Detroit River
INTERNATIONAL CROSSING
S T U D Y

Protection of Cultural Resources: Archaeology

As part of the overall analysis of Practical Alternatives for the Detroit River International Crossing (DRIC) study, an analysis of potential archaeological impacts of the alternatives was undertaken. Archaeological considerations fall under the "Protection of Cultural Resources" evaluation factor. This is one of seven major factors being used throughout the DRIC study. The detailed assessment of potential archaeological implications is documented under the associated technical report.

How the Analysis was Done

A Stage 1 Archaeological Assessment which involves detailed documentary research of the archaeological and land use history of an area under investigation was initially conducted. This assessment also included an inspection visit to the area to gain first hand knowledge of the area's geography, topography, and current conditions. Considered together, this information was employed to determine and map the potential for archaeological resources within the study area.

A Stage 2 Archaeological Assessment consists of the systematic field investigation of areas determined to have archaeological potential. This assessment was conducted on properties in these areas of interest impacted by or in proximity to the Practical Alternatives. This assessment involves the documentation and inventory of archaeological resources within those areas. Field methodology involves two types of survey: pedestrian and test pit. Pedestrian surveys are conducted on lands with open surface visibility (e.g. lands that are ploughed or with open, immature crops), and it involves the location, mapping and collecting of artefacts observed on the surface. Test pit survey is conducted on lands with closed surface visibility (e.g. scrub farmland, windrows, lands within forest or valley floor, or with dense, mature crop), and it involves the location, mapping and collection of artefacts by test pitting using hand shovels.

The lands to be subject to archaeological assessment have been assigned survey priorities (Priorities 1 to 5, with 1 being the highest). The survey priorities are based on expert judgment with respect to potential for the presence of archaeological sites, the need to identify significant sites as soon as possible in areas common to all alternatives, and the need to gather sufficient information to contribute meaningfully to the evaluation of Practical Alternatives with respect to potential impact to archaeological sites and areas of archaeological potential.

This update summary represents the initial findