancy"

- Local bus service and ridesharing would be promoted as means of lowering traffic volumes through the Highway 5/6 intersection and corridor. As part of this alternative, lay-by bus lanes would be constructed at key locations along the east and west sides of Highway 6.

Alternative #3 "Use Alternate Routes"

- Rather than making improvements to the Highway 5/6 intersection and corridor, alternate routes (i.e. Guelph Line and / or Highway 8) would be utilized for existing and future traffic volumes. Guelph Line is located approximately 11 km east of Highway 6 and Highway 8 is located between Hamilton and Cambridge. Required roadway improvements to both Guelph Line and Highway 8 would be constructed to accommodate the additional traffic volumes.

Alternative #4 "Improve Existing Highway 6 Corridor"

- The existing Highway 6 corridor would be improved by upgrading the Highway 5/6 intersection to accommodate the future traffic capacity requirements of the intersection and widening the Highway 6 corridor to increase capacity, restricting access from minor roads, and potentially developing a fully controlled access facility and installing traffic barriers to enhance safety.

Alternative #5 "Construct New Route"

- Instead of improving the existing Highway 6 corridor, a new route would be constructed. The new route would be constructed either from approximately 500 m south of Highway 5 to the northern Study Area limits or from just north of Highway 5 northerly to the northern Study Area limits.

6.2 *Evaluation of the Planning Alternatives*

The five planning alternatives were comparatively evaluated according to a qualitative or descriptive assessment utilizing the following methodology:

Step #1: Develop comparative evaluation criteria

Step #2: Apply the comparative evaluation criteria to each alternative to identify potential effects on the environment taking mitigation into consideration

Step #3: Evaluate each alternative in terms of its effects on the environment and select the preferred planning alternative

Step #1: Develop Comparative Evaluation Criteria

A comprehensive list of evaluation criteria within the following 'Categories of Consideration' representing the broad definition of the "environment" as set out in the EA Act were first developed (see Table 6-1):

- **Technical (safety, operations, and design)** - having regard for the safety, operations, design, and other engineering aspects of the alternative solution.
- **Natural Environment** - having regard for protecting the natural and physical components of the environment (i.e., air, land, water and biota) including natural and/or environmentally sensitive areas.
- **Socio – Economic Environment**- having regard for residents, neighbourhoods, businesses, community character, social cohesion, and community features.
- **Cultural Environment** - having regard for historical/archaeological remains and heritage features.
- **Financial** - having regard for capital costs associated with implementing the alternative.

Table 6-1: List of Planning Alternatives Evaluation Criteria

Category of Consideration	Evaluation Criteria
TECHNICAL	• Potential effects on future highway corridor safety. • Potential for accommodating projected traffic volumes at the Highway 5/6 intersection. • Potential for highway corridor consistency.
NATURAL ENVIRONMENT	• Potential for short-term construction related effects on surface water quality • Potential for new water crossing structure. • Potential for damaging and/or removing vegetation.
SOCIO-ECONOMIC ENVIRONMENT	• Potential for short-term construction related effects on residents/businesses. • Potential for requiring private property
CULTURAL ENVIRONMENT	• Potential for destroying pre-contact and historical archaeological sites.
FINANCIAL	• Potential capital cost of implementing the alternative solution.

The preceding criteria were developed based on their applicability to the planning alternatives being evaluated and study area and potential to differentiate between the planning alternatives (i.e., criteria for aspects of the environment which would not potentially be affected or criteria which resulted in the same net effects for each planning alternative were not included).

Step #2: Identify Potential Effects on the Environment

After the various evaluation criteria were developed, they were applied to each of the planning alternatives to identify potential effects on the environment. This information was presented in a table for the purposes of identifying each alternative's strengths and weaknesses.

Step #3: Evaluate the Identified Effects and Select the Preferred Planning Alternative

The potential effects identified in the table were utilized to evaluate each alternative's strengths and weaknesses to provide an overall assessment of the planning alternatives. A preferred planning alternative was selected based on this assessment having the greatest strengths and fewest weaknesses.

6.2.1 Application of the Evaluation Methodology

A comparative evaluation of each of the planning alternatives was performed based on the methodology previously discussed. The evaluation results are summarized in Table 6-2.

TABLE 6-2:
COMPARATIVE EVALUATION SUMMARY OF THE PLANNING ALTERNATIVES

PLANNING ALTERNATIVES	CATEGORIES OF CONSIDERATION						
	TECHNICAL			NATURAL ENVIRONMENT	SOCIO-ECONOMIC ENVIRONMENT	CULTURAL ENVIRONMENT	FINANCIAL
	SAFETY	OPERATIONS	DESIGN				
1. Do Nothing	• Reduced safety as traffic volumes increase –, collision potential may increase.	• Future Highway 5/6 intersection capacity requirements not met.	• Designed to Highway design standards, but not consistent with newly built/to be built facilities.	• No short-term construction related effects or new water crossing. • No loss of vegetation or environmentally sensitive features.	• No short-term construction related effects, residences/businesses removed, agricultural resources consumed, or private property required.	• No loss of possible archaeological resources.	• No capital cost.
2. Promote Transit/ Increased Vehicle Occupancy	• Reduced safety as traffic volumes increase – collision potential may increase.	• Future Highway 5/6 intersection capacity requirements partially met.	• Designed to Highway design standards, but not consistent with newly built/to be built facilities.	• Minor short-term construction related effects, but no new water crossing. Apply mitigation measures. • No loss of vegetation or environmentally sensitive features.	• Minor short-term construction related effects, but no residences/businesses removed, agricultural resources consumed, or private property required. Apply mitigation measures.	• No loss of possible archaeological resources.	• Low capital cost.
3. Use Alternate Routes	• Reduced safety as traffic volumes increase – collision potential may increase.	• Future Highway 5/6 intersection capacity requirements partially met.	• Designed to a lower design speed (in urban areas) and highway corridor remains inconsistent.	• Short-term construction related effects, but no new water crossing. Apply mitigation measures. • Minor loss of vegetation and potential loss of environmentally sensitive features. Apply mitigation measures.	• Short-term construction related effects, residences/businesses potentially removed, agricultural resources potentially consumed, and private property potentially required. Apply mitigation measures.	• Loss of possible archaeological resources. Apply mitigation measures.	• Medium-high capital cost.
4. Improve Existing Highway 6 Corridor	• Increased safety as vehicle turning movements reduced/restricted – collision potential decreases.	• Future Highway 5/6 intersection capacity requirements fully met.	• Designed to Highway design standards, consistent with newly built/to be built facilities	• Short-term construction related effects and potential new water crossing. Apply mitigation measures. • Loss of vegetation, but no loss of environmentally sensitive features. Apply mitigation measures.	• Short-term construction related effects, residences/businesses removed, and private property required, but no agricultural resources consumed. Apply mitigation measures.	• Loss of possible archaeological resources. Apply mitigation measures.	• Medium capital cost.
5. Construct New Route a) South of Highway 5 Northerly b) North of Highway 5 Northerly	• Increased safety as through traffic volumes reduced – collision potential decreases.	• Future Highway 5/6 intersection capacity requirements fully met.	• Designed to Highway design standards, consistent with newly built/to be built facilities.	• Short-term construction related effects and new water crossings. Apply mitigation measures. • Significant loss of vegetation and potential loss of environmentally sensitive features. Apply mitigation measures.	• Short-term construction related effects, residences/businesses removed, significant agricultural resources consumed, and private property required. Apply mitigation measures.	• Loss of possible archaeological resources. Apply mitigation measures.	• High capital cost.

Preferred Planning Alternative for 2021 Planning Horizon

6.3 Selection of the Preferred Planning Alternative

As identified in Table 6-2, **Improving the Existing Highway 6 Corridor** was selected as the preferred planning alternative based on the comparative evaluation methodology utilized. This planning alternative was selected first overall for the following reasons:

- Increases safety because vehicle turning movements would be reduced/restricted minimizing potential collisions;
- Fully meets future Highway 5/6 intersection requirements;
- Can be designed to Highway standards, consistent with newly built/to be built facilities;
- Results in only moderate short-term construction related effects on the natural environment that could be mitigated through the application of standard measures.
- Results in only moderate short-term construction related effects on both the social and cultural environments that could be mitigated through the application of standard measures.
- Moderate capital costs.

Although Constructing a New Route has the same advantages as the preferred planning alternative in terms of safety, operations and design, it has the potential for much greater impacts on the natural, socio-economic, and cultural environments. In addition, it has the highest capital cost of all planning alternatives considered.

Even though the Promote Transit/Increase Vehicle Occupancy planning alternative has minor natural, socio-economic and cultural impacts on the environment and a much lower capital cost compared to the preferred planning alternative, it does not satisfy the safety, operations, and design requirements of the study.

Using Alternative Routes has capital costs that are equal to or even higher than that of the preferred planning alternative without the safety, operations, and design advantages.

Although the Do Nothing alternative has no impacts on the natural, socio-economic, or cultural environments and no capital cost, it does not satisfy the safety, operation and design requirements of the study.

7. DESCRIPTION OF THE PRELIMINARY DESIGN PROCESS

Since improving the Highway 6 corridor was selected as the preferred planning alternative for the study, Preliminary Design Alternatives were generated and evaluated leading to a preferred Preliminary Design Alternative for implementing the preferred planning alternative.

7.1 Generation and Evaluation of the Preliminary Design Alternatives

The following aspects relating to the Study Area were taken into consideration in generating the Preliminary Design Alternatives:

- Highway 6 has recently been reconstructed to a five lane configuration north of Highway 5 within the Study Area
- Heavy turning volumes exist and will increase at the Highway 5/6 intersection. The heaviest turning moves are to/from the South to East and to the South from the West
- Heavy truck traffic moves to the West from the South
- Commercial development exists in all four quadrants of the Highway 5/6 intersection, including service stations, lodging, fast food, and other uses
- New development proposals are being considered for a number of the adjacent properties
- A mix of residential and commercial uses having access to Highway 6, from just south of Highway 5 northerly
- The Niagara Escarpment is located to the south of the Highway 5/6 intersection
- A section of Highway 6 from Highway 403 to Highway 5 (south of the Study Area), that is currently being designed, is to be reconstructed as a controlled access highway facility

With these aspects in mind, it became apparent during the generation of the Preliminary Design Alternatives that the Study Area consisted of two distinct sections:

(1) The Highway 5/6 Intersection

(2) The Highway 6 Corridor (north of the Highway 5/6 intersection)

As a result, Preliminary Design Alternatives were generated for both sections.

7.1.1 Highway 5/6 Intersection

Intersection versus Interchange

In terms of the Highway 5/6 intersection, the question of whether or not it should remain as an intersection or be replaced with something else had to be determined. Consequently, three options were considered:

- Option 1 – maintain the existing at grade intersection as is.
- Option 2 – vertically separate Highways 5 and 6 with no access between the two highways.
- Option 3 – vertically separate Highways 5 and 6 with full access between the two highways via interchange ramps.

The three options were assessed based on their ability to meet future intersection capacity requirements and accommodate current intersection movements. Option 1 would not meet future intersection capacity requirements. The existing intersection configuration maximizes through traffic flow with double left turns for the heaviest moves from the south to the west and from the east to the south. As traffic volumes increase there will be more queuing and delay at the intersection. Over the next 8-12 years, the intersection would breakdown due to heavy left turn demands.

Option 2, grade separating Highway 5 and Highway 6, would not permit the heavy westbound, eastbiybd and southbound movements to be accomplished. This would change the characteristics of the Highway 5/6 intersection. Consequently, existing businesses would have a limited or more circuitous access via local roads and the location would be less desirable for new development due to the difficult access.

Option 3 (Interchange) would meet future intersection capacity requirements and accommodate current intersection movements. The interchange option would address future capacity issues by accommodating heavy flow. It would improve safety, particularly up the escarpment, by providing right turn exits from the Highway. In addition, it would provide a high level of service for years to come.

Therefore, "Option 3 – Interchange", was selected over the other two options for further analysis.

Alignment Alternatives

After determining that the existing intersection should be replaced with an interchange, it was essential to consider the horizontal /vertical alignments of both Highways 5 and 6 prior to generating Preliminary Design Alternatives.

Highway 6 – Horizontal Alignment

The following three alternatives were considered for the Highway 6 horizontal alignment (see Figure 7-1):

- Maintain the current Highway 6 alignment
- Shift the Highway 6 alignment to the east
- Shift the Highway 6 alignment to the west

All three horizontal alignment alternatives would result in the displacement of existing businesses to varying degrees. Maintaining the current Highway 6 horizontal alignment would result in the least number of existing businesses displaced. However, traffic/construction staging would be the most

difficult because the proposed interchange structure would have to be constructed on the main line. Consequently, short-term construction related effects on traffic and hence remaining existing businesses east and west of Highway 6 would be more severe because of complex staging/detours.

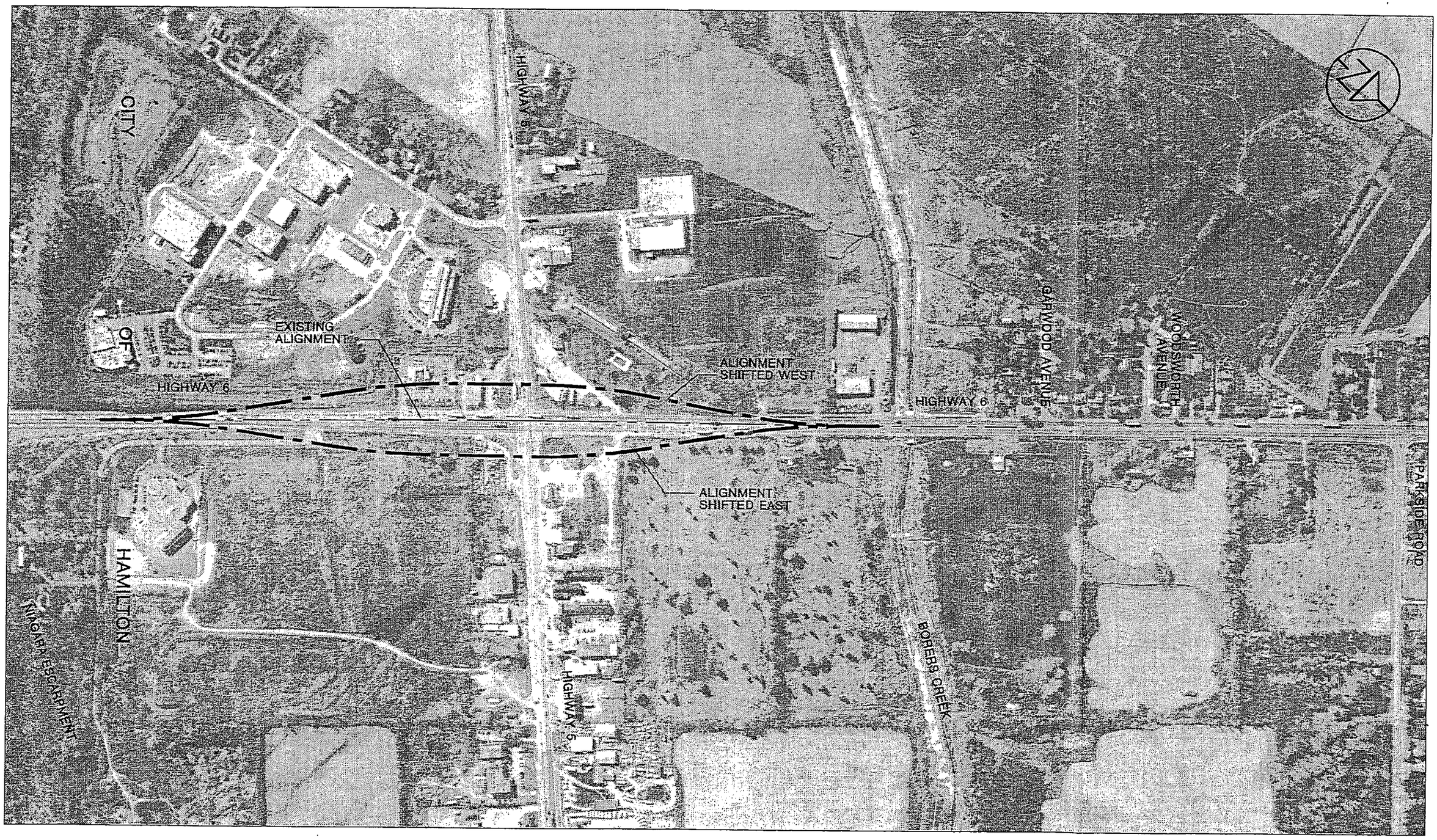
Shifting the Highway 6 horizontal alignment to the east would result in a slightly higher number of existing businesses being displaced than the preceding alternative. It would also result in some potential negative effects on the Niagara Escarpment (Urban Area designation). As well, the shift to the east would result in the loss of potentially developable land. Fortunately, the proposed developments located in the southeast quadrant of Highways 5 and 6 have incorporated a 'worst-case' interchange footprint and are developing their site plans with an alignment shift to the east in mind.

In contrast to the preceding alternative, traffic/construction staging would be easier to implement because the proposed interchange structure would be constructed off the mainline. Therefore, short-term construction related effects on traffic and hence remaining existing businesses east and west of Highway 6 would be less severe because of simpler staging/detours.

Shifting the Highway 6 horizontal alignment to the west would result in the highest number of existing businesses being displaced and accesses impacted. It would also result in some potential negative effects on the Niagara Escarpment (Urban Area designation). As well, the shift to the west would result in the loss of potentially developable land including the lands associated with Technology Park.

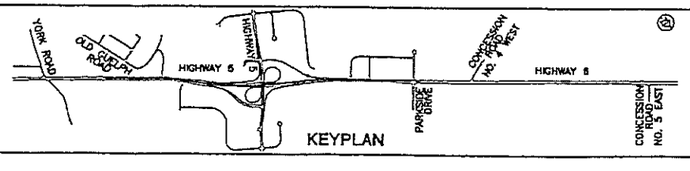
However, like the preceding alternative, traffic/construction staging would be easier to implement because the proposed interchange structure would be constructed off the mainline. As a result, short-term construction related effects on traffic and hence remaining existing businesses east and west of Highway 6 would be less severe because of simpler staging/detours.

Since shifting Highway 6 to the west would result in the highest number of existing businesses displaced, the alternatives of maintaining the current Highway 6 alignment and shifting Highway 6 alignment east were further analyzed in terms of natural and socio-economic environments to determine the preferred horizontal alignment for Highway 6.



EARTH TECH

Earth Tech Canada Inc. Markham, Ontario 905.668.7022



HIGHWAY 6

From 0.50 km South of Highway 5 to 5th Concession E

HORIZONTAL ALIGNMENT OPTIONS HIGHWAY 6

Scale: 1:5,000

25 0 50 Horizontal

Plate No: 7-1

Highway 5 – Horizontal Alignment

Three alternatives were also considered for the Highway 5 horizontal alignment (see Figure 7-2):

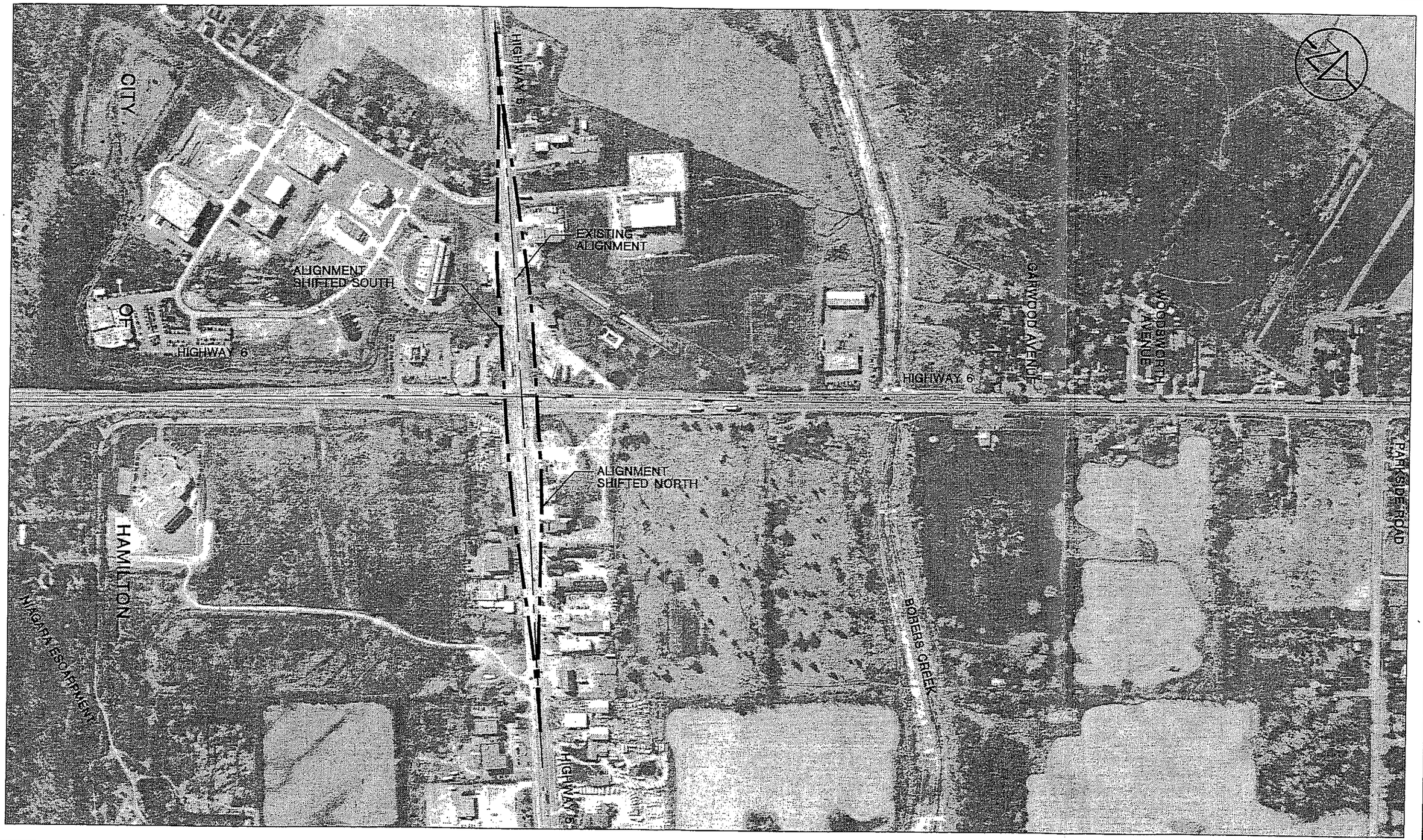
- Maintain the current Highway 5 alignment
- Shift the Highway 5 alignment to the north
- Shift the Highway 5 alignment to the south

Maintaining the current Highway 5 alignment would have significant property impacts on both the north and south side of Highway 5 since properties would be affected by detours during construction. There would also be some impacts to both Borers Creek and the Niagara Escarpment.

Shifting the Highway 5 alignment to the north would have significant property impacts on the north side since property would need to be acquired for permanent works. In addition, there would be some impacts to Borers Creek and the Niagara Escarpment (urban designation) in terms of culvert extensions required for speed change lanes. However, shifting to the north would allow the construction of the interchange structure offline while maintaining traffic on existing Highway 5.

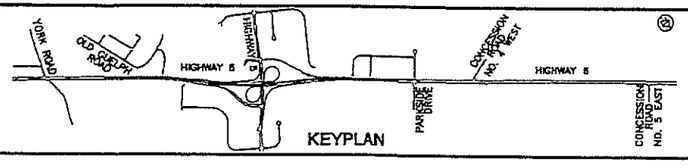
Shifting the Highway 5 alignment to the south would have significant property impacts on the south side since property would need to be acquired for permanent works. In addition, there would be significant impact to the Niagara Escarpment. However, shifting to the south would allow the construction of the interchange structure offline while maintaining traffic on existing Highway 5.

Therefore, shifting the alignment to the north would significantly reduce potential impacts to the Niagara Escarpment and construction and traffic staging implementation could be implemented more easily.



EARTH TECH

Earth Tech Canada Inc. Markham, Ontario 905.888.7022



HIGHWAY 6
From 0.50 km South of Highway 5 to 5th Concession E

HORIZONTAL ALIGNMENT OPTIONS HIGHWAY 5

Scale: 1:5,000

25 0 50
Horizontal

Plate No: 7-2

Highway 5 and Highway 6 Vertical Alignments

Initially, three alternatives for Highway 6 and Highway 5 were examined:

- Raise the grades of Highways 5 and 6;
- Maintain the grades of Highways 5 and 6; and
- Lower the grades of Highways 5 and 6

With the exception of utility impacts, lowering Highway 6 (below existing grade) and raising Highway 6 (above existing grade) would have similar impacts to the natural and socio-economic environments. However, raising Highway 6 would result in extending and potentially increasing the already deficient existing 7% grade in the section of the project south of Highway 5. Therefore, raising Highway 6 was not considered further. However, maintaining the existing 7% grade up the Niagara Escarpment and lowering Highway 6 was carried forward for further analysis.

In regards to the Highway 5 vertical alignment, raising Highway 5 above existing grade would have minor impacts to existing utilities while lowering Highway 5 below existing grade would have significant impacts to existing utilities. In addition, lowering Highway 5 would significantly change the drainage pattern in the intersection thus requiring a more complex, costly drainage design. Both alignments would also impact existing businesses significantly. As a result, raising Highway 5 and maintaining the existing grade of Highway 5 was carried forward for further analysis.

Two vertical alignment alternatives were considered further based on the preceding discussion:

- Lower the grade of Highway 6 and maintain the grade of Highway 5
- Maintain the grade of Highway 6 and raise the grade of Highway 5

Several alternatives were developed for the lowering of Highway 6 to reduce the 7% slope while maintaining the grade of Highway 5. The primary advantages associated with reducing the 7% grade are improvements in operations and safety. Highway 6 grade reductions examined ranged from a 3% standard freeway grade to a 6% grade. However, the following disadvantages were determined for all the examined grade reductions on Highway 6:

- Significant impacts to the Niagara Escarpment with cuts ranging from 18m to 40 m and fill heights of up to 12 m;
- Extensive property requirements along Highway 6 from the existing CN Rail Track to Highway 5;
- Severe impacts to Grindstone Creek;
- Excessive overall construction costs due to extensive rock cuts;
- Major impacts to existing utilities;

- Significant impacts to the project immediately south of this study (currently approved under the EA Act and in detail design);
- Extremely complex staging with excessive costs requiring extensive construction to maintain traffic flow.

Maintaining the grade of Highway 6 and raising the grade of Highway 5 was also examined and would minimize and/or eliminate the preceding disadvantages associated with lowering Highway 6. However, vehicle operations, particularly for trucks, would not be improved with maintaining the grade of Highway 6. This is offset by a third climbing lane up the escarpment proposed in the project adjacent and to the south of this study.

As a result, the preferred vertical alignment configuration for grade separation is Highway 5 over Highway 6 for the preceding reasons.

Highway 5/6 Interchange Configuration Design Alternatives

Following confirmation of the horizontal and vertical alignments for the proposed Highway 5/6 interchange, a total of 18 interchange configuration design alternatives were generated based on the ideas from the value planning workshops, study area conditions, design requirements and the following general interchange design families:

- *Parclo A4 Interchange Design Family:* This interchange provides all movements between intersecting roadways and is a partial cloverleaf interchange with two inner loop ramps located on the freeway approach. All four quadrants are utilized.
- *Parclo A2 Interchange Design Family:* This interchange provides all movements between intersecting roadways and is a partial cloverleaf interchange with two inner loop ramps located on the freeway approach. A right turn on a minor road is replaced by a left turn onto a loop ramp. Two quadrants are utilized.
- *Diamond Interchange Design Family:* This interchange provides all movements between intersecting roadways. The ramps intersect with the crossing road at at-grade traffic signal controlled intersections and left turns are made on minor roads to the ramps. All four quadrants are utilized through economical property usage.
- *Buttonhook Interchange Design Family:* This interchange provides all movements between intersecting roadways and tends to have lower quality geometric features than Parclo's or Diamonds.
- *Parclo AB Interchange Design Family:* This interchange provides all movements between intersecting roadways and is a partial cloverleaf interchange with two inner loop ramps. Right turns on minor roads are replaced by a left turn onto a loop ramp. There are weaving sections on minor roads.

Screening of the Interchange Configuration Design Alternatives

The 18 interchange configuration design alternatives were screened according to the following exclusionary criteria in order to develop a "short list" of the most "reasonable" alternatives addressing the problem statement:

- Can the alternative accommodate 2021 traffic volumes (Level of Service D or better)?
- Does the alternative provide satisfactory traffic operations?

Those alternatives that failed to meet both criteria were eliminated from further consideration.

In total, 13 generated interchange design alternatives were eliminated with the following five being carried forward for a detailed qualitative comparative evaluation (see Table 7-1):

- Interchange Alternative No. 1 Parclo A4 Interchange
- Interchange Alternative No. 1A – modified Parclo A4 Interchange
- Interchange Alternative No. 1B – Shifted Parclo A4 Interchange
- Interchange Alternative No. 5 – Buttonhook
- Interchange Alternative No. 5A – ½ Buttonhook, ½ Parclo A4

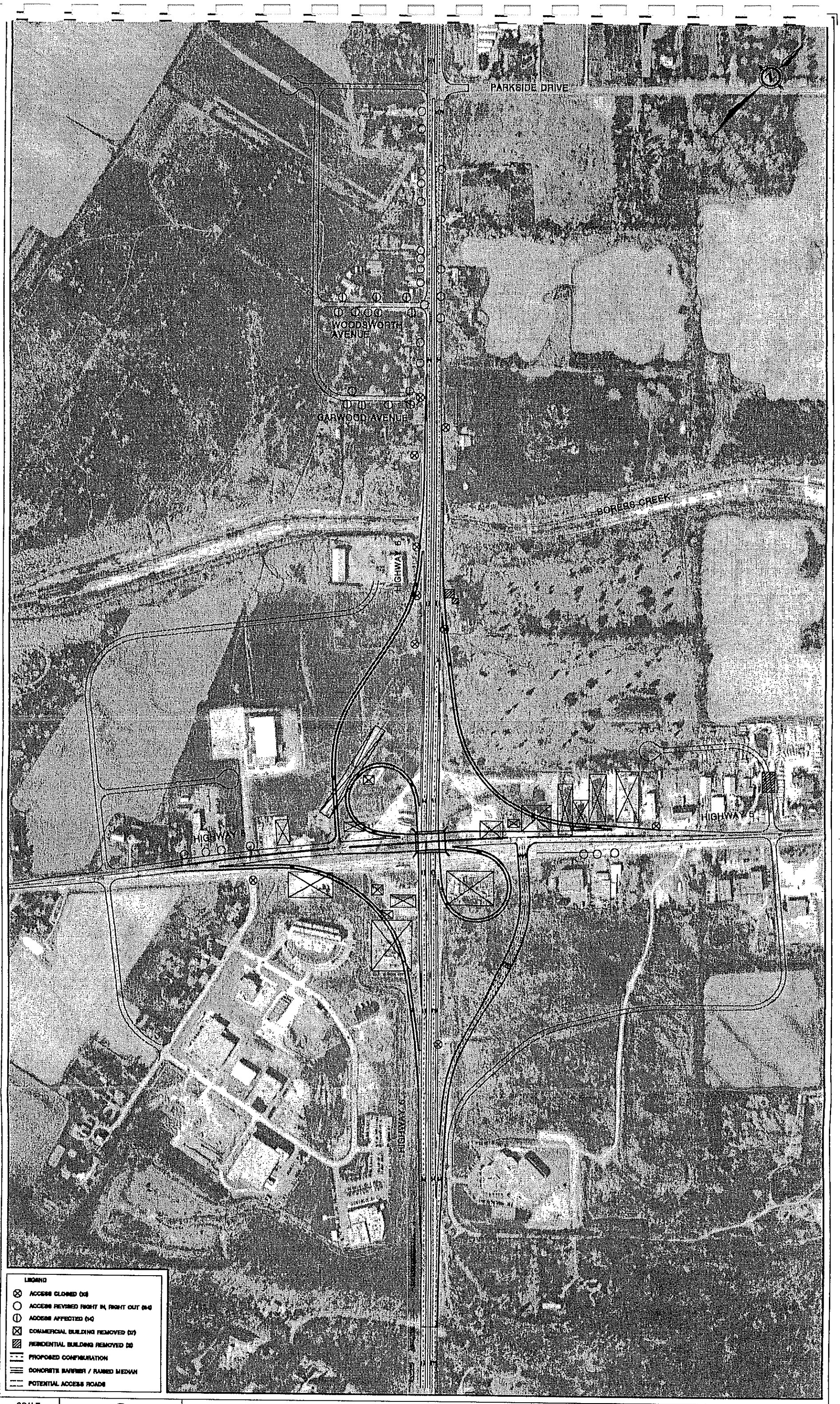
Each of these preceding interchange design alternatives is presented in Figures 7-3 to 7-7 respectively.

Table 7: Screening of the Identified Highway 5/6 Interchange Configuration Design Alternatives

CONFIGURATION DESIGN ALTERNATIVE	CAN THE ALTERNATIVE ACCOMMODATE 2021 TRAFFIC VOLUMES (LEVEL OF SERVICE D OR BETTER)?	DOES ALTERNATIVE PROVIDE SATISFACTORY TRAFFIC OPERATIONS
Alternative No. 1 – Parclo A4 Interchange	Yes	Yes. User friendly", easily/clearly signed, used throughout Ontario. Exceeds minimum design standards and provides desirable geometrics
Alternative No. 1A – Modified Parclo A4 Interchange	Yes, however ramp W-S modified to a 50 km/hr design speed	Yes. Provides minimum design standards at ramp W-S. All other ramps provide desirable geometrics
Alternative No. 1B – Shifted Parclo A4 Interchange	Yes, however municipal road network revised significantly	Yes. Highway 5 and Highway 6 significantly realigned. Meets minimum design standards. Significant change to local road network
Alternative No. 2 – Parclo A2	No Ramp E,W-S fails 420 EB left merging with 1105 WB right on loop ramp Volume larger than 1300 ramp capacity	Not Applicable
Alternative No. 2A – Parclo A2	No. Ramp E,W-S fails 420 EB left merging with 1105 WB right on loop ramp. Volume larger than 1300 ramp capacity	Not Applicable
Alternative No. 3 – Full Diamond	No 1105 WB left does not provide an adequate LOS at intersection. Left turn queues may block East ramp terminus Long storage length (320m) if double lefts not used. Bridge deck width would have to be increased	Not Applicable
Alternative No. 3A – Point Diamond	Yes, however, limited capacity beyond 2021 planning horizon No flexibility for future expansion	No. Does not meet driver expectations Provides minimal design standards Longer delay for ramp traffic Intersection design may confuse unfamiliar motorists Less pedestrian friendly. Restricted pedestrian crossing of Highway 5
Alternative No. 4 – ½ Diamond/ Parclo	No A2 configuration at NW quadrant fails. Intersection (Ramp termini) located east of Highway 6 fails	Not Applicable
Alternative No. 4A – ½ Diamond/ Parclo	No Intersection (Ramp termini) located east of Highway 6 fails	Not Applicable
Alternative No. 4B – ½ Diamond/ Parclo	No Intersection (Ramp termini) located east of Highway 6 fails	Not Applicable
Alternative No. 5 – Buttonhook	Yes, however, if access to inner loops (for business developments) is required, then ramp operations need to be further analyzed	Yes. Meets minimum design standards. Requires adding an extra lane to ramp E,W-S
Alternative No. 5A – ½ Buttonhook, ½ Parclo A4	Yes, however, if access to inner loops (for business developments) is required, then ramp operations need to be further analyzed	Yes. Meets minimum design standards. Requires adding an extra lane to ramp E,W-S
Alternative No. 5B – Buttonhook	No Ramp S-E/W fails (2040 ramp volume)	Not Applicable
Alternative No. 6 – Parclo AB	No, due to weaving between S-W and E-S ramps	Not Applicable
Alternative No. 6A – Parclo AB	No, due to weaving between S-W and E-S ramps	Not Applicable
Alternative No. 6B – Parclo AB	No, due to weaving between S-W and E-S ramps	Not Applicable
Alternative No. 6C – Parclo AB	No Intersection (Ramp termini) located east of Highway 6 fails	Not Applicable
Alternative No. 7 – Collector / Service Road	No Intersection (Ramp termini) located east of Highway 6 fails	Not Applicable

Selected design alternative to be carried forward for further analysis

Design Alternative does not meet screening criteria

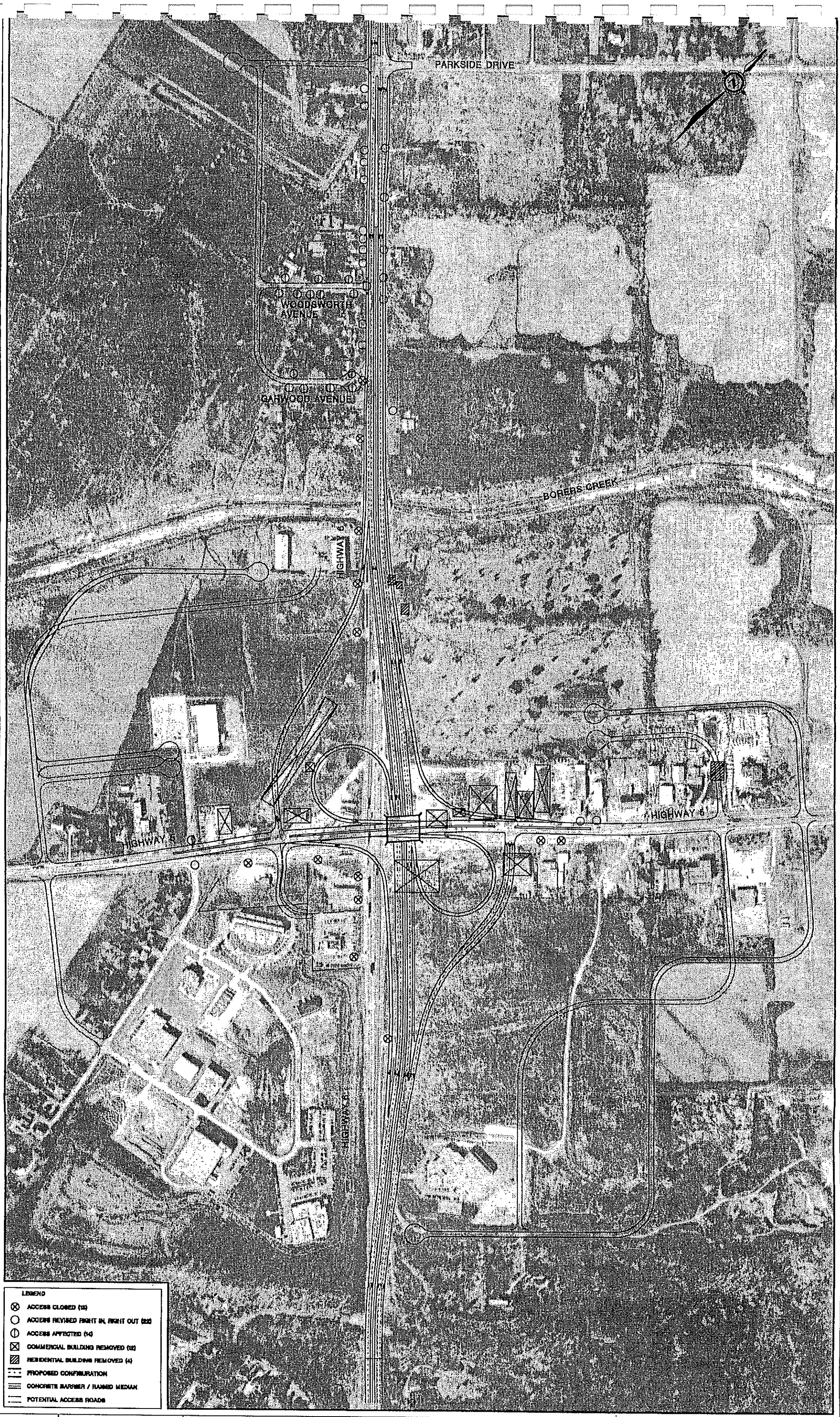


SCALE

HIGHWAY 6 PRELIMINARY DESIGN
From 0.5 km South of Highway 5 to Concession Road 6 East

ALTERNATIVE 1

FIGURE 7-3



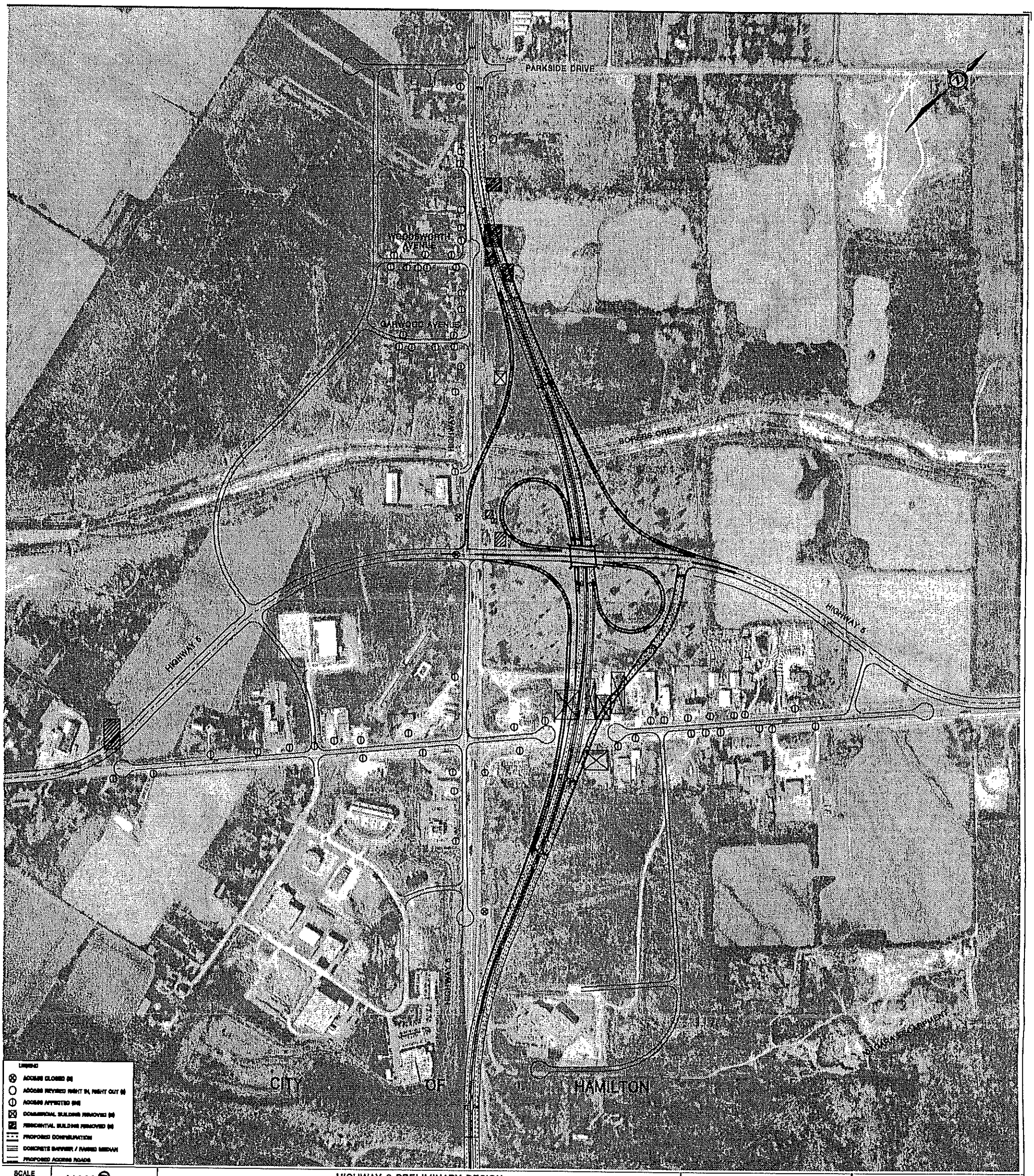
SCALE

EARTH TECH

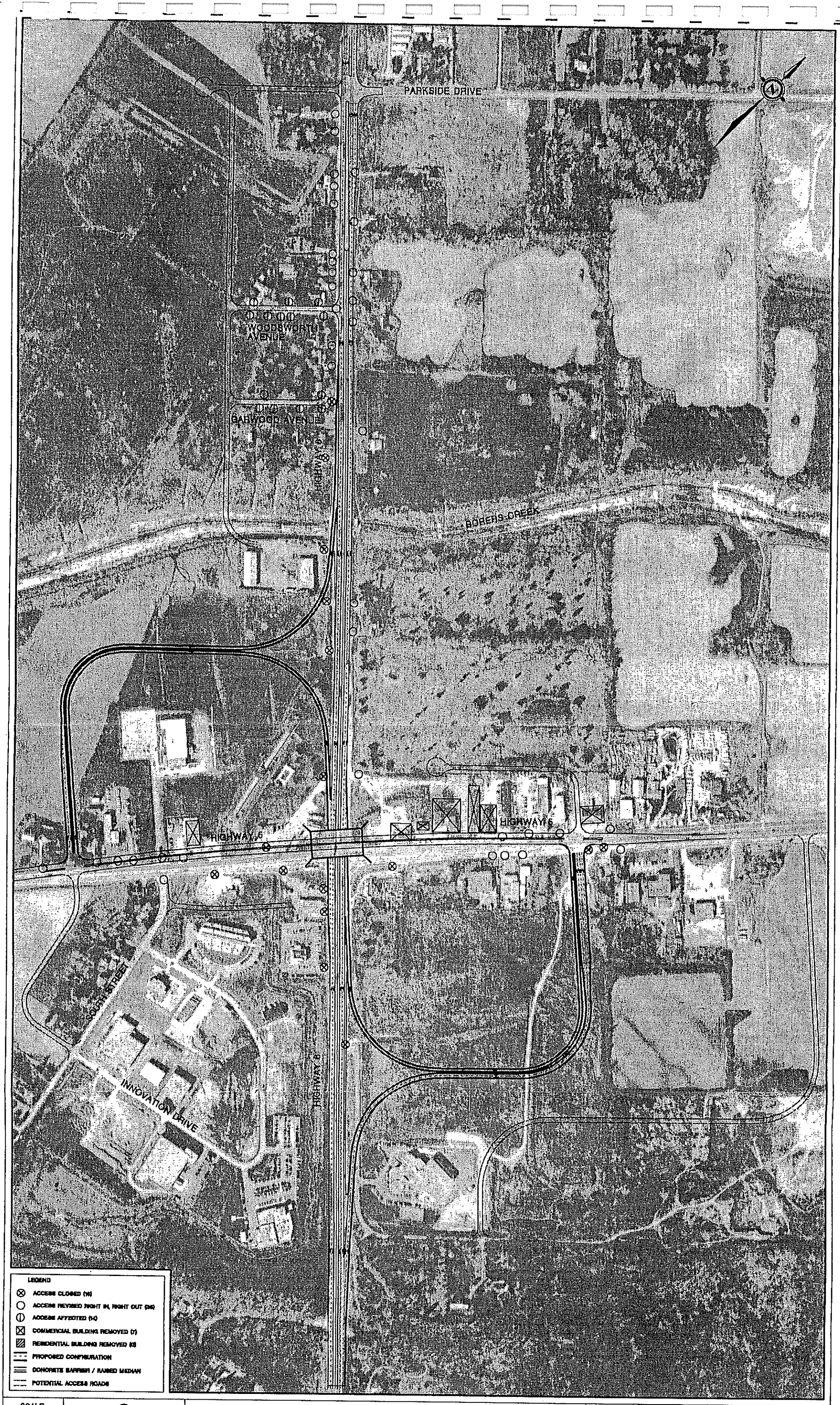
HIGHWAY 6 PRELIMINARY DESIGN
From 0.5 km South of Highway 5 to Concession Road 6 East

ALTERNATIVE 1A

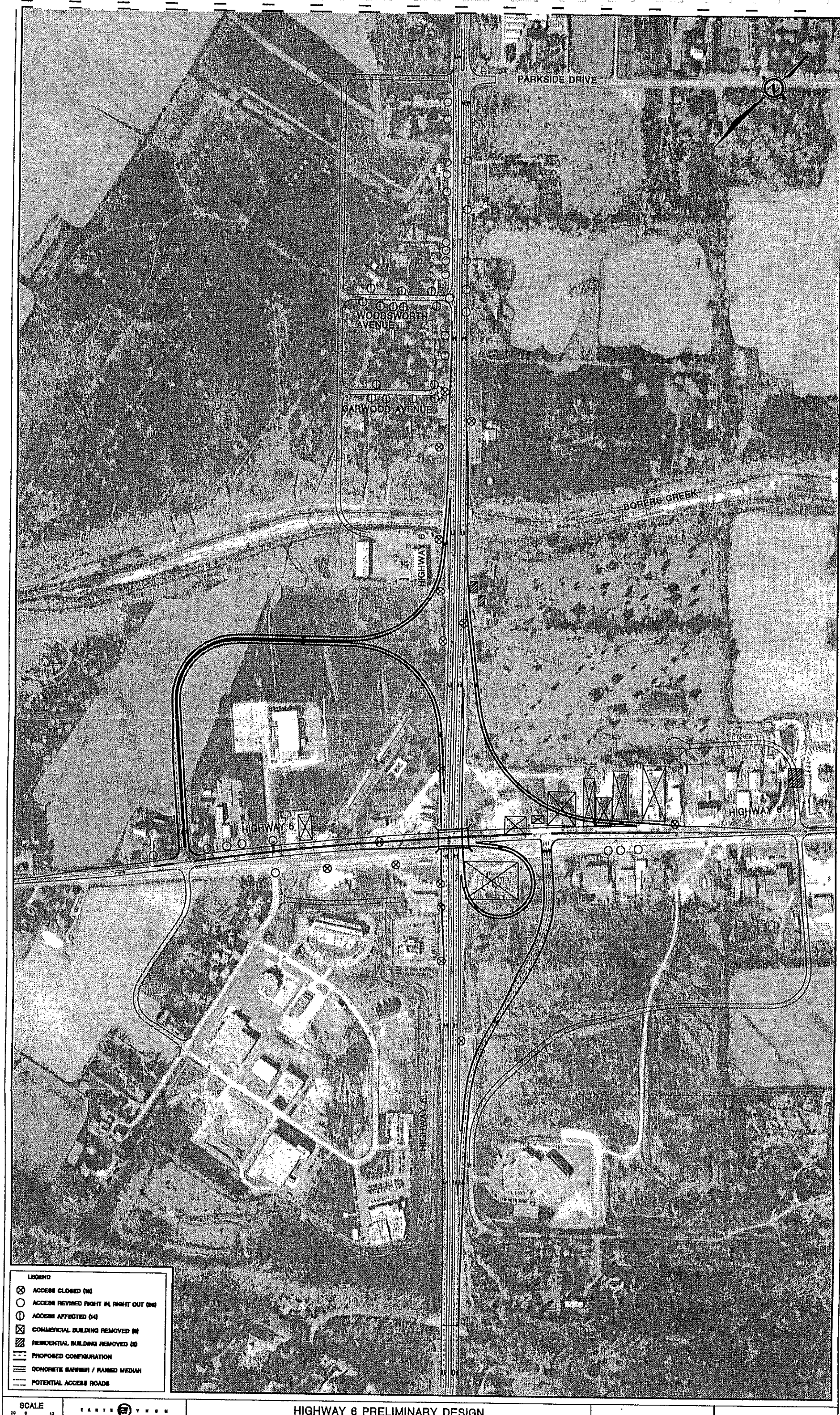
FIGURE 7-4



SCALE		HIGHWAY 6 PRELIMINARY DESIGN From 0.5 km South of Highway 5 to Concession Road 6 East	ALTERNATIVE 1B	FIGURE 7-5



SCALE		HIGHWAY 6 PRELIMINARY DESIGN From 0.5 km South of Highway 5 to Concession Road 5 East	ALTERNATIVE 5	FIGURE 7-6



SCALE

HIGHWAY 6 PRELIMINARY DESIGN
From 0.5 km South of Highway 5 to Concession Road 5 East

ALTERNATIVE 5A

FIGURE 7-7

Evaluation of the "Short-listed" Interchange Configuration Design Alternatives

Description of the Evaluation Methodology Utilized

Following the screening exercise, a qualitative comparative evaluation was undertaken for the remaining five interchange design alternatives. This comparative evaluation followed the same methodology described for the planning alternatives including the following three steps:

Step #1: Develop comparative evaluation criteria

Step #2: Apply the comparative evaluation criteria to each alternative to identify potential effects on the environment taking mitigation into consideration

Step #3: Evaluate each alternative in terms of its effects on the environment and select the preferred preliminary design alternative

Step #1: Develop Comparative Evaluation Criteria

Similar to the process utilized for the Planning Alternatives, a comprehensive list of evaluation criteria within the following 'Categories of Consideration' representing the broad definition of the "environment" as set out in the EA Act were first developed (see Table 7-2):

- **Technical** - having regard for the safety, operations, design, and other engineering aspects of the interchange design alternative.
- **Natural Environment** - having regard for the natural and physical components of the environment (i.e., air, land, water and biota) including natural and/or environmentally sensitive areas.
- **Socio – Economic** - having regard for residents, neighbourhoods, businesses, community character, social cohesion, and community features.
- **Cultural** - having regard for historical/archaeological remains and heritage features.
- **Financial** - having regard for capital costs associated with implementing the alternative.

Table 7-2: List of Interchange Design Alternative Evaluation Criteria

Category of Consideration	Evaluation Criteria
TECHNICAL	• Potential overall Level of Service (LOS) for Key Movements (2001). • Potential effects on queuing/progression of Highway 5. • Interchange Design Treatment Standardization & Driver Perception of Decision Points. • Potential Treatment of Conflicting Traffic Movements. • Potential Ease of Signing. • Potential for flexibility in the future. • Potential effects on existing local road system. • Potential for meeting highway design standards. • Potential effects on constructability
NATURAL ENVIRONMENT	• Potential for short-term construction related effects on downstream surface water quality and quantity. • Potential for removing vegetation. • Potential for altering surface watercourses. • Potential for encroaching upon existing environmentally sensitive features (Niagara Escarpment Plan "Natural Areas, Environmentally Sensitive Areas").
SOCIO-ECONOMIC	• Potential for removing residences, businesses and/or community facilities. • Potential for closing existing property access. • Potential for revising existing property access (right turn in, right turn out only). • Potential for affecting existing property access (access location altered). • Potential number of current development applications affected. • Potential for removing designated and zoned land for development. • Potential for requiring private property or temporary easements. • Potential for impacting contaminated sites. (i.e. soils containing hydrocarbons & metals). • Potential for short-term construction related effects on residents, business, community facilities and roadway users. • Potential highway and construction noise.
CULTURAL	• Potential for loss of possible archaeological resources. • Potential for displacing remnant built heritage features.
FINANCIAL	• Potential capital costs. • Potential clean up costs associated with impacted contaminated sites. • Potential property acquisition costs (not including business loss). • Potential Overall Total Costs (capital and property acquisition).

The preceding criteria were developed based on their applicability to the preliminary design alternatives being evaluated and study area. These criteria were presented at PIC No. 1 for comment. No comments specific to the criteria were received.

Step #2: Apply Evaluation Criteria and Identify Potential Effects on the Environment

Once developed, the evaluation criteria were applied to each of the preliminary design alternatives to identify potential effects on the environment. Where appropriate, mitigation was applied to the identified potential negative effects to determine the resulting net effects on the environment. This information was presented in a table for the purposes of identifying each alternative's strengths and weaknesses.

Step #3: Evaluate the Identified Effects and Select the Preferred Preliminary Design Alternative

Following Step #2, the potential effects identified in the table were utilized to evaluate each alternative's strengths and weaknesses. The preferred design alternative was selected as having the greatest strengths and fewest weaknesses based on this evaluation.

To aid in selecting a preferred interchange configuration design alternative, colour shading was applied to the table by criterion with "green" representing the most preferred alternative design within a criterion and "red" representing the least preferred alternative design within a criterion. No colour shading meant that the alternative design is neither the most preferred nor the least preferred with that criterion.

Application of Evaluation Methodology

A comparative evaluation of the five interchange preliminary design alternatives was performed based on the preceding methodology with the results summarized in Table 7-3.

CATEGORIES OF CONSIDERATION	CRITERIA	INTERCHANGE CONFIGURATION DESIGN ALTERNATIVES				
		ALTERNATIVE 1 PARCLO A4	ALTERNATIVE 1A PARCLO A4, SHIFTED HWY 6	ALTERNATIVE 1B PARCLO A4, REALIGNED HWY 6	ALTERNATIVE 5 BUTTONHOOK	ALTERNATIVE 5A 1/2 BUTTONHOOK / ½ PARCLO
	Potential property acquisition costs (not including business loss)	• Highest property acquisition costs	• 2nd lowest property acquisition costs	• Lowest property acquisition costs	• 3rd lowest property acquisition costs	• 2nd highest property acquisition costs
	Potential Overall Total Costs (capital and property acquisition)	• 2nd highest overall total costs	• 3rd lowest overall total costs	• Highest overall total costs	• Lowest overall total costs	• 2nd lowest overall total costs
EVALUATION SUMMARY		• Provides the highest level of service	• Provides a high level of service	• Provides a high level of service.	• Provides a satisfactory level of service except for some key movements.	• Provides a satisfactory level of service except for some key movements
		• Moderate effects on the natural environment.	• Least effects on the natural Environment	• Highest effects on the natural environment.	• Moderate effects on the natural environment.	• Moderate effects on the natural environment.
		• Highest socio-economic impacts, but minimizes the removal of developable land.	• Moderate socio-economic impacts and minimizes the removal of developable land.	• Low socio-economic impacts, except for affecting property access and the removal of developable land.	• Least socio-economic impacts, except for private property requirements and the removal of developable land.	• Moderate socio-economic impacts, and minimizes the removal of developable land.
		• 2nd highest overall total costs.	• 3rd lowest overall total costs.	• Highest overall total costs.	• Lowest overall total costs.	• 2nd lowest overall total costs.
PREFERRED INTERCHANGE CONFIGURATION DESIGN ALTERNATIVE			✓			

Legend:

Considered most preferred within a criterion

Considered least preferred within a criterion

Notes:

1. All design alternatives were considered similar in terms of "Potential for short-term construction related effects on downstream surface water quality and quantity". Effects are anticipated over 2 construction seasons (between 17 and 20 months) and would be minimized through standard mitigation measures. In addition, all design alternatives were considered equal in terms of "Potential for removing vegetation". In all cases, primarily cultural meadows and lawns with sparse cattail, tree and shrub cover and 1 endangered tree species (red mulberry shrub) would be removed.
2. All design alternatives were considered similar in terms of "Potential for short term construction related effects on residents, business, community facilities and roadway users". Effects are anticipated over 2 construction seasons (between 17 and 20 months) and would be minimized through standard mitigation measures.
3. All design alternatives were considered similar in terms of "Potential highway and construction noise". No increase greater than 5dB (which is considered as being "marginally significant") was predicted at any noise sensitive areas (NSA) for any of the design alternatives. Therefore, under MTO guidelines, investigation of mitigation is not required for any of the design alternatives. Any construction noise generated would be minimized through standard mitigation measures.
4. The extent of contamination on the 17 potentially contaminated sites impacted has been determined through a Phase II Environmental Site Investigation.
5. All design alternatives are considered equal in terms of "Potential loss of possible archaeological resources". There are currently two archaeological sites registered within the immediate vicinity of the Study Area; however, both sites are considered free from archaeological concern. A Stage II Archaeological Assessment will be undertaken on the remaining undisturbed portions of the study area to determine the presence of actual archaeological resources which would be mitigated through follow up Stage 3 and, if necessary, Stage 4 Archaeological Assessments.

CATEGORIES OF CONSIDERATION	CRITERIA	INTERCHANGE CONFIGURATION DESIGN ALTERNATIVES				
		ALTERNATIVE 1 PARCLO A4	ALTERNATIVE 1A PARCLO A4, SHIFTED HWY 6	ALTERNATIVE 1B PARCLO A4, REALIGNED HWY 6	ALTERNATIVE 5 BUTTONHOOK	ALTERNATIVE 5A 1/2 BUTTONHOOK / ½ PARCLO
NATURAL ENVIRONMENT [1]	Potential for altering surface watercourses.	• The Grindstone Creek intermittent tributary (W4) would be partially removed and the existing Borers Creek culvert would be lengthened (10 m all on east side).	• No alteration of Grindstone Creek intermittent tributary (W4), but the existing Borers Creek culvert would be lengthened (10 m all on east side).	• The Grindstone Creek intermittent tributary (W4) would be crossed by a new municipal road, 2 new culverts (60 m and 15 m long) would be built on Borers Creek.	• No alteration of Grindstone Creek intermittent tributary (W4), but the existing Borers Creek culvert would be lengthened (14 m to the west side).	• No alteration of Grindstone Creek intermittent tributary (W4), but the existing Borers Creek culvert would be lengthened (14 m to the west side and 7 m to the east side).
	Potential for removing Niagara Escarpment rock face.	• Lowest amount of Niagara Escarpment rock face removed	• Moderate amount of Niagara Escarpment rock face removed	• Highest amount of Niagara Escarpment rock face removed	• Lowest amount of Niagara Escarpment rock face removed	• Lowest amount of Niagara Escarpment rock face removed
SOCIO-ECONOMIC [2] [3]	Potential for removing residences, businesses and/or community facilities.	• The highest number of residences, businesses and/or community facilities removed (20).	• The 2nd highest number of residences, businesses and/or community facilities removed (16)	• The 3rd highest number of residences, businesses and/or community facilities removed (14).	• The lowest number of residences, businesses and/or community facilities removed (7)	• The 2nd lowest number of residences, businesses and/or community facilities removed (12).
	Potential for closing existing property access.	• The 3rd highest number of existing property accesses closed (10)	• The 2nd highest number of existing property accesses closed (13)	• The lowest number of existing property accesses closed (3)	• The highest number of existing property accesses closed (16)	• The highest number of existing property accesses closed (16)
	Potential for revising existing property access (right turn in, right turn out only).	• The 2nd highest number of existing property accesses revised (24)	• The 3rd highest number of existing property accesses revised (22)	• The lowest number of existing property accesses revised (1)	• The 2nd lowest number of existing property accesses revised (35)	• The highest number of existing property accesses revised (26)
	Potential for affecting existing property access (access location altered).	• The lowest number of existing property accesses affected (14)	• The lowest number of existing property accesses affected (14)	• The highest number of existing property accesses affected (60)	• The 2nd highest number of existing property accesses affected (24)	• The lowest number of existing property accesses affected (14)
	Potential number of current development applications affected.	• Highest number of current development applications affected (6)	• Highest number of current development applications affected (6)	• Lowest number of current development applications affected (2)	• 2nd Lowest number of current development applications affected (3)	• Highest number of current development applications affected (6)
	Potential for removing designated and zoned land for development	• 2nd lowest amount of designated and zoned land for development removed (4 ha).	• 3rd lowest amount of designated and zoned land for development removed (5 ha).	• Highest amount of designated and zoned land for development removed (23 ha).	• 2nd highest amount of designated and zoned land for development removed (11 ha).	• Lowest amount of designated and zoned land for development removed (3 ha).
	Potential for requiring private property or temporary easements.	• The highest number of private properties required (25).	• The 2nd highest number of private properties required (23).	• The lowest number of private properties required (8).	• The 2nd lowest number of private properties required (22).	• The highest number of private properties required (25).
	Potential for impacting contaminated sites. (i.e. soils containing hydrocarbons & metals) [4]	• The highest number of potentially contaminated sites impacted (6 of 17 sites).	• The 2nd highest number of potentially contaminated sites impacted (4 of 17 sites).	• The 2nd lowest number of potentially contaminated sites impacted (3 of 17 sites)	• The lowest number of potentially contaminated sites impacted (1 of 17 sites).	• The 2nd highest number of potentially contaminated sites impacted (4 of 17 sites).
CULTURAL [5]	Potential for displacing remnant built heritage features.	• 2 remnant built heritage features displaced requiring further historical research/photographic documentation prior to construction.	• 2 remnant built heritage feature displaced requiring further historical research/photographic documentation prior to construction.	• 1 remnant built heritage features displaced requiring further historical research/photographic documentation prior to construction.	• No remnant built heritage features displaced.	• 2 remnant built heritage features displaced requiring further historical research/photographic documentation prior to construction.
COST	Potential capital costs.	• 3rd lowest capital costs	• 2nd highest capital costs	• Highest capital costs	• Lowest capital costs	• 2nd lowest capital costs
	Potential clean up costs associated with impacted contaminated sites	• Highest potential clean up costs	• 3rd lowest potential clean up costs	• 2nd lowest potential clean up costs	• Lowest potential clean up costs	• 2nd highest potential clean up costs

TABLE 7-3: HIGHWAY 5/6 INTERCHANGE CONFIGURATION DESIGN ALTERNATIVES EVALUATION SUMMARY

CATEGORIES OF CONSIDERATION	CRITERIA	INTERCHANGE CONFIGURATION DESIGN ALTERNATIVES				
		ALTERNATIVE 1 PARCLO A4	ALTERNATIVE 1A PARCLO A4, SHIFTED HWY 6	ALTERNATIVE 1B PARCLO A4, REALIGNED HWY 6	ALTERNATIVE 5 BUTTONHOOK	ALTERNATIVE 5A 1/2 BUTTONHOOK / ½ PARCLO
TECHNICAL **Legend:** LOS - Level of Service WB - Westbound EB - Eastbound NB - Northbound SB - Southbound SBL - Southbound Left EBL - Eastbound Left SW - Southwest SE - Southeast NBT - Northbound Through NBR - Northbound Right E-N - East North W-S - West South	**Potential overall Level of Service (LOS) for Key Movements (2001)**	• LOS B - West Terminal • LOS A – East Terminal (channelized right) • All traffic movements are at LOS C or higher	• LOS C – West Terminal • LOS B – East Terminal • All traffic movements are at LOS C or higher	• LOS B - West Terminal • LOS A – East Terminal (channelized right) • All traffic movements are at LOS C or higher	• LOS E for Eastbound Lane and LOS D for Southbound Lane • Additional lane to be added to ramp E/W – S to avoid queue • LOS D East Ramp • LOS D for EBL and LOS E for NBT and NBR	• LOS E for Eastbound Lane and LOS D for SBL • Additional lane to be added to ramp E/W – S to avoid queue • LOS A – East Terminal (channelized right) • LOS D for EBL and SBL
	Potential effects on queuing / progression on Highway 5	• Can accommodate queues between ramp terminals • Excellent signal co-ordination	• Can accommodate queues between ramp terminals • Good signal co-ordination • Additional delay due to left turn phasing at West ramp terminal	• Can accommodate queues between ramp terminals • Good signal co-ordination • Additional delay due to left turn phasing at West ramp terminal • Requires more use of local roads	• Poor signal co-ordination due to signal spacing and phasing requirements • Increased need for left turn phasing on Highway 5	• Marginal opportunity for co-ordination due to signal spacing and phasing requirements
	Interchange Design Treatment Standardization & Driver Perception of Decision Points	• Standard readily recognizable interchange design	• Commercial access opposite West ramp terminal is not typical in semi-rural environment • Ramp layout in SW quadrant may be confusing to driver.	• Commercial access opposite West ramp terminal is not typical in semi-rural environment • Ramp layout in SW quadrant may be confusing to driver.	• Requires left turns to access Highway 6 • Two way traffic on ramps increase potential conflict, unless divided by barrier	• Return movements are not provided in similar manner for each direction – may result in driver confusion, wrong way movements • Requires left turns to access Highway 6 • Two way traffic on ramps increase potential conflicts unless divided by barrier
	Potential Treatment of Conflicting Traffic Movements	• No opposing traffic flow at ramp terminals	• Opposing traffic flow at one ramp terminal	• Opposing traffic flow at one ramp terminal	• Opposing traffic flow at two ramp terminals	• Opposing traffic flow at one ramp terminal
	Potential Ease of Signing	• Standard signing treatment can be used	• All moves standard except for sign placement of West ramp terminal	• All moves standard except for sign placement of West ramp terminal	• Requires enhanced advance signing for left turn movements to access ramps • Additional signing needed to prevent wrong way movements at two ramp terminals	• Requires enhanced advance signing for left turn movements to access ramps • Additional signing needed to prevent wrong way movements at one ramp terminal
	Potential for flexibility in the future	• Most flexible for future interchange improvements	• More flexible for future interchange improvements	• Flexible for future interchange improvements	• Least flexible for future interchange improvements	• Less flexible for future interchange improvements
	Potential effects on existing local road system	• Relatively minor impact to existing local road system	• Relatively minor impact to existing local road system	• Relatively significant impact existing to local road system	• Relatively significant impact to existing local road system	• Relatively significant impact existing to local road system
	Potential for meeting highway design standards	• 100 km design speed or better maintained on Highway 6 • 80 km design speed maintained on Highway 5 • 70 km design speed for ramps (Ramps E-S and W-N at 40 km/hr)	• 100 km design speed or better maintained on Highway 6 • 80 km design speed maintained on Highway 5 • 70 km design speed for ramps (Ramp E-S and W-N at 40 km/hr)	• 100 km design speed maintained on Highway 6 • 80 km design speed maintained on Highway 5 • 70 km design speed for ramps (Ramps E-S and W-N at 40 km/hr)	• 100 km design speed or better maintained on Highway 6 • 80 km design speed maintained on Highway 5 • 60 km entrance/exit to Highway 6 and 60 km/hr ramp radius	• 100 km design speed or better maintained on Highway 6 • 80 km design speed , maintained on Highway 5 • 60 km entrance/exit (SE quadrant ramp) to Highway 6
	Potential effects on constructability	• Harder to construct	• Easier to construct	• Easiest to Construct	• Harder to construct	• Harder to construct

Selection of the Preferred Interchange Design Alternative

Interchange Design Alternative 1A – Modified Parlo A4 was selected as the preferred interchange design alternative for the following reasons:

- Provides a high level of service (higher than either Alternatives 5 or 5A, relatively equal to Alternative 1B, and only lower to Alternative 1)
- Least effects on the natural environment among all five alternatives
- Moderate socio-economic impacts and minimizes the removal of developable land (relatively equal to Alternative 5A and better than Alternative 1)
- Third lowest overall total costs (only Alternatives 5 and 5A have lower overall total costs).

Despite having less socio-economic impacts than some of the other alternatives and providing a high level of service, Interchange Design Alternative 1B has a relatively high negative effect on the natural environment and, based on the amount of new access road needed, highest overall total costs.

Although both Interchange Design Alternatives 5 and 5A offer a number of advantages (i.e. moderate effects on the natural environment, the least socio-economic impacts of all the alternatives, and lowest overall total costs), they do not provide a satisfactory level of service for all traffic movements.

Although Interchange Design Alternative 1 provides the highest level of service among the five alternatives, it has the highest negative effects in terms of socio-economic impacts (particularly its affect on established businesses in each quadrant).

7.1.2 Highway 6 Corridor (north of the Highway 5/6 intersection)

In terms of the Highway 6 corridor north of the proposed Highway 5/6 interchange, six corridor alternatives were developed to address capacity and safety concerns within this portion of the Study Area:

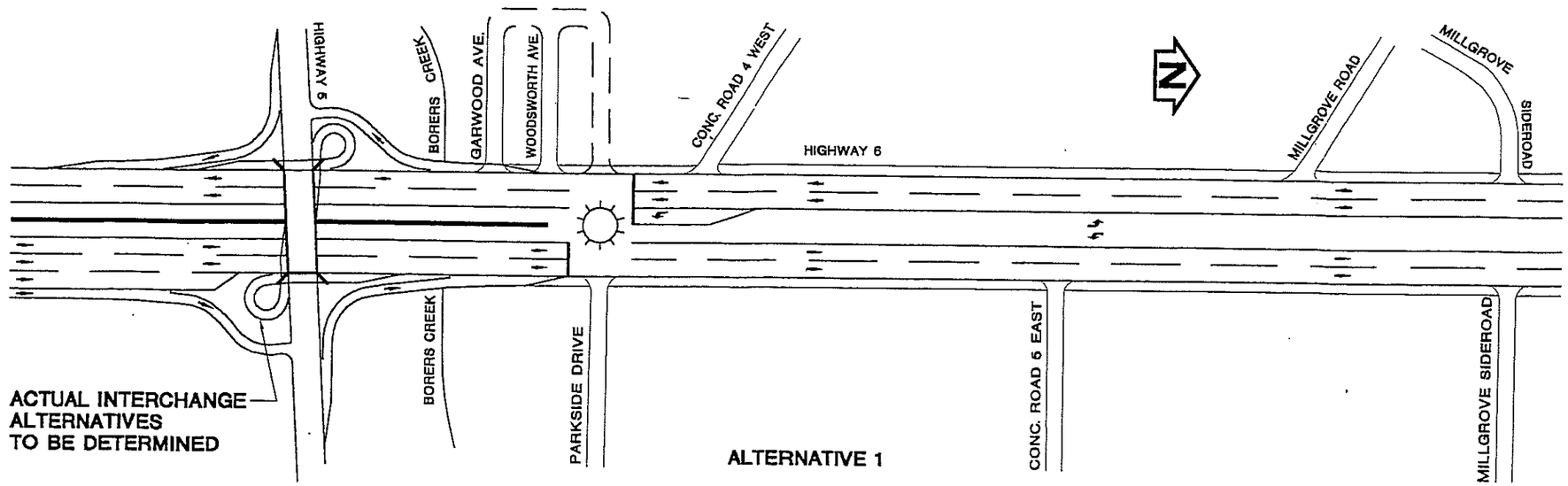
- Corridor Alternative 1 includes four lanes with a raised median barrier within the interchange limits, a signalized intersection at Parkside Drive, and no changes north of the interchange limits;
- Corridor Alternative 2 is the same as Corridor Alternative 1, but includes wide paved shoulders throughout project limits;
- Corridor Alternative 3 includes a raised median barrier to Concession Road 5 East, a signalized intersection at Concession Road 5 East, and a grade separated turnaround between Concession Road 4 West and Concessions Road 5 East with right in, right out access to/from Parkside Drive;
- Corridor Alternative 4 is the same as Corridor Alternative 3, but includes wide paved shoulders throughout project limits;
- Corridor Alternative 5 includes a raised median barrier to Concessions Road 5 East, a signalized intersection at Concession Road 5 East, and a grade separated turnaround between Concession Road 4 West and Concessions Road 5 East, and no access to/from Parkside Drive/Concession Road 4 West;
- Corridor Alternative 6 is the same as Corridor Alternative 5, but instead of no access to/from Parkside Drive/Concession Road 4 West, a service road located on east/west sides of Highway 6- all access to/from Highway 6 closed

Since all six corridor alternatives would address future capacity concerns along the Highway 6 corridor, an analysis of raised median barriers and their relationship to safety was examined because of the potential negative effects associated with the barriers on local residents (i.e. loss of access, loss of property). This safety analysis determined that the need for raised median would exist in the future due to the following:

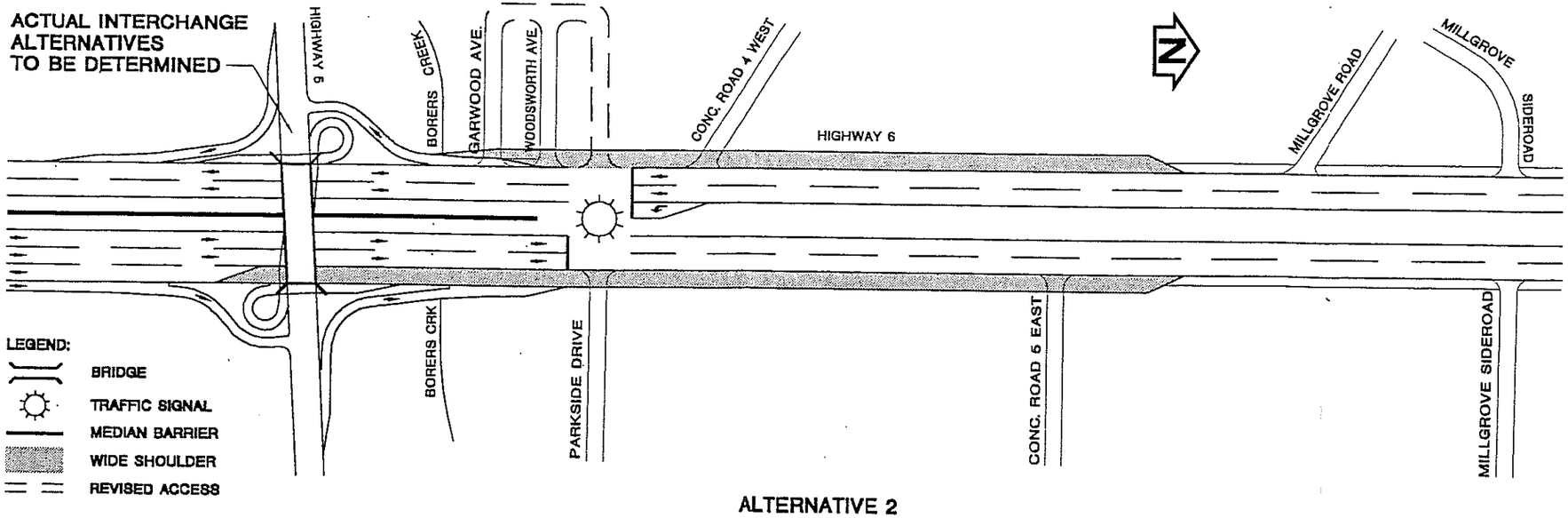
- Highway 6 north of this study's limits is a five-lane cross-section that will experience traffic volume increases. Consequently, there will be a reduction in safe gaps for turning vehicles.

However, the Highway 6 corridor, northerly to Highway 401 will most likely be subject to further studies in the future that may change its role and function.

In light of this potential change, only Corridor Alternatives 1 and 2 were carried forward for further analysis in order to minimize potential negative effects to local residents in the short term (see Figure 7-8).



ALTERNATIVE 1



ALTERNATIVE 2

Ministry of Transportation Ontario	EARTH TECH Earth Tech Canada Inc. Markham, Ontario 905.886.7022	HIGHWAY 6 PRELIMINARY DESIGN From 0.50 km South of Highway 5 to 5th Concession E	PLANNING ALTERNATIVES CORRIDOR OPTIONS	FIGURE 7-8

Evaluation of the Highway 6 Corridor Design Alternatives

Description of the Evaluation Methodology Utilized

After determining that only the first two corridor design alternatives would be carried forward for further analysis, a qualitative comparative evaluation was undertaken following the same methodology described for the planning alternatives and interchange design alternatives including the three aforementioned steps.

Step #1: Develop Comparative Evaluation Criteria

Similar to the process utilized for the Planning Alternatives and Interchange Design Alternatives, a comprehensive list of evaluation criteria representing the broad definition of the "environment" as set out in the EA Act were first developed (see Table 7-4).

Table 7-4: List of Corridor Alternative Evaluation Criteria

Category of Consideration	Evaluation Criteria
TECHNICAL	• Potential for flexibility in the future • Potential for requiring construction easements • Potential effects on existing traffic operations/safety
FINANCIAL	• Potential capital costs

Since the two corridor alternatives were not anticipated to have any direct natural, social-economic, or cultural potential effects, criteria were only developed for the Technical and Financial categories of consideration.

Step #2: Apply Evaluation Criteria and Identify Potential Effects on the Environment

Once developed, the evaluation criteria were applied to each of the corridor alternatives to identify potential effects on the environment. Where appropriate, mitigation was applied to the identified potential negative effects to determine the resulting net effects on the environment. This information was presented in a table for the purposes of identifying each alternative's strengths and weaknesses.

Step #3: Evaluate Each of the Corridor Alternatives and Select the Preferred Corridor Alternative

The potential effects identified in the table were utilized to evaluate each alternative's strengths and weaknesses to provide an overall assessment of the corridor alternatives. A preferred corridor alternative was selected based on this assessment having the greatest strengths and fewest weaknesses.

Application of the Evaluation Methodology

The detailed comparative evaluation of the two Highway 6 corridor design alternatives is summarized in Table 7-5:

Table 7-5: Corridor Alternatives Comparative Evaluation

CATEGORIES OF CONSIDERATION	CRITERIA	CORRIDOR ALTERNATIVES (From Highway 5 to Parkside Drive)	
		FOUR LANES WITH MEDIAN BARRIER AND STANDARD SHOULDERS	FOUR LANES WITH MEDIAN BARRIER AND PAVED DRIVEABLE SHOULDERS
TECHNICAL	**Potential for flexibility in the future**	• Existing roadway must be widened to accommodate speed change lanes	• Wide shoulders could be converted into speed change lanes in the future • Closed drainage system could be designed to accommodate future designs
	Potential for requiring construction easements	• Construction easements required for grading. Grading impacts could be mitigated with steeper sideslopes or retaining walls	• Construction easements required for grading. Grading impacts could be mitigated with steeper sideslopes or retaining walls • Boulevard width could be reduced to minimize property impact
	Potential effects on existing traffic operations/safety	• Does not allow for acceleration / deceleration into existing driveways and commercial entrances	• Safer refuge for vehicles stopping on shoulder • Allows for acceleration / deceleration right in right out to/from existing driveways/commercial entrances along Highway 6 • Reduces potential for rear-end type accidents
FINANCIAL	**Potential capital costs**	• Lower Capital cost (Parts of the closed drainage system could be constructed when widening is required)	• Higher Capital Cost (Closed drainage system/curb and gutter to be constructed as part of this work)

Selected corridor design alternative.

Selection of the Preferred Highway 6 Corridor Design Alternative

Despite its higher capital cost, Alternative 2 – Four Lanes with Median Barrier and Paved Drivable Shoulders was selected as the preferred corridor alternative over Alternative 1 primarily based on its ability to better address existing traffic operations/safety.

7.2 Description of the Preferred Preliminary Design Alternative

Having selected the preferred interchange design alternative and Highway 6 corridor design alternative the overall preferred Preliminary Design Alternative for the study is described as follows (see Figure 7-9):

- Realign Highway 6 slightly to the east in the vicinity of the Highway 5/6 intersection;
- Realign Highway 5 slightly to the north in the vicinity of the Highway 5/6 intersection;
- Construct a Parclo A4 interchange in place of the existing Highway 5/6 intersection including ramps and a Highway 5 bridge over Highway 6;
- Construct a concrete median barrier within the interchange limits;
- Provide full illumination within the interchange limits;
- Install two new traffic signals at each ramp terminus;
- Reconfigure the traffic signal at Parkside Drive;
- Extend the twin 6.0 x 2.0 m concrete box and 4.27 x 1.56 m relief flow concrete box at Borer's Creek;
- Widen and fully pave shoulders within the interchange limits;
- Construct a concrete curb and gutter within the interchange limits; and
- Provide storm sewers for drainage within the interchange limits.

In terms of the potential access roads illustrated on Figure 7-9, EA approval has not been sought through the this study. The MTO will continue to work with the new City of Hamilton to confirm the location and configuration of the proposed municipal access roads prior to the interchange being constructed.

PARKSIDE DRIVE

WOODSWORTH AVENUE

GARWOOD AVENUE

BORERS CREEK

HIGHWAY 6

HIGHWAY 5

HIGHWAY 5

HIGHWAY 6

LEGEND

- ACCESS CLOSED (10)
- ACCESS REVISED RIGHT IN, RIGHT OUT (22)
- ACCESS AFFECTED (14)
- COMMERCIAL BUILDING REMOVED (18)
- RESIDENTIAL BUILDING REMOVED (4)
- PROPOSED CONFIGURATION
- CONCRETE BARRIER / RAISED MEDIAN
- POTENTIAL ACCESS ROADS

SCALE

EARTH TECH

HIGHWAY 6 PRELIMINARY DESIGN
From 0.5 km South of Highway 5 to Concession Road 5 East

PREFERRED PRELIMINARY DESIGN ALTERNATIVE

FIGURE 7-9

8. SUMMARY OF THE ENVIRONMENTAL EFFECTS, PROPOSED MITIGATION, COMMITMENTS TO FURTHER WORK, AND MONITORING ASSOCIATED WITH THE PREFERRED PRELIMINARY DESIGN ALTERNATIVE

There are a number of potential adverse effects and concerns associated with implementing the preferred Preliminary Design Alternative based on Study Area conditions and external agency / public comments. As a result, the following summarizes the recommended mitigation measures, commitments to further work, and the monitoring requirements that will need to be reviewed and finalized during detail design for addressing these effects and concerns. (see Table 8-1).

Loss of Vegetation and Wetlands

The vegetation in the Study Area, particularly within in the vicinity of the Highway 5/6 intersection, is primarily characterized as fields with a variety of smaller vegetation communities, such as shallow marshes and wooded areas, located throughout the Study Area. In total, approximately 9 ha of vegetation consisting mainly of grasses, shrubs, and saplings with a scattering of mature trees would be removed. The majority of the vegetation that would be removed is situated within an urban land use designation for future development.

The following general mitigation measures are recommended for the affected vegetation located in the Study Area on both sides of Highway 6 from approximately 500m south of Highway 5 to just north of Parkside Drive:

- All surfaces susceptible to erosion will be revegetated through the placement of seeding, mulching or sodding within 45 days of exposure, unless located adjacent to structures where the revegetation will be undertaken once the structural work is complete, and with sufficient time to allow for successful establishment prior to winter.
- Abandoned paved surface will be removed and restored to native and landscaped vegetation through a planting plan.
- Barriers for tree protection are recommended for any trees or large shrubs to be retained close to construction. This is especially important in proximity to the adjacent ESAs.
- Trees to be destroyed will be properly inventoried at the detailed design stage in order to compensate with an appropriate landscape planting plan – preferably with native species and species that blend into the surrounding Escarpment environment.

An important concern is the potential loss of a shrub specimen of the nationally threatened red mulberry. It is currently found approximately 600 m south of Highway 5 east of Highway 6 and would be removed by the preferred Preliminary Design Alternative (see Figure 4-1a). A sufficient mitigation measure would be to plant a nursery grown red mulberry as part of the planting plan on the west side of Highway 6, opposite the side where construction would be occurring, with appropriate site and soil conditions.

Specific protection measures will also apply to work in proximity to vegetation communities on the escarpment cliffs. For any impact affecting the escarpment cliffs, it is recommended that construction be monitored in the following manner: (1) access to cliffs from the top by machinery will be avoided; (2) if any rock removal is required, mechanical rock removal is recommended and should be exercised with caution with to respect to the cliff edge and rock blasting should be considered as a last resort; and (3) any loose rock should be removed from the site.

In addition, standard wetland mitigation will be considered for any retained marsh areas near the southwest and northeast corners of the Highway 5/6 intersection and the southeast corner of the Highway 6 / Parkside Drive intersection: (1) silt fencing adjacent to marsh communities; (2) rock checks and/or silt fence flow checks in all ditches leading toward wetland areas; (3) demarcation of fill areas; (4) removal from the site of any excess fill or stockpiled excavated materials; and (5) all equipment maintenance and refuelling will be conducted away from watercourses and watercourse banks.

Encroachment into Environmentally Significant Escarpment Protection Areas

No encroachment into either environmentally significant (i.e. Niagara Escarpment) or designated ESAs (i.e. Millgrove Woodlot ESA, Borer's Falls-Rock Chapel ESA, and Clappison Escarpment Woods ESA) is currently anticipated based on the proposed improvements. Although no encroachment is presently expected, the NEC has expressed interest in the project, specifically with reference to the Escarpment Protection and Escarpment Urban Areas crossed by Highway 6. Only the Escarpment Protection Area falls within the development control area designated under the Niagara Escarpment Plan.

Where applicable, mitigation will preserve the vertical rock face of the Escarpment and retain the forested edge to the brow of the Escarpment to maintain its natural and visual values. Under the current Plan, the Escarpment Protection Area most likely only covers the west portion of Highway 6 up to the existing rockface edge. Therefore, the designated Escarpment Protection Area would be unaffected.

In terms of protecting the vertical rockface from construction, the mitigation measures associated with the loss of vegetation and wetlands previously described will apply. Appropriate buffers and buffer width to the Environmental Protection Area will be considered as a mitigation measure as well, if applicable, at the detailed design stage in order to provide appropriate setbacks and screening. This would minimize both visual impact in terms of the escarpment and ecological impact in terms of links and corridor functions.

Disruption of Area Wildlife

Wildlife identified within the region is dependent on interior forest habitat and would not be expected near the Highway 6 corridor. In addition, the wildlife found in close proximity to Highway 6 is common and mobile enough not to be adversely affected by the preferred Preliminary Design Alternative. Therefore, no special mitigation measures are necessary for wildlife. However, hibernacula should be inventoried during detail design and appropriate mitigation be undertaken should any be found.

Temporary Impairment of Surface Water Quality

To reduce the impairment of surface water quality and protect downstream fisheries resources, standard erosion and sediment control measures should be used in areas requiring excavation or in-channel works in order to slow runoff velocities and reduce erosive forces, including:

- Silt fencing along all construction areas adjacent to all watercourses
- Appropriate erosion protection measures such as rock checks or silt fence flow checks be placed in all ditches immediately upstream of their discharge into a watercourse;
- Appropriate erosion protection measures such as check dams placed in advance of any sewer inlets;
- Finished earth slopes graded to a 2 to 1 slope maximum and planted, as recommended in the Niagara Escarpment Plan and large cuts terraced to minimize surface erosion and sedimentation
- All excavated materials requiring stockpiling placed in appropriate locations, and the perimeters of stockpiles subject to erosion being appropriately protected;
- All equipment maintenance and refueling conducted away from watercourses and watercourse banks.
- Excess silt fence, maintained on site, prior to the commencement of grading operations and throughout the duration of the construction, in case of an emergency; and
- The integrity of all sediment trapping devices monitored regularly (weekly and following rain events) and properly maintained. Such structures will be removed only after the soils of the construction areas have been stabilized and then only after the trapped sediments have been removed.

Degradation / Loss of Groundwater Resources

Since the existing profile of Highway 6 will be maintained in the preferred Preliminary Design Alternative, no significant subsurface construction activities are anticipated besides that required for the footings for the Highway 5 bridge over Highway 6. As a result, the potential for impacting groundwater quality and well yield in domestic potable wells in the study area is anticipated to be minimal. However, during construction activities, the integrity of any active or inactive wells will be maintained. Damage to any well that is not properly abandoned has the potential to allow for contaminants to enter the aquifer. If unused wells are encountered during construction activities, they must be abandoned in accordance with Ontario Regulation 903.

There is potential for adverse impact to groundwater quality from breakage of septic tiles that may be present in the study area. Prior to construction, local property owners will be consulted to determine the exact locations of septic beds. Care will be taken during construction to minimize the disturbance of septic beds. If they are disturbed or broken, they will be replaced immediately, and any seepage will be contained and removed from the site immediately.

Also, appropriate mitigation measures will be undertaken to minimize the potential for subsurface impact to groundwater from abandoned and active fuel service stations and two greenhouse operations located within the Study Area.

Consideration will be given to establishing a pre-construction baseline database for wells (quantity and quality) in the area of proposed construction activities. This data could be used to confirm whether or not any impact to these resources has occurred should concerns be raised from the public or regulatory agencies during or subsequent to the completion of construction activities.

Loss of Fisheries and Aquatic Habitat

Construction of the preferred Preliminary Design Alternative would not require any new water crossings. However, it is anticipated that there would be a requirement to extend the existing box culvert over the main branch of Borer's Creek to accommodate (1) the widening of Highway 6, (2) the beginning of the on-ramp from Highway 6 (southbound) to Highway 5, and (3) the ending of the off-ramp from Highway 5 (westbound) to Highway 6 (northbound).

The eastern extent of the box culvert would be lengthened by an additional 10 m over Borer's Creek, resulting in the possible harmful alteration, disruption or destruction of fish habitat (HADD; Section 35 of the federal Fisheries Act). Consultation with MNR during detail design must be undertaken to decide the appropriate course of action.

In terms of environmental protection measures that should be implemented, construction activities requiring in-water works will be permitted only during the warmwater fisheries timing window from July 1 to March 31, prohibiting in-water work between April 1 and June 30.

An intermittent tributary of Grindstone Creek situated on the west side of Highway 6 south of Highway 5 will most likely be affected by construction and impacts to this stream will be discussed with MNR and Conservation Halton.

Potential for Uncovering Contaminated Soils and Designated Substances

As part of finalizing the preferred preliminary design alternative in detail design, additional soils investigations will be undertaken on those affected properties either containing adversely impacted soils or suspected of containing adversely impacted soils. These investigations will consider previous investigative results and focus on further delineation of the extent of adversely impacted soils to allow for a more detailed assessment of associated remediation (clean-up) costs. Any additional studies should also include sampling and analysis of impacted soils for the parameters listed in Ontario Regulation 558. The results of the O. Reg. leachate analysis will determine waste classification of the impacted soils (i.e. hazardous or non-hazardous) along with landfill disposal requirements and associated costs.

Consideration should also be given to conducting a Designated Substances and Hazardous Materials survey on those buildings that occupy the affected properties. The results of this survey will determine

the presence or absence of Designated Substances (i.e. asbestos, arsenic, mercury, etc.) and Hazardous Materials (i.e PCB's) which form part of the building fabric and would allow for the development of the full range of environmental liabilities associated with each building along with associated remediation costs.

Requirements for Private Property

The preferred Preliminary Design Alternative requires private property in order to be constructed. In these cases, the Ministry would survey the lands identified in the preliminary design and commence an evaluation to prepare an appraisal. Once completed, the Ministry would contact the property owner approximately 3 years prior to construction to commence compensation negotiations.

Inappropriate Management of Construction Debris

Various types of materials, including asphalt, concrete, soil, rock etc., would be generated during the project and would require appropriate management. Ministry and MOE protocol identifying material-by-material management options both inside and outside the construction area will be followed during construction.

All excess materials will be managed in accordance with the appropriate OPSS. The materials may be reused as a construction material or managed as engineered fill. Materials may also be temporarily stockpiled in preparation for these uses or removed from the site if required. Where an excess material management option cannot meet constraints, other options must be pursued or the material must be disposed of as waste.

Site protection is provided by the imposition of constraints adapted from existing legislation for the protection of water and air quality. The constraints on the management of these materials would involve discussion and written agreements with property owners and may involve consultation with MOE and other authorities.

Permanent Alternation of Municipal Road Access

Replacing the Highway 5/6 intersection with the proposed interchange would remove/alter access to these highways from adjacent properties. For this reason, MTO has developed a series of municipal access roads in the vicinity of the proposed interchange in consultation with the new City of Hamilton. Since these roads are only proposed at this time, their exact locations will need to be confirmed. As a result, MTO will continue to work with the new City of Hamilton to confirm the location of the proposed municipal access roads in the vicinity of the proposed interchange and construct them as required prior to the interchange being established.

Temporary Disruption of Traffic

It is anticipated that during the construction period there will be temporary disruption to traffic along Highway 6 and along Highway 5. In order to minimize this, all proposed access roads to existing

businesses/residences will be constructed prior to any commercial or private driveway closures. In addition, all business owners/residents will be informed prior to temporarily closing their access/egress and temporary accesses will be provided, as required. Additional mitigation measures should include maintaining a minimum of two through lanes of traffic in each direction during peak periods, providing appropriate signing and undertaking lane closures during off peak periods.

Temporary Increase in Noise and Vibration

It is anticipated that during construction there would be a temporary increase in noise and vibration in the Study Area related to construction equipment operation, demolition work, and rock removal. The Ministry's noise special provision will be used to address the requirements for control of construction noise produced by the Contractor's operations. Mitigation measures will include maintaining construction equipment and noise muffling devices in proper working order, operating equipment only as required and generating noise only as permitted by former Town of Flamborough (By-Law 89-164-N) or whatever noise by-law is in effect at the time of construction.

If night work is required, then an exemption from the noise by-law will be requested from the City of Hamilton.

Temporary Increase in Dust, Fumes and Odours

It is also expected that during construction there would be a temporary increase in dust, fumes, and odours in the Study Area related to construction equipment operation, demolition work, and rock removal. The Ministry's special provisions for the control of dust emissions will be included in the contract documents. Through these control measures, dust emissions will be prevented from entering surface waters, reaching traffic or pedestrians, or extending beyond the highway right-of-way.

Mitigation measures to be incorporated into construction activities will include, but not be restricted to, not undertaking demolition work (building removal) during periods of high wind, using low dust generating technologies, using wet type blades and grinders where asphalt sawing or concrete sawing/grinding is required, vacuuming surfaces to remove dust and debris, and implementing dust suppression techniques such as applying water, calcium chloride, etc.

It is anticipated that odour emissions and fumes would be short in duration and limited to the periods of construction machinery operation and the application of hot mix asphalt. Implementing standard mitigation measures (i.e., minimizing combustion emissions from equipment (proper maintenance, operate only as required, and restrict idling to the minimum necessary to perform the specified work)) should sufficiently address these potential adverse effects.

Exceeding MOE criteria for noxious gases and particulate matter is not expected.

Loss of Potential Archaeological Resources

Approximately 35% of the Study Area with confirmed archaeological potential has not been subject to a Stage 2 Archaeological Assessment (i.e. pedestrian surveyed) because property access was not granted and/or the land remained unploughed[20]. As a result, a Stage 2 Archaeological Assessment will be undertaken on these lands prior to any construction or other land-disturbing activities taking place.

Loss of Remnant Built Heritage Features

Four remnant built heritage features presently exist in the north-east (1), north-west (2), and south-east (1) quadrants of the Highway 5/6 intersection. It is presently expected that three of the four heritage features would be displaced by the proposed improvements; excluding the built heritage feature located approximately 0.5km west of the Highway 5/6 intersection, north of Highway 5. As a result, a detailed heritage assessment including further historical research and photographic documentation will be undertaken to determine appropriate mitigation measures.

Monitoring

The Contractor and Construction Administrator will ensure that implementation of mitigating measures and key design features are consistent with the contract and external commitments. In addition, they will assess the effectiveness of project environmental protection measures to ensure that:

- Environmental protection measures are what is needed; in place where they are needed; positioned where they are needed; and working as required;
- Operations, equipment and materials are only where they are permitted; occurring/operated/placed when they are permitted; and doing what is permitted;
- Deficiencies are corrected when they are needed; by using what is needed; and doing it where it is needed; and
- Information is available for the overview assessment of environmental mitigating measures.
- This project is subject to periodic on-site inspection to ensure the execution of the environmental component of the work and to deal with the environmental problems that may develop during construction. Periodic on-site inspection may be supplemented by the support of environmental specialists.

[20] Stage 1 and 2 Archaeology Resource Assessments and Built Heritage Assessment of Highway 6 from Highway 5, Northerly to the 5th Concession East. Archaeological Services Inc., November 2002.

TABLE 8-1:
SUMMARY OF ENVIRONMENTAL CONCERNS AND COMMITMENTS FOR THE PREFERRED PRELIMINARY DESIGN ALTERNATIVE

ENVIRONMENTAL ISSUE / CONCERN / EFFECT			ENVIRONMENTAL COMMITMENTS	
I.D. #	Issue / Potential Effects	Proposed Mitigation / Protection Requirements	Communication / Monitoring Requirements	Contract Administrator Comments
1.	Loss of Vegetation and Wetlands	• Inventory trees, as part of detail design, to be removed during construction • Prepare a landscaping plan. • Undertake standard tree protection and erosion and sedimentation control measures. • Replace the nationally threatened red mulberry with a nursery grown red mulberry	• Monitor the standard tree protection and erosion and sedimentation control measures including periodic site visits by the CA to confirm the proper placement and maintenance of the measures.	
2.	Encroachment into Environmentally Significant Escarpment Protection Areas	• Preserve the vertical rock face of the Escarpment and retain the forested edge to the brow of the Escarpment. • Consider appropriate buffers and buffer widths for the ESAs and Protection Areas. • Undertake standard tree protection and erosion and sedimentation control measures. • Maintain pedestrian access to the Bruce Trail during all stages of construction.	• Consult with the Niagara Escarpment Commission. • Monitor the standard tree protection and erosion and sedimentation control measures including periodic site visits by the CA to confirm the proper placement and maintenance of the measures.	
3.	Disruption of Area Wildlife	• Inventory hibernacula during detail design and apply appropriate mitigation should any be found.		
4.	Temporary Impairment of Surface Water Quality	• Undertake standard erosion and sedimentation control measures.	• Monitor the standard erosion and sedimentation control measures including periodic site visits by the CA to confirm the proper placement and maintenance of the measures.	
5.	Degradation / Loss of Groundwater Resources	• Abandon unused wells in accordance with Ontario Regulation 903 • Minimize the disturbance of any discovered septic beds and take appropriate action should any be either disturbed or broken. • Undertake appropriate mitigation measures to minimize the potential for subsurface impact to groundwater from abandoned and active fuel service stations and two greenhouse operations located within the Study Area.	• Maintain and monitor the integrity of any active or inactive wells potentially impacted by construction. • Consult local property owners to determine the exact locations of septic beds prior to construction, • Consider establishing a pre-construction baseline database for wells.	
6.	Loss of Fisheries and	• Permit construction activities requiring in-water works only during the warmwater fisheries timing window from July 1 to March 31, prohibiting	• Consult MNR and Conservation Halton during detail design and obtain appropriate approvals if required (i.e.	

ENVIRONMENTAL ISSUE / CONCERN / EFFECT			ENVIRONMENTAL COMMITMENTS	
I.D. #	Issue / Potential Effects	Proposed Mitigation / Protection Requirements	Communication / Monitoring Requirements	Contract Administrator Comments
	Aquatic Habitat	in-water work between April 1 and June 30.	Department of Fisheries and Oceans).	
7.	Potential for Uncovering Contaminated Soils and Designated Substances	• Undertake additional soils investigations on affected properties either containing adversely impacted soils or suspected of containing adversely impacted soils. • Consider conducting a Designated Substances and Hazardous Materials survey on those buildings that occupy the affected properties.		
8.	Requirements for Private Property	• Finalize property requirements in detail design.		
9.	Inappropriate Management of Construction Debris	• Follow MTO and MOE protocol identifying material-by-material management options both inside and outside the construction area during construction. • Manage excess materials (e.g., asphalt, concrete, earth, rock, etc.) in accordance with the appropriate OPSS.	• Ensure that excess materials are managed in accordance with the appropriate OPSS.	
10.	Permanent Alteration of Municipal Road Access	• Continue to work with the City of Hamilton to confirm the location/design of the proposed municipal access roads.	• Consult with the City of Hamilton	
11.	Temporary Disruption of Traffic	• Construct proposed access roads to existing businesses/residences prior to commercial or private driveway closures. • Undertake appropriate mitigation measures during construction (i.e., maintain a minimum of two lanes of traffic in each direction during peak periods, provide temporary accesses, as required, etc.).	• Inform all affected business owners/residents prior to temporary closure of their access/egress.	
12.	Temporary Increase in Noise and Vibration	• Carry out appropriate mitigation measures during construction (i.e. maintaining equipment and mufflers in proper working order, operating machinery only as required, etc.) • Limit noise generation to only those times as permitted by former Town of Flamborough (By-Law 89-164-N) or whatever noise by-law is in effect at the time of construction.	• Monitor the proper adherence to the confirmed mitigation measures and Municipal Noise By-Law. • Address noise complaints and implement additional mitigative measures as required. • Obtain short-term exemptions to the timing restrictions of the noise by-law by making a request to Hamilton City Council (if required)	

ENVIRONMENTAL ISSUE / CONCERN / EFFECT			ENVIRONMENTAL COMMITMENTS	
I.D. #	Issue / Potential Effects	Proposed Mitigation / Protection Requirements	Communication / Monitoring Requirements	Contract Administrator Comments
13.	Temporary increase in Dust, Fumes, and Odours	• Carry out appropriate mitigation measures during construction (i.e. not undertaking demolition work during periods of high wind; using low dust generating technologies etc.)	• Monitor the proper adherence to the confirmed mitigation measures. • Address dust and odour complaints and implement additional mitigative measures as required.	
14.	Loss of Potential Archaeological Resources	• Undertake a Stage 2 Archaeological Assessment on all lands with archaeological potential that have not been pedestrian surveyed (approximately 35% of the Study Area) prior to any construction.	• Notify the Heritage Operations Unit of the MCL should deeply buried archaeological remains be found during construction. • Notify both MCL and the Registrar or Deputy Registrar of the Cemeteries Regulation Unit of the Ministry of Consumer And Business Services (416) 326-8404 in the event that human remains are encountered during construction.	
15.	Loss of Remnant Built Heritage Features	• Undertake a detailed heritage assessment including further mitigation strategies, historical research and photographic documentation of the affected remnant built heritage features. • Determine and implement appropriate mitigation measures prior to any construction.		

W.P. : 00-23011 **Report Date:** April 2003 **Location:** Highway 6 - Highway 6 – 500 m South of Highway 5 to 5th Concession East – Preliminary Design

E:\PROJECTS\Eo00550\TESR\Final TESR\Tables\TABLE 8-1 - Env Concerns & Commitments.doc

9. SUMMARY

As required, this TESR documents the Group 'B' Class Environmental Assessment (EA) process undertaken and conclusions reached for the proposed improvements to Highway 6 from 500 m South of Highway 5 North to 5th Concession East in the City of Hamilton. The Ministry initiated preliminary design in accordance with the *Class Environmental Assessment for Provincial Transportation Facilities (2000)* as a Group 'B' activity to proactively address future capacity, safety and development issues caused by anticipated increases in traffic volumes and development pressures.

In response to these issues, five planning alternatives were comparatively evaluated and presented at a PIC for comments. Based on the comparative evaluation and comments received, the preferred planning alternative was to "Improve the Existing Highway 6 Corridor".

Since improving the Highway 6 corridor was selected as the preferred planning alternative for the study, Preliminary Design Alternatives were generated for both the Highway 5/6 intersection and the Highway 6 corridor (north of the Highway 5/6 intersection) to the 5th Concession.

In terms of the existing Highway 5/6 intersection, a total of 18 interchange design alternatives were considered for replacing the at grade intersection based on Highway 6 being under Highway 5 and shifted slighted to the east and Highway 5 shifted slightly to the north. The 18 interchange design alternatives were screened in order to develop a "short list" of the most "reasonable" alternatives.

In total, 13 interchange design alternatives were eliminated from further consideration with five being carried forward for a detailed qualitative comparative evaluation. Interchange Design Alternative No. 1A was selected at the "Preferred Interchange Design Alternative" based on the detailed qualitative comparative evaluation and input received at a second PIC.

In terms of the Highway 6 corridor from Highway 5/6 intersection to 5th Concession, six corridor alternatives were initially considered, but they were reduced to only two based on a safety analysis and desire to minimize potential negative effects on local residents in the short term. Corridor Alternative 2 (Four lanes with a median barrier within the interchange limits and wide shoulders) was selected as the preferred Corridor Alternative based on a comparative evaluation and comments received.

As part of this study, an enhanced agency/public consultation program was undertaken. This included Notice of Project Commencement, Value Planning Workshops, Stakeholder Meetings, two Public Information Centres, an Information Session, and Notice of Completion to external agencies and the public. External agency and public respondents had a wide range of concerns in regards to how the preferred Preliminary Design Alternative would affect them in terms of access, scheduling, property requirements, and natural environmental effects with comments ranging from very supportive to extremely opposed.

Potential adverse effects and concerns associated with implementing the proposed improvements will be addressed through the recommended mitigation measures, commitments to further work, and the monitoring requirements outlined in this report subject to finalization during detail design.

APPENDIX A

Notification of Project Commencement and Invitation for Comments

Ontario

ONTARIO GOVERNMENT NOTICE

NOTICE OF PROJECT COMMENCEMENT

Highway 6

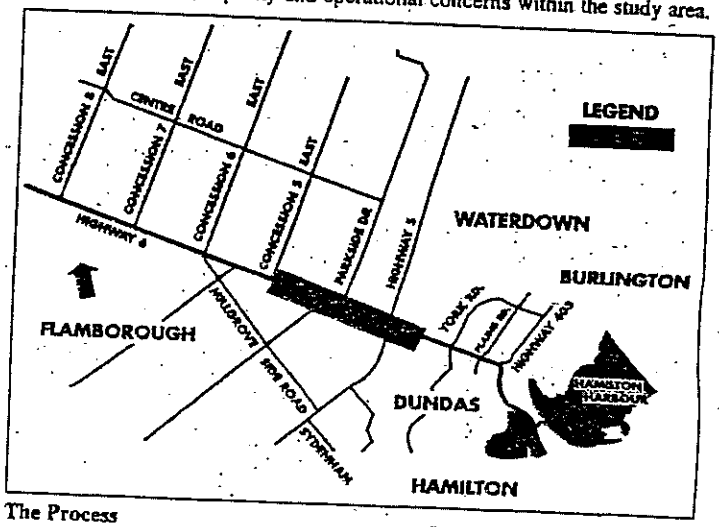
500 m South of Highway 5 North to 5th Concession East

Preliminary Design/Environmental Assessment Study

W.O. 00-23011

The Project

The Ministry of Transportation (MTO) has initiated a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the Town of Flamborough, Regional Municipality of Hamilton-Wentworth (see map below) to address existing and future, capacity and operational concerns within the study area.



The Process

This project is following the approved planning process for Group B projects of the Class Environmental Assessment (EA) for Provincial Transportation Facilities (1997). As an initial step of the planning process, the need/justification for the project, study area, and possible alternatives to be considered are currently being defined.

A Public Information Centre (PIC) will be held in late fall or early winter to present the various alternatives being considered for the project to the public for their review and comment. An advertisement in the local newspaper will announce the date, time and location of thr PIC. Brochures and individual notices will be distributed to area residents, affected property owners and those requesting to be placed on the project mailing list.

A Transportation Environmental Study Report (TESR) will be prepared at the completion of the project, filed with the Ministry of the Environment, and placed in the Public Record for review. A further notice will be published at that time.

Comments

We are interested in hearing any comments or concerns that you may have about this project. Comments and information regarding this project are being collected to assist the Project Team in meeting the requirements of the Environmental Assessment Act. These comments will be maintained for reference throughout the project and, with the exception of personal information, may be used in the TESR and will become part of the Public Record.

For further information, or to be added to the project mailing list, please contact one of the following team members:

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September 15, 2000 – Flamborough Post

September 15, 2000 – Hamilton Spectator

Ontario

ONTARIO GOVERNMENT NOTICE

NOTICE OF PROJECT COMMENCEMENT

Highway 6

500 m South of Highway 5 North to 5th Concession East

Preliminary Design/Environmental Assessment Study

W.O. 00-23011

The Project

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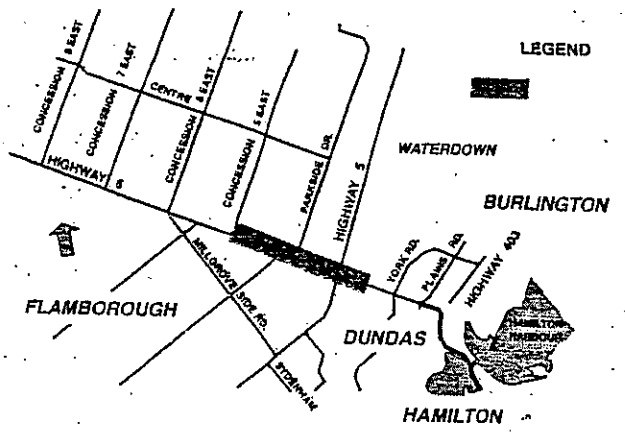

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CL078504

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45 Green Belt Drive, Don Mills, Ontario M3C 3K3 Canada

September 5, 2000

Project EO 00550

Haniff
Director
Ministry of the Environment
Hamilton Regional Office
Ellen Fairclough Building
12th Floor
119 King St W
Hamilton
L8P 4Y7

Telephone
416.445.3600
Facsimile
416.445.5276

Subject: W.O. 00-23011, Highway 6
500 m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Project Commencement

Dear Kal:

The Ministry of Transportation (MTO) has initiated a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the Town of Flamborough, Regional Municipality of Hamilton-Wentworth (see attached map) to address existing and future, capacity and operational concerns within the study area.

This project is following the approved planning process for Group B projects of the Class Environmental Assessment (EA) for Provincial Transportation Facilities (1997). As an initial step of the planning process, the need/justification for the project, study area, and possible alternatives to be considered are currently being defined.

A Public Information Centre (PIC) will be held in December to present the various alternatives being considered for the project to the public for their review and comment. You will be notified of the PIC at the appropriate time by a letter.

A Transportation Environmental Study Report will be prepared at the completion of the project, filed with the Ministry of the Environment, and placed in the Public Record for review. A further letter will be mailed at that time to only those that have expressed an interest in the project.

This project is being delivered by the Total Project Management (TPM) approach with all day-to-day direction and management of the project being the responsibility of Earth Tech

Canada Inc., on behalf of the MTO. Leslie Martin of Earth Tech will be the Project Director for this study.

For further information, or if you have any comments regarding the project, please contact one of the following team members:

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
45 Green Belt Drive
Don Mills, Ontario, M3C 3K3

Telephone: (416) 445-3600, 2400
Fax: (416) 445-5276
e-mail: leslie_martin@earthtech.ca

Mr. Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
80 King Street, 2nd Floor
St. Catharines, Ontario, L2R 7G1

Telephone: (905) 688-2313
Fax: (905) 688-5812
e-mail: idobrind@earthtech.ca

Very truly yours,

Earth Tech (Canada) Inc.

Leslie Martin, P. Eng.
Project Manager

AM/sv
Encl.

c: B.Cane/C. Southey, MTO
I. Dobrindt/R. Kulathinal, ETC

EARTH TECH

A tyco INTERNATIONAL LTD. COMPANY

EXTERNAL AGENCY CONTACTS LIST

HIGHWAY 6
FROM 500 METRES SOUTH OF HIGHWAY 5 NORTH TO 5TH CONCESSSION EAST
W.O. 00-23011

EO: 00550 **September 5, 2000**

AGENCY	CONTACT
PROVINCIAL MINISTRIES/AGENCIES	
Ministry of the Environment Hamilton Regional Office Ellen Fairclough Building 12th Floor 119 King St W Hamilton, Ontario L8P 4Y7 Phone: 905-521-7652 Fax: 905-521-7820	Mr. Kal Haniff Director
Ontario Ministry of Natural Resources 1 Stone Rd W Guelph, Ontario N1G 4Y2 Phone: 519-826-4912 Fax: 519-826-4929	Mr. David Cooper District Planner – Guelph District
Ministry of Citizenship, Culture, and Recreation 55 Centre St London, Ontario N6J 1T4 Phone: 519-675-7742 Fax: N/A	Mr. Neal Ferris License Officer – Heritage Operations
Ministry of Agriculture, Food and Rural Affairs 3rd Floor S 1 Stone Rd W Guelph, Ontario N1G 4Y2 Phone: 519-826-3118 Fax: N/A	Ms. Sharon Johnson Landuse Policy Specialist
Ontario Provincial Police Burlington Detachment C/o P.O. Box 5021 1160 North Shore Boulevard East Burlington, Ontario L7R 3Y8 Phone: 905-681-2511 Fax: N/A	Mr. Bob Weekes Staff Sargent

Earth Tech Canada Inc.

45 Green Belt Drive, Don Mills, Ontario M3C 3K3 Canada

September 15, 2000

Project EO 00550

Jane Lee
Town Clerk
Town of Flamborough
P.O. 50
163 Dundas St East
Waterdown L0R 2H0

Subject: W.O. 00-23011, Highway 6
500 m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Project Commencement

Telephone
416.445.3600
Facsimile
416.445.5276

Dear Jane:

The Ministry of Transportation (MTO) has initiated a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the Town of Flamborough, Regional Municipality of Hamilton-Wentworth (see attached map) to address existing and future, capacity and operational concerns within the study area.

This project is following the approved planning process for Group B projects of the Class Environmental Assessment (EA) for Provincial Transportation Facilities (1997). As an initial step of the planning process, the need/justification for the project, study area, and possible alternatives to be considered are currently being defined.

A Public Information Centre (PIC) will be held in late fall or early winter to present the various alternatives being considered for the project to the public for their review and comment. You will be notified of the PIC at the appropriate time by a letter.

A Transportation Environmental Study Report will be prepared at the completion of the project, filed with the Ministry of the Environment, and placed in the Public Record for review. A further letter will be mailed at that time to only those that have expressed an interest in the project.

This project is being delivered by the Total Project Management (TPM) approach with all day-to-day direction and management of the project being the responsibility of Earth Tech Canada Inc., on behalf of the MTO. Leslie Martin of Earth Tech will be the Project Manager for this study.

For further information, or if you have any comments regarding the project, please contact one of the following team members:

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
45 Green Belt Drive
Don Mills, Ontario, M3C 3K3

Telephone: (416) 445-3600, 2400
Fax: (416) 445-5276
e-mail: leslie_martin@earthtech.ca

Mr. Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
80 King Street, 2nd Floor
St. Catharines, Ontario, L2R 7G1

Telephone: (905) 688-2313
Fax: (905) 688-5812
e-mail: idobrind@earthtech.ca

Very truly yours,

Earth Tech (Canada) Inc.

Leslie Martin, P. Eng.
Project Manager

AM/sv
Encl.

c: B.Cane/C. Southey, MTO
I. Dobrindt/R. Kulathinal, ETC

EARTH TECH

A tyco INTERNATIONAL LTD. COMPANY

EXTERNAL AGENCY CONTACTS LIST

HIGHWAY 6
FROM 500 METRES SOUTH OF HIGHWAY 5 NORTH TO 5TH CONCESSSION EAST
W.O. 00-23011

EO: 00550 **September 15, 2000**

AGENCY	CONTACT
Municipalities	
Town of Flamborough P.O. 50 163 Dundas St East Waterdown, Ontario L0R 2H0 Phone: 905 689-7351 Fax: 905-689-3310	Ms. Jane Lee Town Clerk
Town of Dundas P.O. 8584 Dundas, Ontario L9H 5E7 Phone: 905-628-6327 ex 201 Fax: 905-628-5077	Ms. Susan Steele Town Clerk
City of Burlington 426 Brant Street, P.O. Box 5013 Burlington Ontario L7R 3Z6 Phone: 905-335-7777 Fax: 905-335-7881	Mr. John Skorobohacz City Clerk
Regional Municipality of Hamilton-Wentworth City Hall 71 Main Street West Hamilton, Ontario L8P 4Y5 Phone: 905-546-2728 Fax: N/A	Mr. Kevin Christenson Municipal Clerk
Regional Municipality of Halton 1151 Bronte Road Oakville, Ontario L6M 3L1 Phone: 905-825-6000 Fax: 905-825-8839	Ms. Joan Eaglesham Regional Clerk

AGENCY	CONTACT
Utilities	
COGECO Cable Inc. P.O Box 5076 Station Main Burlington, Ontario L7R 4S6 Phone: 905-333-7022 Fax: 905-332-8426	Ms. Janice Hayes Planning Coordinator
Bell Canada Access Network 20 Hunter Street West Hamilton, Ontario L8P 1P8 Phone: 905-577-6126 Fax: 905-527-2187	Ms. Pat Friend Coordinator
Union Gas P.O Box 10 Hamilton, Ontario L8N 3A5 Phone: 905-548-3531 Fax: N/A	Mr. Enzo Greco Mapping Supervisor
Hamilton Hydro Electric System Ontario Power Generation 55 John Street North P.O Box 2249 Hamilton, Ontario L8N 3E4 Phone: 905-522-6611, Ext 4720 Fax: 905-317-4745	Mr. Ian Collins, Director Engineering and Operations
Other	
Hamilton Region Conservation Authority P.O. Box 7099 838 Mineral Springs Road Ancaster, Ontario L9G 3L3 Phone: 905-525-2181 Fax: 905-648-4622	Mr. Scott Konkle
Halton Region Conservation Authority R.R. #2, 2596 Britannia Road West Milton Ontario L9T 2X6 Phone: 905-336-1158 Fax: (905)336-7014	Ms. Brenda Axon

AGENCY	CONTACT
Niagara Escarpment Commission 232 Guelph St Georgetown, Ontario L7G 4B1 Phone: 905-877-5191, Ext. 243 Fax: 905-873-7452	Mr. David Johnston Planner
Bruce Trail Association PO Box 857 Hamilton, Ontario L8N 3N9 Phone: 905-529-6821 Fax: 905-529-6823	Jacqueline Winters
Toronto Bruce Trail Club P.O. Box 44, Station M Toronto, Ontario M6S 4T2 (416) 763-9061 Phone: 416-763-9061 Fax: N/A	Ms. Kay Glynn
Flamborough Fire Department P.O. Box 50 256 Parkside Drive Waterdown L0R 2H0 Phone: 905-689-2282 Fax: 905-689-2574	Mr. Terry Bridle Fire Chief
Ontario Provincial Police Burlington Detachment C/o P.O. Box 5021 1160 North Shore Boulevard East Burlington, Ontario L7R 3Y8 Phone: 905-681-2511 Fax: N/A	Mr. Bob Weekes Staff Sargent
Hamilton-Wentworth Regional Police 155 King William St Hamilton, Ontario L8N 4C1 Phone: 905-546-4925 Fax: 905-546-4752	Mr. Ken Robertson Chief of Police
Halton Regional Police Department 440 Locust St Burlington, Ontario L7S 1T7 Phone: 905-634-1831 Ext. 2310 Fax: 905-639-8192	Mr. Thomas Chapman Staff Sargent
Hamilton-Wentworth District School Board P.O. Box 2558 100 Main Street West Hamilton, Ontario L8N 3L1 Phone: 905-527-5092 Fax: 905-527-2536	Mr. Daryl Sage Manager of Accommodation and Planning

AGENCY	CONTACT
Hamilton-Wentworth Separate School Board 90 Mulberry Street P.O. Box 2012 Hamilton, Ontario L8N 3R9 Phone: 905-525-2930 Phone: 905-525-2914	Mr. Terry O'Sullivan Superintendent
Region of Hamilton-Wentworth Social and Public Health Services Division 71 Main Street West Hamilton, Ontario L8P 4Y5 Phone: 905-546-3500 Fax: 905-546-4075	Dr. Elizabeth Richardson Medical Officer

Contact List 2nd set.doc

APPENDIX B

External Agency Correspondence Received

Ministry of Citizenship, Culture and Recreation
Ministère des Affaires civiques, de la Culture et des Loisirs

Ontario

Heritage & Libraries Branch
Heritage Operations Unit
55 Centre Street, London, Ontario N6J 1T4
(519) 675-7742; Fax: 675-7777

September 20, 2000

To: Leslie Martin
Project Manager
Earth Tech (Canada) Inc.
45 Green Belt Drive
Don Mills, Ontario M3C 3K3

RE: Highway 6 from 500 m South of Highway 5 to 5th Concession East, Preliminary Design/ Environmental Assessment Study, W.O. 00-23011

Thank you for your letter of September 5 concerning the above-noted project. A principal concern of this office is the adverse effects that undertakings such as the above mentioned might have on cultural heritage resources. If there are areas of heritage potential that will be impacted by this project, then our office would recommend that a heritage assessment be conducted as part of the EA. If any significant heritage or archaeological remains are identified, then any negative impacts will have to be mitigated by either avoidance or excavation.

Consequently, our office would wish to continue to be involved in this project. In particular, it would be useful to be provided with detailed information and maps, outlining the extent and type of land disturbance anticipated and the extent of previous disturbance within the study area. With this information I will be able to determine what portions of the project, if any, may exhibit potential for impacting heritage resources, and thus would require an assessment to inventory all heritage resources present, and determine what mitigation work, if any, may be required.

I trust that this is of assistance. Please do not hesitate to contact me if you require further information.

Sincerely,

John MacDonald, for
Peter A. Timmins
Heritage Planner
Southwestern Ontario Region

Ontario's Niagara Escarpment
l'Escarpement du Niagara de l'Ontario

Ontario

Niagara Escarpment Commission
232 Guelph Street
Georgetown ON L7G 4B1
Tel. No. (905) 877-5191 - Fax No. (905) 873-7452
Commission de l'escarpement du Niagara
232, rue Guelph
Georgetown ON L7G 4B1
N° de tel. (905) 877-5191 - Télécopieur (905) 873-7452
http://escarpment.org

September 21, 2000

Leslie Martin, P. Eng.
Project Manager
Earth Tech Canada Inc.
45 Green Belt Drive
Don Mills, ON M3C 3K3

Dear Mr. Martin:

RE: W.O. 00-23011, Highway 6
500 m south of Highway 5 north to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Project Commencement

Thank you for your correspondence dated September 15, 2000.

Please be advised that the Niagara Escarpment Commission has an interest in the above-described project.

We would appreciate being kept informed on the progress of the Design and Environmental Assessment Study.

Should you have any questions, please contact me at ext. 243.

Yours truly

David Johnston
Acting Supervisor
Plan Administration

DJ/EM HW 04 12\gmm c:\EA\Ham-Went\Hwy 6 design & EA study let 9-00

Hamilton Region Conservation Authority

September 21, 2000

Hwy 5&6 to Conc. 5 EA

Leslie Martin, P. Eng
Project Manager
Earth Tech Canada Inc.
45 Green Belt Drive
Don Mills, Ontario
M3C 3K3

Dear Ms. Martin:

Re: W.O. 00-23011, Highway 6
500 m South of Highway 5 to 5th Concession east
Preliminary Design/Environmental Assessment Study
Notice of Project Commencement

Conservation Authority staff have reviewed the above noted Notice of Project Commencement and provide the following information for your consideration.

The northern limits of the study area are located adjacent to the headwaters of Borer's Creek. The western side of Highway 6 comprised of Lot 21 & 22, Concession 4 (West Flamborough) contains the Regionally Significant Logies Creek Swamp Wetland. This area has also been designated in the Region of Hamilton-Wentworth Official Plan as part of the Millgrove South Woodlot Environmentally Significant Area. The Environmental Study Report should identify these features and determine methods to mitigate any impacts to these features due to proposed construction and development activities.

Borer's Creek crosses Highway 6 in two locations. The northern crossing is associated with the headwaters of Borer's Creek and the above noted wetland and ESA features. Conservation Authority concerns regarding the northern crossing relate to maintaining existing natural features and ensuring water quality issues are addressed. The main arm of Borer's Creek crosses Highway 6 immediately north of Highway 5. This area is regulated by the Conservation Authority pursuant to our Fill and Floodplain Regulation (Ontario Regulation 151/90). Development is this area must address any floodplain issues to ensure compliance with the requirements of Ontario Regulation 151/90. Water quality in this area is also an issue to be considered.

Please provide the Conservation Authority with updates as this project progresses. Should you have any questions regarding this matter, please contact Mr. Scott Peck, Senior Planner, at (905) 648-4427, ext. 132.

Sincerely,

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

TSP/tsp

RECEIVED
SEP 25 2000
EARTH TECH (CANADA) INC.

P.O. Box 7099, 838 Mineral Springs Road, Ancaster, Ontario L9G 3L3 · (905) 525-2181 or 648-4427
Office Fax 648-4622 · Shop Fax 525-2214 · E-mail: nature@hamrca.on.ca · Website: www.hamrca.on.ca

Access Network Provisioning
DT Evans
O.P. Co-ordinator
Floor 6, 20 Hunter St. West
Hamilton, Ontario
L8N 3H2

Sept. 28, 2000

Earth Tech Canada Inc.
45 Green Belt Drive
Don Mills, Ontario
M3C 3K3

→ RK → WV.

Attent: Leslie Martin, P. Eng.

Dear Sir;

This letter is in regards to your Enviromental Assessment of Highway 6 in Waterdown. A letter was forwarded to "Pat Friend" of this department who forwarded it to me. This area is my territory. Please forward all correspondence to me and/or my manager Wendy Botts (PH: 577-6571). If I can be of assistance please call.

Sincerely,

D. T. Evans

Donna T Evans
O.P. Co-ordinator
PH: 905-577-6574
FAX: 905-526-8528

00550

Ministry of
Agriculture, Food
and Rural Affairs

667 Exeter Road
London, Ontario
N6E 1L3

Ministère de
l'Agriculture, de l'Alimentation
et des Affaires rurales

Tel: (519) 873-4085
Fax: (519) 873-4062

Ontario

Sent to Tim pm. Oct 6/00

AGRICULTURAL LAND USE

September 29, 2000

Mr. Ian Dobrindt
Environmental Planner
Earth Tech (Canada) Inc.
80 King Street, 2nd Floor
St. Catharines, Ontario.
L2R 7G1

Dear Mr. Dobrindt

Re: W.O. 00-23011
Highway # 6 – between Highway # 5 and 5th Concession East Road
Town of Flamborough, Regional Municipality of Hamilton – Wentworth
Preliminary Design / Environmental Assessment Study

In response to your recent circulation regarding the above-noted matter, staff have reviewed your letter of September 5, 2000 and offer the following technical comments.

It is understood that the purpose of this undertaking is to carry out a Preliminary Design and Environmental Assessment Study for Highway # 600 from 500 m south of Highway # 5 northerly to the 5th Concession East Road. The project is located within the Town of Flamborough in the Regional Municipality of Hamilton - Wentworth. The purpose of the study is to address existing and future capacity and operational concerns within the study area.

Please be advised that our concerns about this project would be based on the policies regarding prime agricultural areas as noted in Section 2 of the Provincial Policy Statement (PPS).

More specifically, the concerns of this Ministry in a matter such as this undertaking are focused on the impact of this project on both prime agricultural lands and on any agricultural infrastructure within the study area. As the study progresses, it is anticipated that a number of alternative options will be identified and evaluated. For each alternative, dependent on the circumstances and context of its development and implementation, the impact of the project on agricultural land and agricultural infrastructure should be addressed. While not an

exhaustive list, the following items should be addressed dependent on the circumstances of the alternative in question.

i) Impact of the proposed improvement on agriculture due to a potential loss of prime agricultural land or impacts on surrounding agricultural operations.

ii) Impact of the proposed improvement on agricultural infrastructure, such as, but not limited to, field tiles, drainage ditches, culverts, field entrances and fences.

As this project continues, please note that this Ministry would like to be informed of the progress of this study and any and all recommendations that arise. If you have any questions or concerns regarding these comments, please feel free to contact me at the above-noted number.

Sincerely,

John Turvey
Rural Planner

Cc: Donna Mundie, OMAFRA, Guelph

Ministry of
Natural Resources

Ministère des
Richesses naturelles

1 Stone Road West
Guelph, Ontario
N1G 4Y2

Telephone: (519) 826-4955
Facsimile: (519) 826-4929

Ontario

Guelph District Office

Direct Telephone No.: (519) 826-4912

October 2, 2000

Leslie Martin, P. Eng.
Project Manager
Earth Tech (Canada) Inc.
45 Green Belt Drive
Don Mills, Ontario
M3C 3K3

Dear Ms. Martin:

SUBJECT: Preliminary Design / Environmental Assessment Study
Highway 6 from Highway 5 to 5th Concession East
MTO Project No.: W.O. 00-23011

Thank you for contacting the MNR about the above noted project. We have no specific comments on the project at this time. However, MNR staff would like the opportunity to comment on this project when more information is available.

Please contact the undersigned if you have any questions regarding this letter.

Yours truly,

David N. Cooper
District Planner

DNC/

file 00550

CORPORATION OF THE TOWN OF DUNDAS

OFFICE OF THE
TOWN CLERK

TOWN HALL, 60 MAIN STREET, P.O. BOX 8584, DUNDAS, ONTARIO L9H 5E7
TELEPHONE: (905) 628-6327 FAX: (905) 628-5077

October 10, 2000

Earth Tech Canada Inc.
45 Green Belt Drive
Don Mills, Ontario
M3C 3K3

Attention: Leslie Martin, P.Eng.
Project Manager

Re: Preliminary Design/Environmental Assessment Study – Hwy. #6
Our File T05

Dear Mr. Martin:

Please be advised that your letter dated September 15, 2000 regarding the above noted matter was considered by Town Council on October 2, 2000 at which time it was received and filed.

Yours very truly,

Ms. Susan L. Steele, A.M.C.T.
Town Clerk

SLS/dm

PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT

2596 Britannia Road West
R.R. #2 Milton Ontario L9T 2X6
(905) 336-1158 Fax (905) 336-7014
Internet Address: www.conservationhalton.on.ca E-mail: admin@hrca.on.ca

October 23, 2000

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
45 Green Belt Drive
Don Mills, Ontario
M3C 3K3

Dear Leslie:

Re: Highway 6
500 metres South of Highway 5 north to 5th Concession East
Preliminary Design/Environmental Assessment Study

Further to your letter regarding the above noted project, please be advised that a small portion of the study area lies within Conservation Halton's jurisdiction and extends from the south end of the study area to 300 metres north of Highway 5. The remainder of the study area lies within the Hamilton Region Conservation Authority's jurisdiction and they should be contacted for their comments and input.

Within Conservation Halton's jurisdiction, a tributary associated with the Grindstone Creek crosses through the Clappisons Corners intersection (Highway 5 and Highway 6). Flows from this tributary continue south in a realigned channel through Clappisons Corners Industrial Business Park (Tech Park). Any modifications to the culverts must provide the necessary flow conveyance to accommodate this tributary.

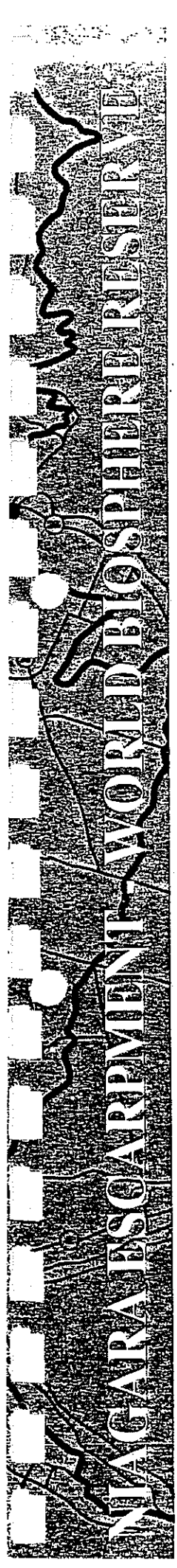
Consideration must also be given to stormwater management for the project. Conservation Halton staff would request involvement in its review.

I trust these comments are of assistance to you. If you require additional information, please contact the undersigned.

Yours truly,

Brenda K. Axon
Manager Watershed Planning Services

Cc: Scott Konkle, Hamilton Region Conservation Authority



THE BRUCE TRAIL ASSOCIATION
P.O. BOX 857, Hamilton, ON, L8N 3N9
(905) 529-6821 or 1-800-665-HIKE FAX: (905) 529-6823

0550

November 6, 2000

RECEIVED
NOV - 9 2000

Mr. Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
80 King Street, 2nd Floor
St. Catharines, Ontario L2R 7G1

Dear Mr. Dobrindt,

The Bruce Trail Association (BTA) has a vested interest in the redesigning of Highway #6 at the Clappison cut and Old Guelph Road intersection. At present our Trail crosses Highway #6 at the Old Guelph Road and enters private property on the east side of the Highway.

We have had previous discussions with the Ministry of Transportation and their consultants about the need for a safe crossing for the Bruce Trail. The Bruce Trail is part of the Niagara Escarpment Parks and Open Space System, a provincial program of the Ministry of Natural Resources.

I have attached a copy of a letter from David Glass, P. Eng at the Ministry of Transportation that we received in August 1998. The BTA has also contacted the Niagara Escarpment Commission staff with regard to the Environmental Assessment Study and asked them to ensure a safe route for the Trail when they review the design.

The Association can be contacted through me. I will notify the local Bruce Trail Club to obtain their input on the design.

Yours Sincerely,

Jacqueline Winters
Executive Director

Ministry of Transportation

Ministère des Transports

Ontario

Highway Engineering Section
Peel, Halton and Hamilton
Central Region
1201 Wilson Avenue
4th Floor, Atrium Tower
Downsview, Ontario
M3M 1J8

August 10th 1998

Jacqueline Winters
The Bruce Trail Association
P.O Box 857
Hamilton, Ontario
L8N 3N9

Dear Ms. Winters:

Re: Highway 6 Preliminary Design Study - Highway 403 to Highway 5, W.P 19-95-00
Bruce Trail Crossing of Highway 6

Further to our meeting of May 25th, the purpose of this letter is to clarify the ministry's position with respect to the Bruce Trail Crossing of Highway 6 just south of the Niagara Escarpment. As you know, one of the Highway 6 improvements we are recommending under the Preliminary Design Study is to separate opposing traffic with a median barrier wall.

As the ministry is imposing a physical impediment to hikers continuing to cross Highway 6 south of the escarpment, we are prepared to construct a culvert to facilitate the crossing of Highway 6. The ministry's policy for a trail crossing of this type is to enter into a legal agreement with the Trail User Organization and their Sponsor. The Sponsor can be a municipality, conservation authority or other government ministry or agency. The legal agreement will cover issues such as insurance, maintenance and liability.

I will forward you a legal agreement later this fall, at which time you can take the necessary steps to find an appropriate Sponsor. In the meantime if you have any question please call me at (416) 235-5178.

Sincerely,

David Glass, P.Eng
Project Manager

cc: C.Southey

Ministry of Tourism, Culture and Recreation

Ministère du Tourisme, de la Culture et des Loisirs

Ontario

Heritage Operations Unit
55 Centre Street, London, Ontario N6J 1T4
(519) 675-7742; Fax: 675-7777

March 23, 2001

To: Leslie Martin
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Drive West
7th Floor
Markham, Ontario L3T 7W3

RE: Highway 6 PDR/EA, from 0.5 km South of Highway 5 Northerly to 5th Concession Road East, WO 00-23011

Thank you for your letter of March 16 concerning the above-noted project. A principal concern of this office is the adverse effects that undertakings such as the above mentioned might have on cultural heritage resources. If there are areas of heritage potential that will be impacted by this project, then our office would recommend that a heritage assessment be conducted as part of the EA. If any significant heritage or archaeological remains are identified, then any negative impacts will have to be mitigated by either avoidance or excavation.

Consequently, our office would wish to continue to be involved in this project. In particular, it would be useful to be provided with detailed information and maps, outlining the extent and type of land disturbance anticipated and the extent of previous disturbance within the study area. With this information I will be able to determine what portions of the project, if any, may exhibit potential for impacting heritage resources, and thus would require an assessment to inventory all heritage resources present, and determine what mitigation work, if any, may be required.

I trust that this is of assistance. Please do not hesitate to contact me if you require further information.

Sincerely,

John MacDonald, for
Holly Martelle
Heritage Planner
Southwestern Ontario Region

00550 24

Ontario's Niagara Escarpment
l'Escarpement du Niagara de l'Ontario

Ontario

Niagara Escarpment Commission
232 Guelph Street
Georgetown ON L7G 4B1
Tel. No. (905) 877-5191 - Fax No. (905) 873-7452

Commission de l'escarpement du Niagara
232, rue Guelph
Georgetown ON L7G 4B1
N° de tel. (905) 877-5191 - Télécopieur (905) 873-7452
http://escarpment.org

June 21, 2001

Leslie Martin, P. Eng.
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Drive W.
7th Floor
Markham, ON L3T 7W3

Dear Mr. Martin:

RE: NOTICE OF PUBLIC INFORMATION CENTRE
Preliminary Design/Environmental Assessment Study
W.O. 00-23011, Highway No. 6

Thank you for your circulation dated June 18, 2001.

I will be unable to attend the Public Information Centre scheduled for June 27, 2001.

I would request that you keep us informed on the progress of this project. Specifically, we would request a copy of the Transportation Environmental Study Report when completed.

Should you have any questions, please contact me at ext. 243.

Yours truly

David Johnston
Supervisor (Acting)
Plan Administration

DJ/EM HW 04 12/gmm c:\EA\Ham\Hwy6-Hwy5 Design Study

Ontario's Niagara Escarpment
l'Escarpement du Niagara de l'Ontario

Ontario

Niagara Escarpment Commission
232 Guelph Street
Georgetown ON L7G 4B1
Tel. No. (905) 877-5191 - Fax No. (905) 873-7452

Commission de l'escarpement du Niagara
232, rue Guelph
Georgetown ON L7G 4B1
N° de tel. (905) 877-5191 - Télécopieur (905) 873-7452
http://escarpment.org

ID ✓
RK ✓
LM

January 14, 2002

Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech Canada Inc.
105 Commerce Valley Drive West
7th Floor
Markham, ON L3T 7W3

Dear Mr. Dobrindt:

RE: W.O. 00-23011, Highway 6
500 m South of Highway 5 North to 5th Concession East

I am in receipt of your letter dated December 27, 2001 together with the recommended design alternative and proposed vertical alignment for Highway 6.

I wish to state that we do have concerns with respect to the shifting of Highway 6 slightly to the east as it ascends the Niagara Escarpment. The relocation has the potential to create some significant environmental impacts on the Niagara Escarpment. We do need to review the drawings to determine the extent of the cut, and how the Ministry of Transportation intends on rehabilitating the portion of that existing travelled section of the Highway to be permanently closed following completion of the construction.

Understanding that the Ministry is sensitive to the environmental significance of the Escarpment, we will want to know how it intends on minimizing the impact and treating the effects of the development, post-construction.

The Niagara Escarpment Commission's Landscape Architect, David Wells, and I will be attending on-site in the next few weeks to familiarize ourselves with current conditions, to visualize how the proposed development will look, and what we may expect in terms of impacts, etc. We will be in further contact with you following that site investigation.

I have misplaced the alternative design drawings that you provided me at our meeting in the offices of Conservation Halton on November 27, 2001. These showed the various alternatives to the re-design of the Highway 5/Highway 6 intersection, all of which were discounted in favour of Alternative Concept 1A.

Could you please provide one additional set of those plans? Thank you in advance.

Should you have any questions, please contact me at extension 243.

Yours truly

David Johnston
Planner
Development Control

c. David Wells
Corey Harris, Conservation Halton

DJ/EM HW 04 12/gmm c:\EA\Halton\HWY 6 alt design-vertical align comment let 1-02

M E M O

Date:	January 29, 2002	Project	00550
To:	File	Reviewed by:	C. Audet
From:	Ryan Doyle		

Subject: Telephone Conversation with NEC

Telephone conversation with Gary Murphy / David Johnston – NEC (887-3191)

Regarding the NEC plan concerning Highway 316 intersection.

- The "urban centre" designated lands under the NEC plan are going to be corrected in the vicinity of the Highway 5/6 intersection. Specifically, South of Highway 5 adjacent to Highway 6, the protected lands are to be changed to "urban centre" designations. (Spring/Summer 2002)

Q. What sort of investigation is expected within an urban centre?

A. Not in development control area

- Subject to zoning
- Mitigation delegated to new City of Hamilton
- Most "pink" areas don't need an NEC permit to develop.

Amendment 71 – add the Parkway Belt Plan lands and Halton lands regarding the Escarpmentto NEC. Lands South of "Urban Centre" will be protected lands – will occur in spring/summer of 2003.

David Johnston – faxing over newest NEC maps, Parkway and Development Criteria for Transportation and utility corridors.

Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W., 7th Flr.
Markham, Ontario. L3T 7W3

Dear Mr. Martin

I am writing this letter to you out of concern over the new proposed interchange at the junction of Hwy 5 and 6. My concern is primarily based on what I perceive to be safety concerns for my constituents living along Hwy 6. One of them [redacted] has voiced some specific concerns with me over the "preferred" route change at the intersection.

There are several properties along Hwy 6 which, under this new configuration, will require backing out onto the highway from existing driveways into increased traffic flow.

Between Woodworth Avenue and Garwood Avenue, there are three private driveways. Directly to the south of Garwood, there is one driveway and the owner of that home drives a school bus. North of Garwood, there are at least nine driveways that have to back out onto Hwy #6 and with the increased traffic, along with the documented speed problems, the safety concern for these residents is further magnified.

Many of these affected residents have lived many years under the current less-than-ideal conditions and some are quite elderly.

In order for these residence to travel north, they first have to drive south, negotiate the clover leaf exits at the junction and then travel in a northern direction.

Plan 1B completely moved this added traffic over to the east from these area residents which provided the needed additional safety element built into the proposed interchange.

In terms of perferred choice, please be advised that my constituents living along Hwy. 6, just north of Hwy. 5, would much prefer the Plan 1B route over the chosen 1A proposal. I will strongly urge you to consider the wishes of these residents before your final decision.

Sincerely,

Margaret McCarthy
Ward 15 councillor
Hamilton

PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT

2596 Britannia Road West
R.R. #2 Milton Ontario L9T 2X6
(905) 336-1158 Fax (905) 336-7014
Internet Address: www.conservationhalton.on.ca E-mail: admin@hrca.on.ca

May 21, 2002

Ms Leslie Martin
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Drive West
7th Floor
Markham, Ontario
L3T 7W3

Dear Ms Martin:

Re: Environmental Assessment – Highway 6
500 metres south of Highway 5 North to 5th Concession East
Conservation Halton File: PPR-080

Staff of Conservation Halton are in receipt of the preferred alternative for the above noted project. Alternative 1A has been selected as the preferred option and staff offer the following comments.

The preferred option will require a realignment of Highway 6 to the east of its current location. An overpass will carry Highway 5 over Highway 6, thereby eliminating the current signalized intersection. This option will require a cut through the Niagara Escarpment in order to accommodate the easterly realignment. Other than the plan identifying the preferred routing, staff did not receive any documentation that outlined the process that was utilized in selecting the preferred alternative. In order to review the preferred option, staff will require the criteria utilized in eliminating the other alternatives.

The preferred alternative appears to require at least two crossings of the tributary of Grindstone Creek. Staff of Conservation Halton would be pleased to work with the Ministry and it's consultant team to ensure that these crossings are designed to minimize impact and enclosure of the watercourse.

Terms of Reference are currently being prepared for an Environmental Assessment of a Mid-Peninsula Corridor through the Region's of Niagara, Hamilton and potentially Halton. Staff of Conservation Halton have recommended that all alternatives be considered during that EA process, including the potential to connect to Highway 6 for Highway 401 access. It is recommended, therefore, that a comprehensive review of all provincial highway Environmental Assessments within the Mid-Peninsula study area be undertaken to ensure that no options, associated with the Mid-Peninsula Corridor, are eliminated as a result of the design of another EA project.

Upon receipt of the documentation outlining the selection process for the preferred alternative, staff of Conservation Halton would be pleased to provide further comments.

We trust the above is of assistance. If you require further information please contact the undersigned at extension 231.

Yours truly,

Jennifer Lawrence
Environmental Planner,
Watershed Management Services

cc: Mr. Scott Konkle, Hamilton Conservation Authority, fax: 905-648-4622
Mr. David Johnston, Niagara Escarpment Commission, fax: 1-905-873-7452

JL

jl/c:\letters\eis\Flamborough\hwy6&5intersection.doc

U0550 Copy to MTO File

PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT

2596 Britannia Road West
R.R. #2 Milton Ontario L9T 2X6
(905) 336-1158 Fax (905) 336-7014
Internet Address: www.conservationhalton.on.ca E-mail: admin@hrca.on.ca

September 4, 2002

Mr. Ian Dobrindt
Senior Environmental Planner
Earth Tech
105 Commerce Valley Drive West
7th Floor
Markham, ON
L3T 7W3

Dear Mr. Dobrindt:

Re: Environmental Assessment – Highway 6
500 metres south of Highway 5 North to 5th Concession East
Conservation Halton File: PPR-080

Staff are in receipt of the Alternatives Evaluation Summary for the above noted project and offer the following comments.

"Natural Environment" is limited to watercourses and the Niagara Escarpment rock face. Staff question whether the impacts to the Clappison's Escarpment Woods Environmentally Sensitive Area were considered?

Within the "Notes" it is indicated that all design alternatives were considered equal in terms of "potential for removing vegetation". It states that, in all cases, primarily cultural meadows and lawns with sparse cattail, tree and shrub cover and 1 endangered tree species (red mulberry shrub) would be removed. Staff recommend that the presence of an endangered tree species should have been identified within the chart, rather than within the "Notes", due to its significance.

Recent work by Conservation Halton has tentatively identified the federally and provincially endangered red mulberry on the talus slope immediately west of Highway 6, south of Old Guelph Road. Other rare vascular plants are likely to be encountered along these slopes. Could you please provide a map that identifies the location of the red mulberry identified during your field work, in relation to the proposed alternatives. Opportunities for avoiding these species or transplanting them should be reviewed at detailed design.

We trust the above is of assistance and look forward to receiving further information on the location of the red mulberry tree. If you have any questions please contact the undersigned at extension 231.

Yours truly,

Jennifer Lawrence
Environmental Planner,
Watershed Management Services

JL/jl

cc: Mr. Scott Konkle, Hamilton Conservation Authority, fax: 905-648-4622
Mr. David Johnston, Niagara Escarpment Commission, fax: 1-905-873-7452

jl/c:\letters\eis\Flamborough\highway 6 and 5 red mulberry

PROTECTING THE NATURAL ENVIRONMENT FROM LAKE TO ESCARPMENT

00550/47539

2596 Britannia Road West
R.R. #2 Milton Ontario L9T 2X6
(905) 336-1158 Fax (905) 336-7014
Internet Address: www.conservationhalton.on.ca E-mail: admin@hrca.on.ca

November 5, 2002

FAXED 11/06/02

Mr. Ian Dobrindt
Earth Tech
105 Commerce Valley Drive West
Markham, ON
L3T 7W3

Dear Mr. Dobrindt:

Re: Environmental Assessment – Highway 6
500 metres south of Highway 5 North to 5th Concession East
Conservation Halton File: PPR-080

Thank you for your fax of October 7, 2002 identifying the location of the red mulberry. Staff note that this location is interesting as red mulberry is generally restricted to the talus slopes of the Escarpment and not found in other adjacent habitats (particularly disturbed areas away from the core ESA). As a result, staff question whether this is red mulberry or whether it is a white mulberry or a white/red hybrid? The tree should not be transplanted unless it is native. If there is any doubt, a nursery-grown red mulberry should be planted instead. The planted tree should be from this seed zone and preferably should be grown from seed sources collected in this area to maintain genetics. The Royal Botanical Gardens may have red mulberry seedlings available that have been grown from local seed sources.

We trust the above is of assistance. If you have any questions please contact the undersigned at extension 231.

Yours truly,

Jennifer Lawrence
Environmental Planner,
Watershed Management Services

cc: Mr. Scott Konkle, Hamilton Conservation Authority, fax: 905-648-4622
Mr. David Johnston, Niagara Escarpment Commission, fax: 1-905-873-7452

JL

jl/c:\letters\eis\flamboro\highway 6 red mulberry follow-up.doc

APPENDIX C

Notification of Public Information Centre 1

Ontario

NOTICE OF PUBLIC INFORMATION CENTRE

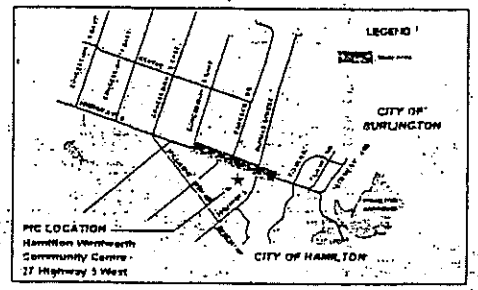
Highway 6

500 m South of Highway 5 North to 5th Concession East

Preliminary Design/Environmental Assessment Study

The Project

The Ministry of Transportation (MTO) is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton to address existing and future capacity and operational concerns within the study area.



Value Planning Workshop

As part of the enhanced public consultation process, a Value Planning Workshop was held on March 27, 2001. The purpose of the Workshop was to gain a better understanding of existing problems/issues, identify the future role of the highway, understand the needs of road users and stakeholders, and identify improvement opportunities within the corridor. The session was attended by interested members of the public, area stakeholders, and local municipal representatives. The input received from the Workshop was considered in finalizing the problem statement and identifying alternatives.

The Process and Upcoming Public Information Centres

This project is following the approved planning process for Group B projects of the Class Environmental Assessment (EA) for Provincial Transportation Facilities (1997). As part of the EA planning process, two Public Information Centres (PICs) will be held over the course of the study. The first PIC is being held to provide information about the project, including the results of the Workshop, and to allow the public an opportunity to review and comment on the various alternatives being considered with Earth Tech Canada and MTO staff present.

The PIC will follow a "drop-in" format with graphical displays and text boards presenting the relevant background information and project details.

The PIC is scheduled for:

DATE: WEDNESDAY, JUNE 27, 2001

TIME: 2:30 PM TO 4:30 PM
6:00 PM TO 8:00 PM

LOCATION: THE HAMILTON WENTWORTH
COMMUNITY CENTRE
27 HIGHWAY 5 WEST
HAMILTON, ONTARIO

The information received at this PIC will be reviewed and included in evaluating the various alternatives to identify the technically preferred alternatives. The second PIC will be held in the fall of this year to present the technically preferred alternative and provide an opportunity for the public to provide further comment. A similar newspaper notice detailing the date, time and location of the second PIC will be issued at the appropriate time.

A Transportation Environmental Study Report (TESR) will be prepared at the completion of the project, filed with the Ministry of the Environment, and placed in the Public Record for review. A further notice will be published at that time.

Comments

We are interested in hearing any comments or concerns that you may have about this project. Comments and information regarding this project are being collected to assist the Project Team in meeting the requirements of the *Environmental Assessment Act*. These comments will be maintained for reference throughout the project and, with the exception of personal information, may be used in the TESR and become part of the public record. Please contact either one of the following team members for further information or to be added to the project mailing list.

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: lmartin@earthtech.ca

Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario L3T 7W3
Telephone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

The Hamilton Spectator
Wednesday, June 20, 2001

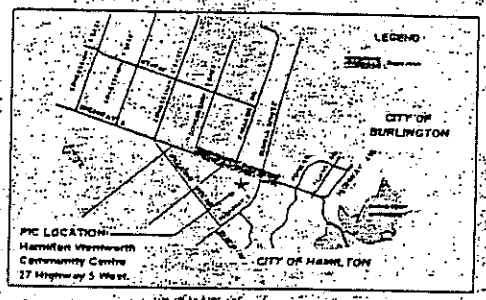
Ontario

NOTICE OF PUBLIC INFORMATION CENTRE

Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study

The Project

The Ministry of Transportation (MTO) is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton to address existing and future capacity and operational concerns within the study area.



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The Process and Upcoming Public Information Centres

This project is following the approved planning process for Group B projects of the Class Environmental Assessment (EA) for Provincial Transportation Facilities (1987). As part of the EA planning process, two Public Information Centres (PICs) will be held over the course of the study. The first PIC is being held to provide information about the project including the results of the Workshop and allow the public an opportunity to review and comment on the various alternatives being considered with Earth Tech Canada and MTO staff present.

The PIC will follow a "display" format with graphical displays and text boards presenting the relevant background information and project details.

The PIC is scheduled for:

DATE: WEDNESDAY, JUNE 27, 2001

TIME: 2:30 PM TO 4:30 PM & 6:00 PM TO 8:00 PM

LOCATION: THE HAMILTON WENTWORTH COMMUNITY CENTRE
27 HIGHWAY 5 WEST, HAMILTON, ONTARIO

The information received at this PIC will be reviewed and included in evaluating the various alternatives to identify the technically preferred alternatives. The second PIC will be held in the fall of this year to present the technically preferred alternative and provide an opportunity for the public to provide further comment. A similar newspaper notice detailing the date, time and location of the second PIC will be issued at the appropriate time.

A Transportation Environmental Study Report (TESR) will be prepared at the completion of the project, filed with the Ministry of the Environment, and placed in the Public Record for review. A further notice will be published at that time.

Comments

We are interested in hearing any comments or concerns that you may have about this project. Comments and information regarding this project are being collected to assist the Project Team in meeting the requirements of the *Environmental Assessment Act*. These comments will be maintained for reference throughout the project and with the exception of personal information, may be used in the TESR and become part of the public record. Please contact either one of the following team members for further information or to be added to the project mailing list.

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Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W, 7th Floor
Markham, Ontario, L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: lmartin@earthtech.ca

Ian Ondrmdt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W, 7th Floor
Markham, Ontario, L3T 7W3
Telephone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idrdrmdt@earthtech.ca

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

June 18, 2001

Project EO 00550

«FirstName» «LastName»
«Company»
«Address1»
«City», ON «PostalCode»

Please see Distribution List
– Standard Letter to Agencies – sent Jun 18

Subject: W.O. 00-23011, Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre

Dear «Dear»:

The Ministry of Transportation (MTO) is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton (see attached map) to address existing and future capacity and operational concerns within the study area. As part of the enhanced public consultation process, a Value Planning Workshop was held on March 27, 2001.

Telephone
905.886.7022
Facsimile
905.886.9494

The purpose of the Workshop was to gain a better understanding of existing problems/issues, identify the future role of the highway, understand the needs of road users and stakeholders, and identify improvement opportunities within the corridor. The session was attended by interested members of the public, area stakeholders, and local municipal representatives. The input received from the Workshop was fully considered in finalizing the problem statement and identifying alternatives.

The Process and Upcoming Public Information Centres

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The PIC will follow a "drop-in" format with graphical displays and text boards presenting the relevant background information and project details, including planning alternatives.

The PIC is scheduled for:	Date:	Wednesday June 27, 2001
	Time:	2:30 pm to 4:30 pm 6:00 pm to 8:00 pm
	Location:	The Hamilton Wentworth Community Centre 27 Highway 5 West Hamilton, Ontario (see attached map)

The information received at this PIC will be reviewed and included in evaluating the various alternatives to identify the technically preferred alternatives. The second PIC will be held in the fall of this year to present the technically preferred alternative and provide an opportunity for the public to provide further comment. Notices detailing the date, time and location of the second PIC will be sent to you at the appropriate time.

A Transportation Environmental Study Report will be prepared at the completion of the project, filed with the Ministry of the Environment, and placed in the Public Record for review. A further letter will be mailed at that time to only those that have expressed an interest in the project.

Please contact either one of the following team members if you have any questions on the preceding information or require further details on the project:

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario. L3T 7W3
Phone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
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Mr. Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario. L3T 7W3
Phone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

Very truly yours,

Earth Tech Canada Inc.

Leslie Martin, P. Eng.
Project Manager

Encl.
c: D. Kemper / C. Southey, MTO
I. Dobrindt / R. Kulathinal, ETC

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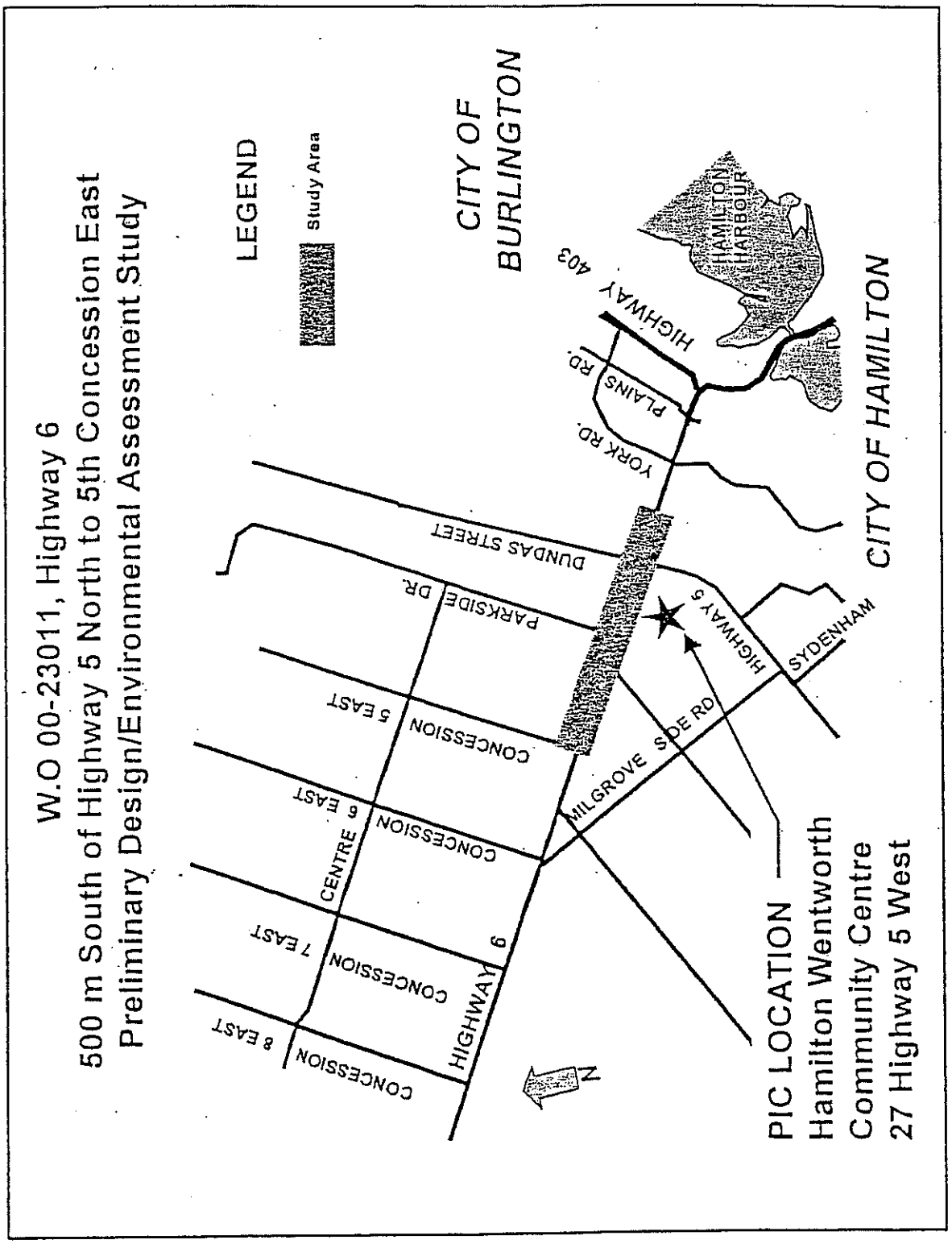
W.O 00-23011, Highway 6
500 m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
LEGEND
Study Area
CITY OF BURLINGTON
CITY OF HAMILTON
HAMILTON HARBOUR
HIGHWAY 403
PLAINS RD.
YORK RD.
DUNDAS STREET
PARKSIDE DR.
5 EAST CONCESSION
6 EAST CONCESSION
7 EAST CONCESSION
8 EAST CONCESSION
CENTRE
HIGHWAY 6
HIGHWAY 5
SYDENHAM
MILGROVE SIDE RD
PIC LOCATION
Hamilton Wentworth
Community Centre
27 Highway 5 West
N

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

June 18, 2001 Project EO 00550

Kay Glynn
Toronto Bruce Trail Club
P.O. Box 44, Station M
Toronto, ON M6S 4T2

Subject: W.O. 00-23011, Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre

Dear Madam:

The Ministry of Transportation (MTO) is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton (see attached map) to address existing and future capacity and operational concerns within the study area. As part of the enhanced public consultation process, a Value Planning Workshop was held on March 27, 2001.

Telephone 905.886.7022
Facsimile 905.886.9494

The purpose of the Workshop was to gain a better understanding of existing problems/issues, identify the future role of the highway, understand the needs of road users and stakeholders, and identify improvement opportunities within the corridor. The session was attended by interested members of the public, area stakeholders, and local municipal representatives. The input received from the Workshop was fully considered in finalizing the problem statement and identifying alternatives.

The Process and Upcoming Public Information Centres

This project is following the approved planning process for Group B projects of the Class Environmental Assessment (EA) for Provincial Transportation Facilities (1997). As part of the EA planning process, two Public Information Centres (PICs) will be held over the course of the study. The first PIC is being held to provide information about the project including the results of the Workshop and allow the public an opportunity to review and comment on the various alternatives being considered with Earth Tech Canada and MTO staff present.

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	Time:	2:30 pm to 4:30 pm 6:00 pm to 8:00 pm
	Location:	The Hamilton Wentworth Community Centre 27 Highway 5 West Hamilton, Ontario (see attached map)

Standard Agencies (letter: PIC#1 Notice Letter – June 27.doc) sent June 18, 2001

Kay Glynn
Toronto Bruce Trail Club
P.O. Box 44, Station M
Toronto, ON M6S 4T2

Jacqueline Winters
Bruce Trail Association
PO Box 857
Hamilton, ON L8N 3N9

Don Cangiano
Bruce Trail Association
PO Box 857
Hamilton, ON L8N 3N9

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

June 18, 2001

Project EO 00550

«FirstName» «LastName»
«Company»
«Address1»
«Address2»
«City», ON «PostalCode»

Please see Distribution List
– Modified Letter to Agencies – sent Jun 18

Subject: W.O. 00-23011, Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre

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Telephone
905.866.7022
Facsimile
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The purpose of the Workshop was to gain a better understanding of existing problems/issues, identify the future role of the highway, understand the needs of road users and stakeholders, and identify improvement opportunities within the corridor. The session was attended by interested members of the public, area stakeholders, and local municipal representatives. The input received from the Workshop was fully considered in finalizing the problem statement and identifying alternatives.

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	Time:	2:30 pm to 4:30 pm 6:00 pm to 8:00 pm
	Location:	The Hamilton Wentworth Community Centre 27 Highway 5 West Hamilton, Ontario (see attached map)

In addition, you are invited in advance of the public viewing on June 27, 2001 at the Hamilton-Wentworth Community Centre between 1:30 p.m. and 2:30 p.m. to review the study information presented and to discuss your perspective on the project with MTO and the Earth Tech project team members.

The information received at this PIC will be reviewed and included in evaluating the various alternatives to identify the technically preferred alternatives. The second PIC will be held in the fall of this year to present the technically preferred alternative and provide an opportunity for the public to provide further comment. Notices detailing the date, time and location of the second PIC will be sent to you at the appropriate time.

A Transportation Environmental Study Report will be prepared at the completion of the project, filed with the Ministry of the Environment, and placed in the Public Record for review. A further letter will be mailed at that time to only those that have expressed an interest in the project.

Please contact either one of the following team members if you have any questions on the preceding information or require further details on the project:

Leslie Martin, P.Eng.
Project Manager
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Mr. Ian Dobrindt, MCIP, RPP
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Phone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

Very truly yours,

Earth Tech Canada Inc.

Leslie Martin, P. Eng.
Project Manager

Encl.
c: D. Kemper / C. Southey, MTO
I. Dobrindt / R. Kulathinal, ETC

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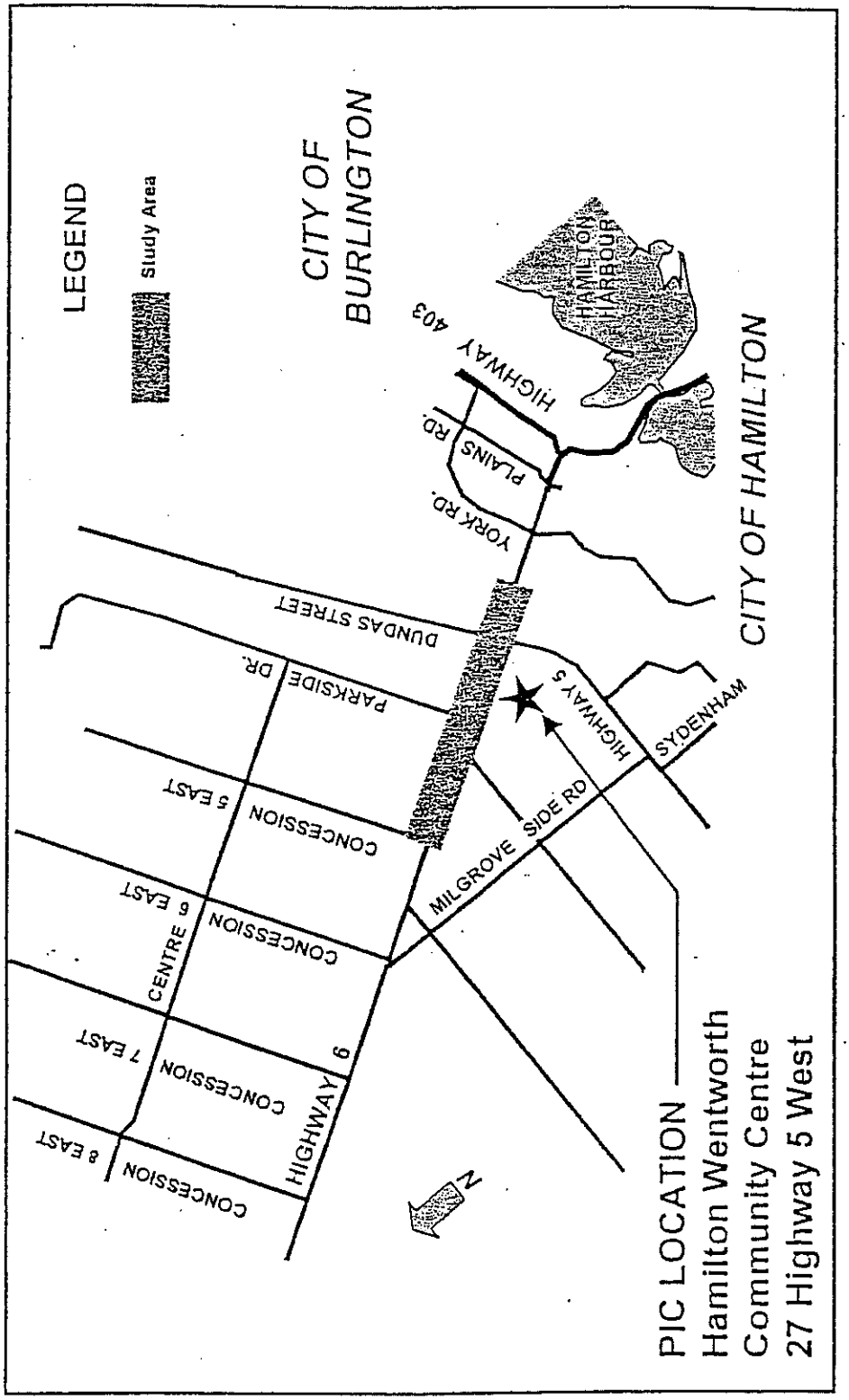
LEGEND
Study Area
CITY OF BURLINGTON
CITY OF HAMILTON
HAMILTON HARBOUR
403
HIGHWAY
PLAINS RD.
YORK RD.
DUNDAS STREET
PARKSIDE DR.
5 EAST
CONCESSION
6 EAST
CONCESSION
CENTRE
7 EAST
CONCESSION
8 EAST
CONCESSION
HIGHWAY 6
MILGROVE SIDE RD
HIGHWAY 5
SYDENHAM
N
PIC LOCATION
Hamilton Wentworth
Community Centre
27 Highway 5 West

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

June 18, 2001

Project EO 00550

Brenda Axon
Halton Region Conservation Authority
R.R. #2, 2596 Britannia Road West
Milton, ON L9T 2X6

Subject: W.O. 00-23011, Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre

Dear Madam:

The Ministry of Transportation (MTO) is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton (see attached map) to address existing and future capacity and operational concerns within the study area. As part of the enhanced public consultation process, a Value Planning Workshop was held on March 27, 2001.

Telephone 905.886.7022
Facsimile 905.886.9494

The purpose of the Workshop was to gain a better understanding of existing problems/issues, identify the future role of the highway, understand the needs of road users and stakeholders, and identify improvement opportunities within the corridor. The session was attended by interested members of the public, area stakeholders, and local municipal representatives. The input received from the Workshop was fully considered in finalizing the problem statement and identifying alternatives.

The Process and Upcoming Public Information Centres

This project is following the approved planning process for Group B projects of the Class Environmental Assessment (EA) for Provincial Transportation Facilities (1997). As part of the EA planning process, two Public Information Centres (PICs) will be held over the course of the study. The first PIC is being held to provide information about the project including the results of the Workshop and allow the public an opportunity to review and comment on the various alternatives being considered with Earth Tech Canada and MTO staff present.

The PIC will follow a "drop-in" format with graphical displays and text boards presenting the relevant background information and project details, including planning alternatives.

The PIC is scheduled for:	Date:	Wednesday June 27, 2001
	Time:	2:30 pm to 4:30 pm 6:00 pm to 8:00 pm
	Location:	The Hamilton Wentworth Community Centre 27 Highway 5 West Hamilton, Ontario (see attached map)

In addition, you are invited in advance of the public viewing on June 27, 2001 at the Hamilton-Wentworth Community Centre between 1:30 p.m. and 2:30 p.m. to review the study information

Brenda Axon
Halton Region Conservation Authority
R.R. #2, 2596 Britannia Road West
Milton, ON L9T 2X6

Paul Brown
Hamilton Hydro Electric System
Ontario Power Generation
55 John Street North
P.O Box 2249
Hamilton, ON L8N 3E4

Thomas Chapman
Jim Walker
Halton Regional Police Department
440 Locust St
Burlington, ON L7S 1T7

Kevin Christenson
New City of Hamilton
City Hall
71 Main Street West
Hamilton, ON L8P 4Y5

David Cooper
Ontario Ministry of Natural Resources
1 Stone Rd W
Guelph, ON N1G 4Y2

Joan Eaglesham
Regional Municipality of Halton
1151 Bronte Road
Oakville, ON L6M 3L1

Neal Ferris
Ministry of Citizenship, Culture, and Recreation
55 Centre St
London, ON N6J 1T4

Pat Friend
Bell Canada Access Network
20 Hunter Street West
Hamilton, ON L8P 1P8

Enzo Greco
Union Gas
P.O Box 10
Hamilton, ON L8N 3A5

Kal Haniff
Ministry of the Environment
Hamilton Regional Office
Ellen Fairclough Building, 12th Floor
119 King St W
Hamilton, ON L8P 4Y7

Janice Hayes
COGECO Cable Inc
P.O Box 5076
Station Main
Burlington, ON L7R 4S6

Sharon Johnson
Ministry of Agriculture, Food and Rural Affairs
3rd Floor S
1 Stone Rd W
Guelph, ON N1G 4Y2

David Johnson
Niagara Escarpment Commission
232 Guelph St
Georgetown, ON L7G 4B1

Scott Konkle
Hamilton Region Conservation Authority
P.O. Box 7099
838 Mineral Springs Road
Ancaster, ON L9G 3L3

Terry O'Sullivan
New City of Hamilton - Wentworth Separate School Board
P.O. Box 2012
90 Mulberry Street
Hamilton, ON L8N 3R9

Ken Robertson
New City of Hamilton - Regional Police
155 King William St.
Hamilton, ON L8N 4C1

John Skorobohacz
City of Burlington
426 Brant Street
P.O. Box 5013
Burlington, ON L7R 3Z6

Robert Edmondson
Halton Region Conservation Authority
R.R. #2, 2596 Britannia Road West
Milton, ON L9T 2X6

Cripps Paul
New City of Hamilton – Dundas Office
P.O. 8584
Dundas, ON L9H 5E7

Elizabeth Richardson
New City of Hamilton - Social and Public Health Services Division
71 Main Street West
Hamilton, ON L8P 4Y5

Daryl Sage
New City of Hamilton - District School Board
P.O. Box 2558
100 Main Street West
Hamilton, ON L8N 3L1

Bob Weekes
Dawn Huxley
Ontario Provincial Police
Burlington Detachment
C/o P.O. Box 5021
1160 North Shore Boulevard East
Burlington, ON L7R 3Y8

Cory Harris
Halton Region Conservation Authority
R.R. #2, 2596 Britannia Road West
Milton, ON L9T 2X6

Vito Talone
City of Burlington
426 Brant Street
P.O. Box 5013
Burlington, ON L7R 3Z6

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

June 18, 2001

Project EO 00550

«Company»
«Address»

– Property Owners Affected – sent REGISTERED MAIL Jun 18

Subject: W.O. 00-23011, Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre

Dear «Dear»:

Please find enclosed a brochure outlining the details associated with an upcoming Public Information Centre (PIC) being held by the Ministry of Transportation (MTO) for a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton.

We strongly encourage you to attend the PIC and comment on the various alternatives being considered that may affect your property or access. Earth Tech Canada and MTO staff will be present to discuss your comments with you.

Please contact either one of the following team members if you have any questions on the preceding information or require further details on the project:

Telephone
905.886.7022

Facsimile
905.886.9494

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario. L3T 7W3
Phone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: lmartin@earthtech.ca

Mr. Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario. L3T 7W3
Phone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

Very truly yours,

Earth Tech Canada Inc.

Leslie Martin, P. Eng.
Project Manager

Encl.
c: D. Kemper / C. Southey, MTO
I. Dobrindt / R. Kulathinal, ETC

F:\PROJECTS\Eo00550\PIC - Environmental\PIC#1 Covering Letter - June 27.doc

ease contact one of the following oject team members if you are unable attend, but wish to obtain further ormation, provide comments, or be ded to the project mailing list:

. Leslie Martin, P.Eng
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rth Tech Canada Inc.
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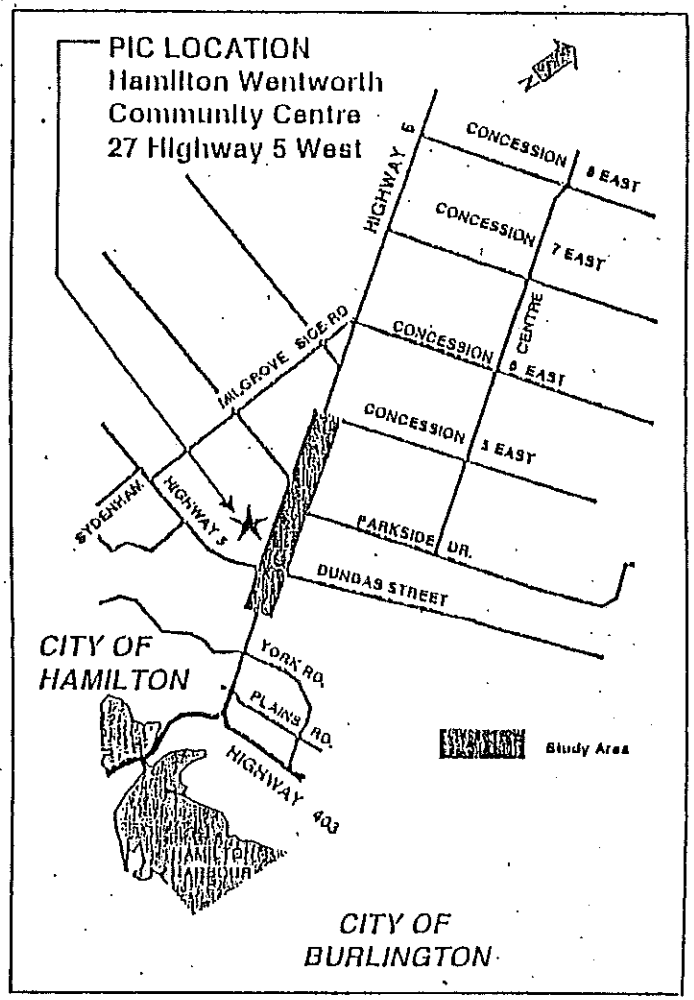
KEY PLAN



Ontario

PUBLIC INFORMATION CENTRE

HIGHWAY 6
(500m South of Highway 5 North to 5th Concession East)

Preliminary Design/Environmental Assessment Study
(W.O. 00-23011)

Wednesday, June 27, 2001

EARTH TECH Canada

INTRODUCTION

The Ministry of Transportation (MTO) is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton to address existing and future capacity and operational concerns within the study area.

VALUE PLANNING WORKSHOP

As part of the enhanced public consultation process, a Value Planning Workshop was held on March 27, 2001. The purpose of the Workshop was to gain a better understanding of existing problems/issues, identify the future role of the highway, understand the needs of road users and stakeholders, and identify improvement opportunities within the corridor. The session was attended by interested members of the public, area stakeholders, and local municipal representatives. The input received from the Workshop was fully considered in finalizing the problem statement and identifying alternatives.

ENVIRONMENTAL ASSESSMENT (EA) PROCESS

This project is following the approved planning process for Group B projects of the Class Environmental Assessment (EA) for Provincial Transportation Facilities (1997). The EA planning process includes public and review agency consultation, an evaluation of alternatives, an assessment of the impact of the proposed improvements, and the identification of measures required to mitigate any adverse impacts.

At the end of the EA process a Transportation Environmental Study Report (TESR) will be made available for a minimum of 30 calendar days for public review and comment. A notice of submission of the TESR will be published at that time.

PUBLIC INFORMATION CENTRE

Public Information Centres (PIC) are informal meetings where information about the project is made available for public review and comment. Two Public Information Centres (PICs) will be held over the course of the study. The first PIC is being held to provide information about the project including the results of the Workshop and allow the public an opportunity to review and comment on the various alternatives being considered with Earth Tech Canada and MTO staff present.

The PIC will follow a "drop-in" format with graphical displays and text boards presenting the relevant background information and project details, including planning alternatives.

DATE: Wednesday, June 27, 2001

TIME: 2:30 PM to 4:30 PM
6:00 PM to 8:00 PM

LOCATION: The Hamilton Wentworth
Community Centre
27 Highway 5 West
Hamilton, Ontario

The information received at this PIC will be reviewed and considered in evaluating the various alternatives to identify the technically preferred alternatives. The second PIC will be held in the fall of this year to present the technically preferred alternative and provide an opportunity for the public to provide further comment. Notices detailing the date, time and location of the second PIC will be sent to you at the appropriate time.

We are interested in hearing any comments you or your group may have about this project, either at the PIC, by letter, fax, e-mail or telephone.

Comments and information regarding this project are being collected to assist the Project Team in meeting the requirements of the *Environmental Assessment Act*. With the exception of personal information, all comments will become part of the Public Record and may be included in the TESR.

Please contact one of the following project team members if you are unable to attend, but wish to obtain further information, provide comments, or be added to the project mailing list:

Mr. Leslie Martin, P.Eng
Project Manager
Earth Tech Canada Inc.
105 Commerce Valley Dr. W.
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
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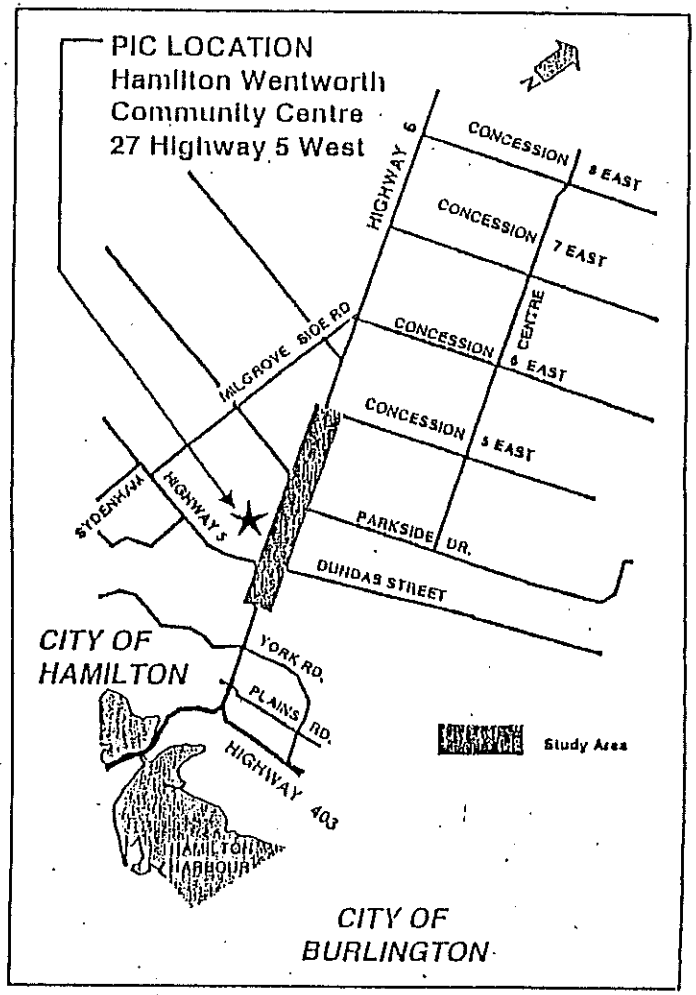
KEY PLAN



Ontario

PUBLIC INFORMATION CENTRE

HIGHWAY 6
(500m South of Highway 5 North to 5th Concession East)

Preliminary Design/Environmental Assessment Study
(W.O. 00-23011)

Wednesday, June 27, 2001

Brochures sent to Public/Property Owners NOT affected – Jun 18, 2001

EARTH TECH Canada

NTRODUCTION

The Ministry of Transportation (MTO) is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton to address existing and future capacity and operational concerns within the study area.

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APPENDIX D

Notification of Public Information Centre 2

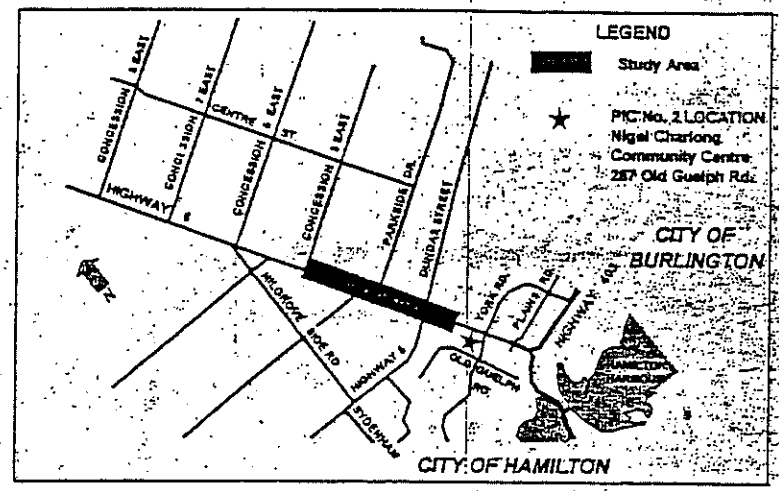
Ontario

NOTICE OF PUBLIC INFORMATION CENTRE No. 2

Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study

The Project

Earth Tech Canada Inc., on behalf of the Ministry of Transportation (MTO), is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton. The purposes of this study are to address existing and future capacity and operational concerns within the study area.



The Process

This project is being carried out in accordance with the approved planning process for Group "B" projects under the Class Environmental Assessment (EA) for Provincial Transportation Facilities (2000), with an opportunity for public input throughout.

Upon completion of this study, a Transportation Environmental Study Report (TESR) will be available for public review and comment. Another public notice will be published at that time.

Public Information Centre No. 2

As part of the EA planning process, two Public Information Centres (PICs) are being held over the course of the study. The first PIC was held on June 27, 2001 to provide information about the project and allow the public to review and comment on the various alternatives being considered. The purposes of second PIC are to provide an update regarding the progress of the project and allow an opportunity for the public and stakeholders to comment on the preferred design alternative and discuss it with Earth Tech Canada and MTO staff.

The second PIC will follow a "drop-in" format using large graphical displays and text boards to provide the relevant information.

PIC No. 2 is scheduled for:

DATE:	WEDNESDAY, JANUARY 30, 2002
TIME:	2:30 PM TO 4:30 PM 6:00 PM TO 8:00 PM
LOCATION:	NIGEL CHARLONG COMMUNITY CENTRE *(formerly the Valley Community Centre)* 287 OLD GUELPH ROAD HAMILTON, ONTARIO

Comments

We are interested in hearing any comments or concerns that you may have about this project. Comments and information regarding this project are being collected to assist the Project Team in meeting the requirements of the *Environmental Assessment Act*. These comments will be maintained for reference throughout the project and with the exception of personal information, may be used in the TESR and become part of the public record. Please contact either one of the following team members for further information or to be added to the project mailing list:

Leslie Martin, P.Eng.
Project Manager
Earth Tech Canada Inc.
105 Commerce Valley Dr. W., 7th Floor
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: lmartin@earthtech.ca

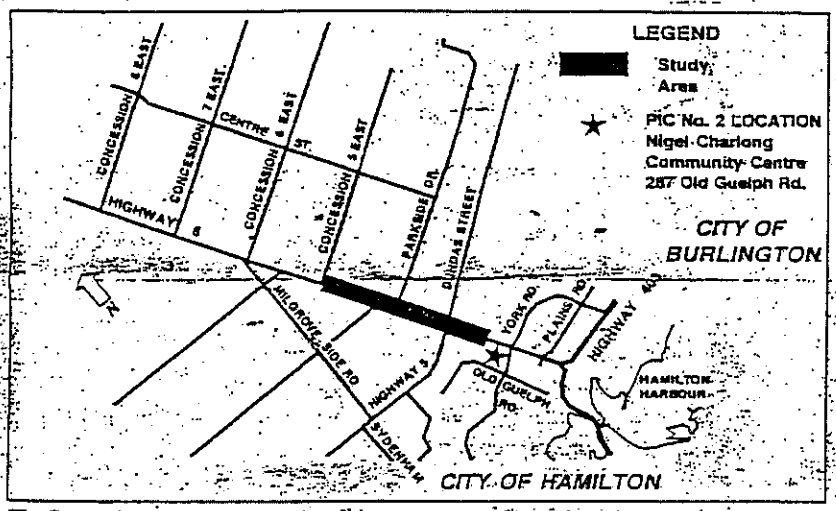
Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech Canada Inc.
105 Commerce Valley Dr. W., 7th Floor
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

Ontario

NOTICE OF PUBLIC INFORMATION CENTRE No. 2
Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study

The Project

Earth Tech Canada Inc., on behalf of the Ministry of Transportation (MTO), is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton. The purposes of this study are to address existing and future capacity and operational concerns within the study area.



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Upon completion of this study, a Transportation Environmental Study Report (TESR) will be available for public review and comment. Another public notice will be published at that time.

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The second PIC will follow a "drop-in" format using large graphical displays and text boards to provide the relevant information.

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TIME: 2:30 PM TO 4:30 PM
6:00 PM TO 8:00 PM
LOCATION: NIGEL CHARLONG COMMUNITY CENTRE
(formerly the Valley Community Centre)
287 OLD GUELPH ROAD, HAMILTON, ONTARIO

Comments

We are interested in hearing any comments or concerns that you may have about this project. Comments and information regarding this project are being collected to assist the Project Team in meeting the requirements of the Environmental Assessment Act. These comments will be maintained for reference throughout the project and with the exception of personal information, may be used in the TESR and become part of the public record. Please contact either one of the following team members for further information or to be added to the project mailing list:

Leslie Martin, P.Eng.
Project Manager
Earth Tech Canada Inc.
105 Commerce Valley Dr. W., 7th Floor
Markham, Ontario, L3T 7W3
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Fax: (905) 886-9494
e-mail: lmartin@earthtech.ca

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. Ian Dobrindt, MCIP, RPP
vironmental Planner
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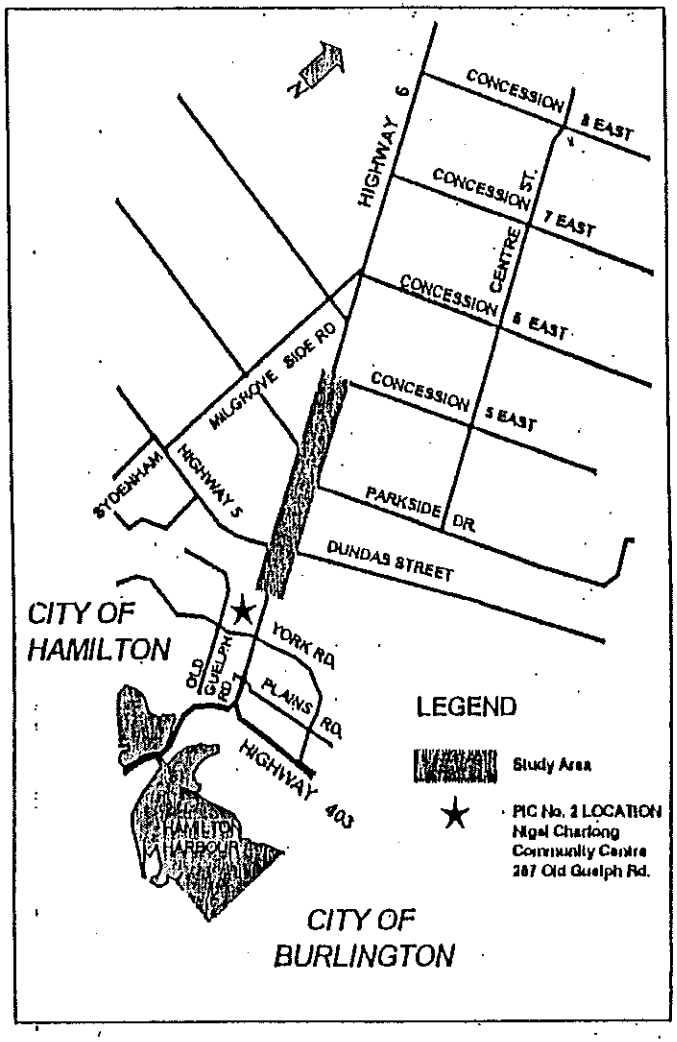
x: (905) 886-9494
nail: idobrind@earthtech.ca

Study Area and Public Information Centre Location Map



Ontario

PUBLIC INFORMATION CENTRE No. 2

HIGHWAY 6
(500m South of Highway 5 North to 5th Concession East)

Preliminary Design/Environmental Assessment Study
(W.O. 00-23011)

January 30, 2002

EARTH TECH Canada

RODUCTION

th Tech Canada Inc., on behalf of the istry of Transportation (MTO), is undertaking Preliminary Design and Environmental essment Study for Highway 6 from 500 m th of Highway 5 northerly to the 5th ncession East in the City of Hamilton. The poses of this study are to address existing l future capacity and operational concerns in the study area.

ENTIFIED CONCERNS/PROJECT JECTIVES

e following concerns have been identified:

hway 5/6 Intersection

Almost at traffic capacity, and is projected to reach capacity in the next 8 to 12 years.

Additional traffic volumes are anticipated due to

- -area developments
- -traffic growth along corridor

hway 6 Corridor

Highway safety improved through new 2-way left turn lane

Through volumes are expected to increase

- -left turns increasingly become more icult

sed on agency and public input in this study following objectives were identified:

Moving traffic safely without undue delay. This includes a safer roadway environment for users of the adjacent properties.

Accommodating future growth, including supporting municipal planning and maintaining flexibility with minimal property impacts.

Linking communities and supporting the local economy

CLASS ENVIRONMENTAL ASSESSMENT PROCESS

This project is being carried out in accordance with the approved planning process for Group "B" projects under the Class Environmental Assessment for Provincial Transportation Facilities (2000) with the opportunity for public consultation throughout. The EA planning process includes public and review agency consultation, an evaluation of alternatives, an assessment of the impact of the proposed improvements, and the identification of measures required to mitigate any adverse impacts.

Upon completion of this study, a Transportation Environmental Study Report (TESR) will be available for public review and comment. Another public notice will be published at that time.

PUBLIC INFORMATION CENTRE No.2

As part of the EA planning process, two Public Information Centres (PICs) are being held over the course of the study. The first PIC was held on June 27, 2001 to provide information about the project and allow the public to review and comment on the various alternatives being considered.

The purposes of the second PIC are to provide an update regarding the progress of the project and allow an opportunity for the public and stakeholders to comment on the preferred design alternative and discuss it with Earth Tech Canada and MTO staff. Other major elements to be presented include the purpose and scope of the study, the Class EA Process, and the next steps in the study.

The PIC will follow a "drop-in" format with graphical displays and text boards presenting the relevant background information and project details.

The second Public Information Centre is scheduled for:

DATE: Wednesday, January 30, 2002

TIME: 2:30 PM TO 4:30 PM
6:00 PM TO 8:00 PM

LOCATION: NIGEL CHARLONG COMMUNITY CENTRE
(formerly the Valley Community Centre)
287 OLD GUELPH ROAD
HAMILTON, ONTARIO

PIC No.2 is your opportunity to review and discuss the preferred design alternative with staff from the MTO and Earth Tech. Comments and information regarding this study are being collected to assist the Project Team in meeting the requirements of the Environmental Assessment Act. This material will be maintained on file for use during the study and may be included in study documentation. With the exception of personal information, all comments will become part of the public record.

We are interested in hearing any comments you or your group may have about this project, either at the PIC, by letter, fax, e-mail or telephone.

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

January 21, 2002 Project EO 00550/47539

Mr. Ted McMeekin, MPP
Room 157, Main Legislative Building
Queen's Park
Toronto, Ontario
M7A 1A4

Subject: **W.O. 00-23011, Highway 6**
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre No. 2

Dear Mr. McMeekin:

Please find enclosed a brochure outlining the details associated with an upcoming second Public Information Centre (PIC No. 2) being held by the Ministry of Transportation (MTO) for a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton.

This brochure has also been mailed to all property owners adjacent to the project limits as well as to interested public members who have been involved in the Study since its initiation. For your constituency's office we have included some additional copies of the brochure.

Telephone
905.886.7022
Facsimile
905.886.9494

Please contact either one of the following team members if you have any questions on the preceding information or require further details on the project:

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7th Floor
Markham, Ontario. L3T 7W3
Phone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

Very truly yours,

Earth Tech Canada Inc.

Leslie Martin, P. Eng.
Project Manager

Encl.
c: D. Coulter / C. Southey, MTO
I. Dobrindt / R. Kulathinal, ETC

S:\PROJECTS\Eo00550\PIC #2\NOTIFICATIONS\PIC#2 Covering Letter - MPP.doc

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

January 18, 2002

Project EO 00550 / 47539

Don Cangiano
Bruce Trail Association
P.O. Box 857
Hamilton, ON L8N 3N9

Standard PIC #2 Agency Notice Letter

Subject: W.O. 00-23011, Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre No. 2

Dear Sir:

Earth Tech Canada Inc., on behalf of the Ministry of Transportation (MTO), is undertaking a Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton (see attached map). The purposes of the study are to address existing and future capacity and operational concerns within the study area.

Telephone 905.886.7022
Facsimile 905.886.9494

The Process

This project is being carried out in accordance with the approved planning process for Group "B" projects under the Class Environmental Assessment for Provincial Transportation Facilities (2000) with an opportunity for public input throughout.

Upon completion of this study, a Transportation Environmental Study Report (TESR) will be available for public review and comment. Another public notice will be published at that time.

Public Information Centre No. 2

As part of the EA planning process, two Public Information Centres (PICs) are being held over the course of the study. The first PIC was held on June 27, 2001 to provide information about the project and allow the public to review and comment on the various alternatives being considered.

The purposes of the second PIC are to provide an update regarding the progress of the project and allow an opportunity for interested members of the public, area stakeholders, and local municipal representatives to comment on the preferred design alternative and discuss it with Earth Tech Canada and MTO staff. Other major elements to be presented include the purpose and scope of the study, the Class Environmental Assessment Process and the next steps in the study.

The second PIC will follow a "drop-in" format using large graphical displays and text boards to provide the relevant information.

The second Public Information Centre is scheduled for:

DATE: WEDNESDAY, JANUARY 30, 2002

TIME: 2:30 PM TO 4:30 PM
6:00 PM TO 8:00 PM

LOCATION: NIGEL CHARLONG COMMUNITY CENTRE
(formerly the VALLEY COMMUINTY CENTRE)
287 OLD GUELPH ROAD
HAMILTON, ONTARIO

The information received at PIC No. 2 will be reviewed and considered in finalizing the selected design alternatives.

Please contact the following team members for further information or if you have any comments regarding this project:

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: lmartin@earthtech.ca

Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

Very truly yours,
Earth Tech Canada Inc.

Leslie Martin, P. Eng.
Project Manager
c: D. Coulter / C. Southey, MTO
I. Dobrindt / R. Kulathinal, ETC

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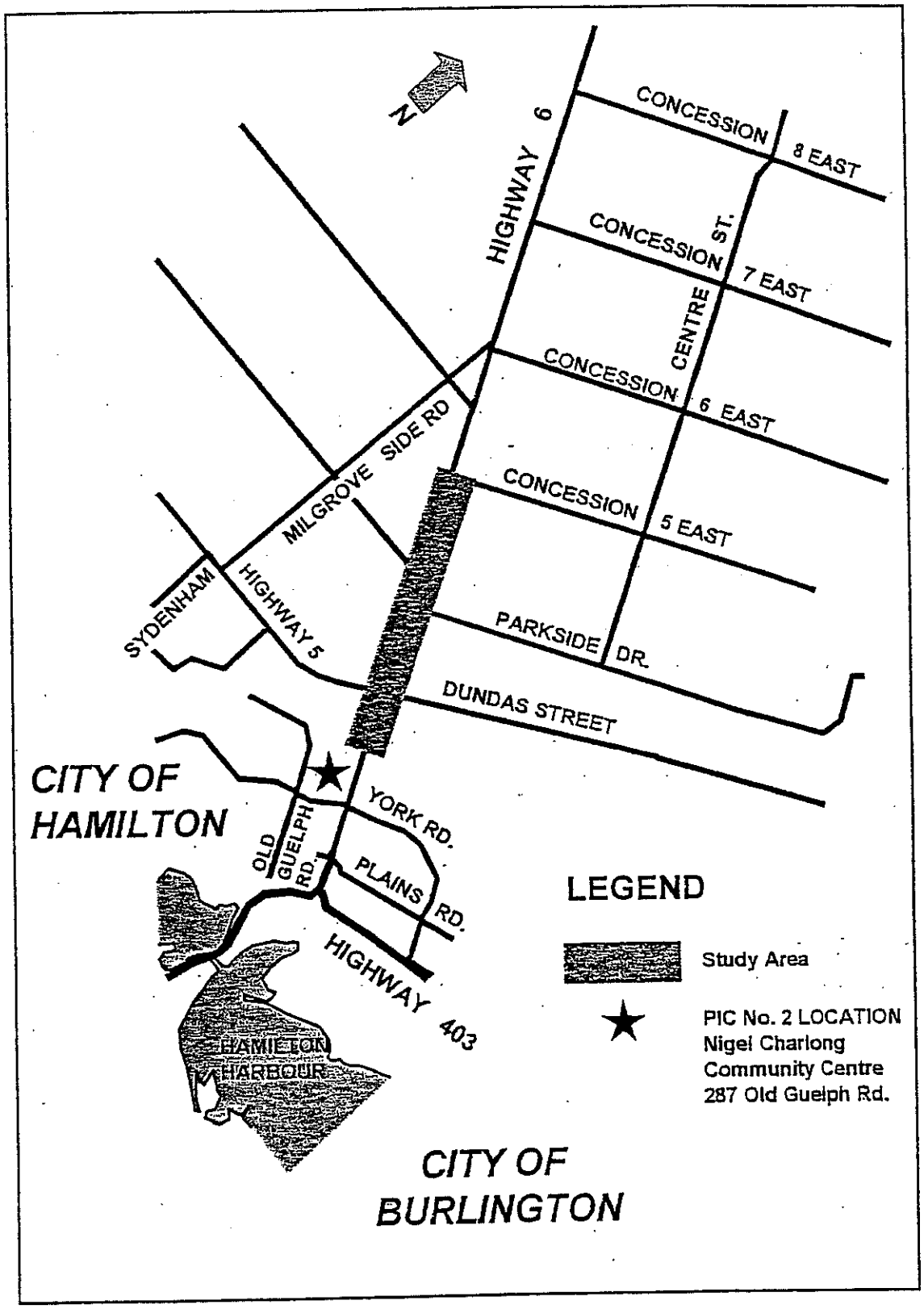
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CONCESSION 7 EAST
CENTRE
CONCESSION 6 EAST
CONCESSION 5 EAST
MILGROVE SIDE RD
SYDENHAM
HIGHWAY 5
PARKSIDE DR.
DUNDAS STREET
CITY OF HAMILTON
YORK RD.
OLD GUELPH RD.
PLAINS RD.
HIGHWAY 403
HAMILTON HARBOUR
CITY OF BURLINGTON
LEGEND
Study Area
PIC No. 2 LOCATION
Nigel Charlong
Community Centre
287 Old Guelph Rd.

Jacqueline Winters
Bruce Trail Association
P.O. Box 857
Hamilton, ON L8N 3N9

Jangiano
Trail Association
Box 857
ton, ON L8N 3N9

Glynn
nto Bruce Trail Club
Box 44, Station M
onto, ON M6S 4T2

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

January 18, 2001

Project EO 00550 / 47539

Ian Thornton
District Planner - Guelph District
Ontario Ministry of Natural Resources
1 Stone Rd W,
Guelph, ON N1G 4Y2

Modified PIC #2 Agency Notice Letter

Subject: W.O. 00-23011, Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre No. 2

Dear Sir:

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Facsimile
905.886.9494

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DATE: WEDNESDAY, JANUARY 30, 2002

TIME: 2:30 PM TO 4:30 PM
6:00 PM TO 8:00 PM

LOCATION: NIGEL CHARLONG COMMUNITY CENTRE
(formerly the VALLEY COMMUNITY CENTRE)
287 OLD GUELPH ROAD
HAMILTON, ONTARIO

In addition, you are invited in advance of the public viewing on Wednesday, January 30, 2002 at the Nigel Charlong Community Centre in Hamilton, Ontario between 1:30 p.m. and 2:30 p.m. to review the study information presented and to discuss your perspective on the project with MTO and the Earth Tech project team members.

The information received at PIC No. 2 will be reviewed and considered in finalizing the selected design alternatives.

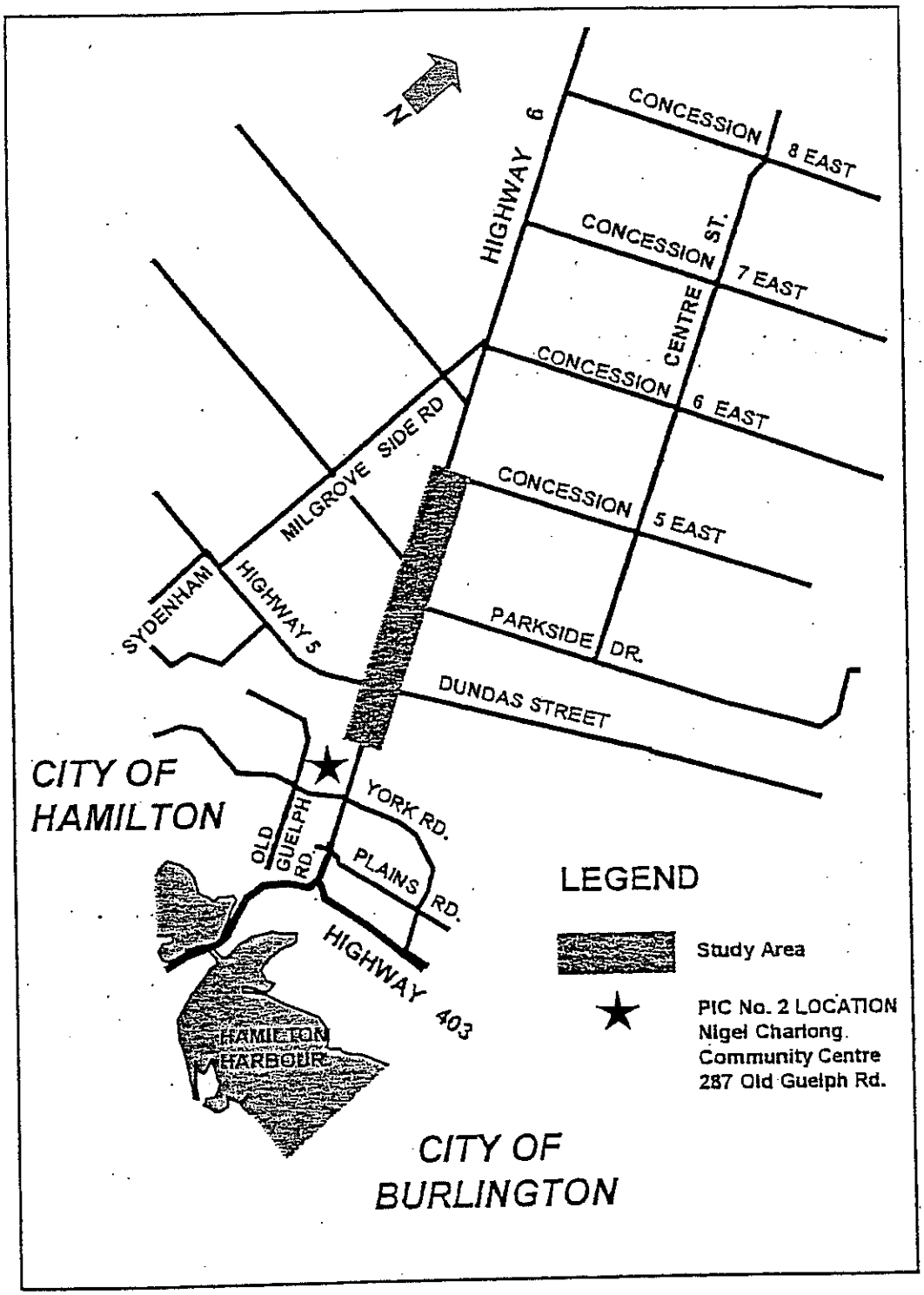
Please contact the following team members for further information or if you have any comments regarding this project:

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: lmartin@earthtech.ca

Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
7th Floor
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

Very truly yours,
Earth Tech Canada Inc.

Leslie Martin, P. Eng.
Project Manager
Encl.
c: D. Coulter / C. Southey, MTO
I. Dobrindt / R. Kulathinal, ETC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CONCESSION 8 EAST
CONCESSION ST. CENTRE 7 EAST
CONCESSION 6 EAST
CONCESSION 5 EAST
PARKSIDE DR.
DUNDAS STREET
MILGROVE SIDE RD
SYDENHAM
HIGHWAY 5
CITY OF HAMILTON
YORK RD.
OLD GUELPH RD.
PLAINS RD.
HIGHWAY 403
HAMILTON HARBOUR
CITY OF BURLINGTON
LEGEND
Study Area
PIC No. 2 LOCATION
Nigel Charlong Community Centre
287 Old Guelph Rd.

Ian Thornton
Ontario Ministry of Natural Resources
1 Stone Rd W,
Guelph, ON N1G 4Y2

Sharon Johnson
Ministry of Agriculture, Food and Rural Affairs
1 Stone Rd W, 3rd Floor S
Guelph, ON N1G 4Y2

Pat Friend
Bell Canada Access Network
0 Hunter St W,
Hamilton, ON L8P 1P8

Paul Henry
Chappell, Bushell, Stewart Barristers and Solicitors
20 Queen Street West, Suite 3310
Toronto, ON M5H 3Y4

Mark Morris
Hamilton Hydro Inc.
55 John St. N.,
Hamilton, ON L8N 3E4

Neal Ferris
Ministry of Citizenship, Culture and Recreation
55 Centre St.,
London, ON N6J 1T4

Paul Brown
Hamilton Hydro Electric System (Ontario Power Generation)
5 John St. N., P.O. Box 2249
Hamilton, ON L8N 3E4

Elizabeth Richardson
New City of Hamilton - Social and Public Health Services Division
71 Main St W,
Hamilton, ON L8P 4Y5

Kevin Christenson
New City of Hamilton - City Hall
.1 Main Street West,
Hamilton, ON L8P 4Y5

Russ Powers
City of Hamilton
71 Main Street West, City Hall - 2nd Floor
Hamilton, ON L8P 4Y5

Terry O'Sullivan
New City of Hamilton - Wentworth Separate School Board
0 Mulbery St, P.O. Box 2012
Hamilton, ON L8N 3R9

Daryl Sage
New City of Hamilton - District School Board
100 Main St W, P.O. Box 2558
Hamilton, ON L8N 3L1

Kal Haniff
Ministry of the Environment - Hamilton Regional Office
119 King St W, Ellen Fairclough Building, 12th Floor
Hamilton, ON L8P 4Y7

Regional Municipality of Hamilton-Wentworth
119 King St. W., P.O. Box 910
Hamilton, ON L8N 3V9

en Robertson
New City of Hamilton - Regional Police
55 King William St,
amilton, ON L8N 4C1

Jane Lees
New City of Hamilton - Flamborough Office
163 Dundas St E, P.O. Box 50
Waterdown, ON L0R 2H0

David Johnston
Niagara Escarpment Commission
32 Guelph St,
Georgetown, ON L7G 4B1

Sir/Madam
Constituency Office Address
299 Dundas Street East, P.O. Box 1240
Waterdown, ON L0R 2H0

hn Skorobohacz
City of Burlington
426 Brant St, P.O. Box 5013
urlington, ON L7R 3Z6

Vito Talone
City of Burlington
426 Brant St, P.O. Box 5013
Burlington, ON L7R 3Z6

im Walker
Halton Regional Police Department
40 Locust St,
Burlington, ON L7S 1T7

Thomas Chapman
Halton Regional Police Department
440 Locust St,
Burlington, ON L7S 1T7

cott Konkle
amilton Region Conservation Authority
838 Mineral Springs Road, P.O. Box 7099
ncaster, ON L9G 3L3

Joan Eaglesham
Regional Municipality of Halton
1151 Bronte Rd,
Oakville, ON L6M 3L1

ob Weekes
Ontario Provincial Police - Burlington Detachment
1160 North Shore Blvd. E, c/o P.O. Box 5021
Burlington, ON L7R 3Y8

Dawn Huxley
Ontario Provincial Police - Burlington Detachment
1160 North Shore Blvd E, c/o P.O. Box 5021
Burlington, ON L7R 3Y8

PC Dean
Burlington OPP
1160 North Shore Blvd.,
Burlington, ON L7R 3Y9

Brenda Axon
Halton Region Conservation Authority
2596 Brittania Road W, R.R. 2
Milton, ON L9T 2X6

'ory Harris
'alton Region Conservation Authority
2596 Britannia Rd W, R.R. #2
filton, ON L9T 2X6

Robert Edmondson
Halton Region Conservation Authority
2596 Britannia Rd W, R.R. #2
Milton, ON L9T 2X6

_nzo Greco
'Union Gas
P.O. Box 1031
Hamilton, ON L8N 3A5

Janice Hayes
Cogeco Cable Inc
, P.O. Box 5076 Station Main
Burlington, ON L7R 4S6

'aul Cripps
ew City of Hamilton - Dundas Office
P.O. Box 8584
'undas, ON L9H 5E7

Susan Steele
New City of Hamilton - Dundas Office
P.O. Box 8584
Dundas, ON L9H 5E7

Earth Tech Canada Inc. 105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

January 18, 2002

Project EO 00550 / 47539

Property Owners Affected PIC #2 Notice

Subject: W.O. 00-23011, Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study
Notice of Public Information Centre No. 2

Please find enclosed a brochure outlining the details associated with an upcoming second Public Information Centre (PIC No. 2) being held by the Ministry of Transportation (MTO) for a Preliminary Design and Environmental Assessment study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton.

We strongly encourage you to attend PIC No. 2 and comment on the preferred design alternative that may affect your property or access. Earth Tech Canada and MTO staff will be present to discuss your comments with you.

Please contact the following team members for further information or if you have any comments regarding this project:

Leslie Martin, P.Eng.
Project Manager
Earth Tech Canada Inc.
105 Commerce Valley Dr. W., 7th Floor
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: lmartin@earthtech.ca

Ian Dobrindt, MCIP, RPP
Environmental Planner
Earth Tech Canada Inc.
105 Commerce Valley Dr. W., 7th Floor
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: idobrind@earthtech.ca

Telephone
905.886.7022
Facsimile
905.886.9494

Very truly yours,
Earth Tech Canada Inc.

Leslie Martin, P. Eng.
Project Manager
Encl.
c: D. Coulter / C. Southey, MTO
I. Dobrindt / R. Kulathinal, ETC

APPENDIX E

City of Hamilton, Sub-Committee Report (02-040)

memorandum

Ontario

To: Rina Kulathinal, P.Eng
Sr. Project Engineer
Earth Tech Inc.
105 Commerce Valley Drive West,
7th Floor
Markham, ON
L3T 7W3

Date: February 18, 2003

From: Doug Coulter, P.Eng.
Sr. Project Manager
Highway Engineering - Hamilton

Re: **Hwy 5 & 6 Intersection PDR and Class EA - WO 00-23011**
City of Hamilton Endorsement

Rina

Please find attached the correspondence from the City of Hamilton that documents their endorsement of the above noted project. In addition, the Information Package from the most recent round of PIC's for the Mid Pen is also attached for your information.
If you have any questions please do not hesitate to call me.

Thanks,

320 - 77 James Street North
Hamilton ON Canada L8R 2K3
www.city.hamilton.on.ca

Transportation, Operations & Environment Department
Infrastructure & Environmental Planning
905-546-3720 (Telephone) – 905-546-4435 (Facsimile)

Hamilton

January 16, 2003

Doug Coulter P.Eng.
Project Manager
Ministry of Transportation
4th Floor, Building D
1201 Wilson Avenue
Downsview, Ontario
M3M 1J8

Re: Highway 5 and 6 Interchange

Dear Doug:

Further to our recent conversation, attached you will find a copy of the Hearing Sub-Committee report (December 11, 2002) dealing with the above noted item (page 3). In addition, I have included a copy of the Council Report where the above noted committee report was adopted and approved by City Council (page7).

If you require further information please contact me at (905)546-3720 or at pcripps@hamilton.ca.

Sincerely,

M. Paul Cripps, P. Eng.
Manager, Strategic Planning
Infrastructure & Environmental Planning Div.
Transportation, Operations & Environment Dept.

Attach.

(b) Provided the Judge's Order to close the public unassumed alleys is granted:

i) That the General Manager, Community Services be directed to prepare a by-law for the sale of the closed alleys to the abutting owners; and

ii) That the City Clerk be directed to publish a notice pursuant to Section 300 of the Municipal Act, R.S.O. 1990, of the City's intention to pass the by-law.

3. **Ministry of Transportation Preliminary Design and Class Environmental Assessment WO#00-23011, for the Intersection of Highways 5 and 6, and Highway 6 North of Highway 5 to the 5th Concession (TOE02143) (City Wide) (Item 4.3)**

(a) That Council support the Ministry of Transportation's Preliminary Design and Class Environmental Assessment Report, WO#00-23011, related to the intersection improvements at Highway's 5 & 6 and Highway 6, north of Highway 5 to the 5th Concession as illustrated in Appendix "A" of Report TOE02143 and;

(b) That this support be subject to the Ministry of Transportation continuing to mitigate impacts related to the implementation of the recommended improvements through negotiations with affected land owners and;

(c) That the Ministry of Transportation confirm that they shall acquire, design and construct any new municipal roads that may be required to service existing development, as identified in the report, if not previously secured through development applications, prior to the start of construction.

(d) That this support also be subject to the Ministry of Transportation committing to further review of the safety measures and operational improvements required for Highway 6, north of Highway 5 to Middaugh Road, in the City of Hamilton and;

(e) That City of Hamilton staff be directed to coordinate an operational review of Highway 5, east of Highway 6, through to the Hamilton Street, for the purposes of improving intersection access to the Highway and to study travel demands for the area. And that this review be completed such that any recommended improvements can be considered during the 2004 budget deliberations.

APPENDIX F

Notice of Submission

105 Commerce Valley Drive West, 7th Floor, Markham, Ontario L3T 7W3 Canada

May 14, 2003 Project 00550 / 47539

«FirstName» «LastName»
«Business_Name»
«Number» «Street»
«City», «Prov» «Postal»

Subject: Highway 6 from Highway 5 to 5th Concession East, Hamilton
Preliminary Design/Environmental Assessment Study, W.O 00-23011
Notice of TESR Submission

Dear «Dear»:

Earth Tech Canada Inc., on behalf of the Ministry of Transportation (MTO), has completed the Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton. The purposes of this study were to address existing and future capacity and operational concerns within the study area.

Telephone
905.886.7022
Facsimile
905.886.9494

MTO is proposing to undertake the following activities for the project:

- Realign Highway 6 slightly to the east in the vicinity of the Highway 5/6 intersection;
- Realign Highway 5 slightly to the north in the vicinity of the Highway 5/6 intersection;
- Construct a Parclo A4 interchange in place of the existing Highway 5/6 intersection including ramps and a Highway 5 bridge over Highway 6;
- Construct a concrete median barrier within the interchange limits;
- Provide full illumination within the interchange limits;
- Install two new traffic signals at each ramp terminus;
- Relocate the traffic signal at Parkside Drive;
- Extend the twin 6.0 x 2.0 m concrete box and 4.27 x 1.56 m relief flow concrete box at Borer's Creek;
- Widen and fully pave shoulders within the interchange limits;
- Construct a concrete curb and gutter within the interchange limits; and
- Provide closed drainage within the interchange limits.

This project followed the approved planning process for Group 'B' projects under the *Class Environmental Assessment for Provincial Transportation Facilities (2000).* As required, a Transportation Environmental Study Report *(TESR)* documenting the anticipated impacts of the project and corresponding mitigating measures to address them, has been prepared and made available for public review. The TESR will be made available for a 30 calendar day public review period starting on **May 21, 2003** and ending on **June 20, 2003** at the following locations during normal business hours, Monday to Friday:

Ministry of the Environment
Hamilton Regional Office
119 King St. W., 12th floor
Hamilton ON L8P 4Y7

Ministry of Transportation
Central Region, Planning and Design
1201 Wilson Avenue, 3rd Floor, Building D
Toronto, Ontario M3M 1J8

The New City of Hamilton
Clerk's Department
71 Main Street West
City Hall, 2nd Floor
Hamilton, Ontario L8P 4Y5

Flamborough Municipal Services Centre –
City of Hamilton
(Formerly the Flamborough City Hall)
163 Dundas Street East
Waterdown, Ontario L0R 2H0

We are interested in hearing any comments or concerns that you may have about this project. Please direct your written comments or questions to the following Project Team members:

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: Leslie.Martin@earthtech.ca

Ian Dobrindt, MCIP, RPP, CCEP
Environmental Planner
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: Ian.Dobrindt@earthtech.ca

If you have concerns which cannot be resolved through discussion with the MTO, you may request in writing that the Minister of the Environment (135 St. Clair Avenue West, Toronto, Ontario. M4V 1P5) re-classify the project to an individual EA. Please send a copy of this request to the Earth Tech Canada Inc. Project Manager. If there are no significant concerns outstanding after the 30-day review period, the MTO may proceed to detail design and construction.

Comments and information regarding this project are being collected to assist the Project Team in meeting the requirements of the Environmental Assessment Act. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the Public Record.

Very truly yours,

Earth Tech Canada Inc.

Leslie Martin, P. Eng.
Project Manager

c: D. Coulter / C. Southey, MTO
I. Dobrindt / R. Kulathinal, ETC

Ontario

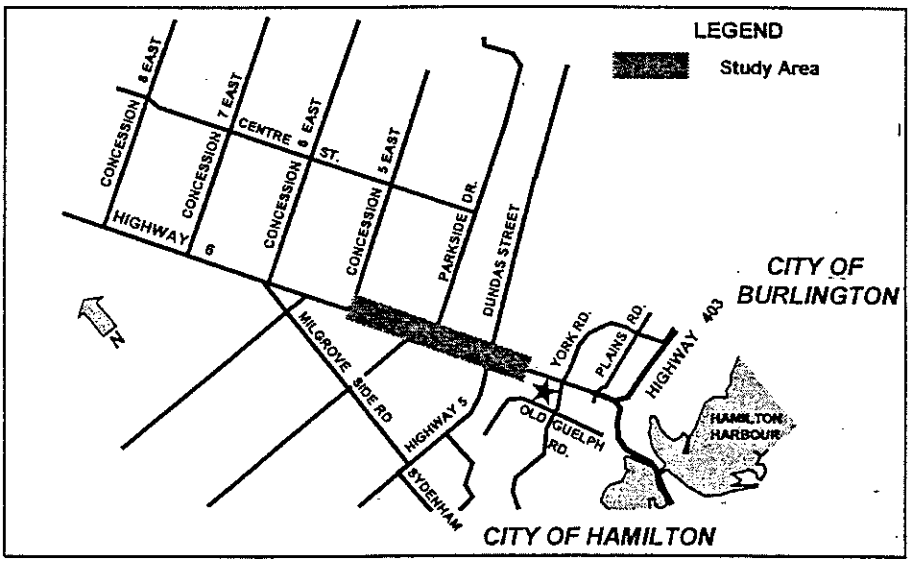
Published on:
May 16, 2003 – The Flamborough Post
May 21, 2003 – The Hamilton Spectator

NOTICE OF TESR SUBMISSION

Highway 6
500m South of Highway 5 North to 5th Concession East
Preliminary Design/Environmental Assessment Study

The Project

Earth Tech Canada Inc., on behalf of the Ministry of Transportation (MTO), has completed the Preliminary Design and Environmental Assessment Study for Highway 6 from 500 m south of Highway 5 northerly to the 5th Concession East in the City of Hamilton. The purposes of this study were to address existing and future capacity and operational concerns within the study area.



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Ontario

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Hamilton Regional Office
12th floor
119 King St. W.
Hamilton ON L8P 4Y7

Ministry of Transportation
Central Region, Planning and Design
3rd Floor, Building D
1201 Wilson Avenue
Toronto, Ontario
M3M 1J8

The New City of Hamilton
Clerk's Department
71 Main Street West
City Hall, 2nd Floor
Hamilton, Ontario
L8P 4Y5

Flamborough Municipal Services Centre – City of Hamilton
(Formerly the Flamborough City Hall)
163 Dundas Street East
Waterdown, Ontario
L0R 2H0

Comments

We are interested in hearing any comments or concerns that you may have about this project. Please direct your written comments or questions to the following Project Team members:

Leslie Martin, P.Eng.
Project Manager
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2400
Fax: (905) 886-9494
e-mail: leslie.martin@earthtech.ca

Ian Dobrindt, MCIP, RPP, CCEP
Environmental Planner
Earth Tech (Canada) Inc.
105 Commerce Valley Dr. W.
Markham, Ontario. L3T 7W3
Telephone: (905) 886-7022 Ext. 2600
Fax: (905) 886-9494
e-mail: ian.dobrind@earthtech.ca

If you have concerns which cannot be resolved through discussion with the MTO, you may request in writing that the Minister of the Environment (135 St. Clair Avenue West, Toronto, Ontario. M4V 1P5) re-classify the project to an individual EA. Please send a copy of this request to the Earth Tech Canada Inc. Project Manager. If there are no significant concerns outstanding after the 30-day review period, the MTO may proceed to detail design and construction.

Comments and information regarding this project are being collected to assist the Project Team in meeting the requirements of the *Environmental Assessment Act*. Information collected will be used in accordance with the *Freedom of Information* and *Protection of Privacy Act*. With the exception of personal information, all comments will become part of the Public Record.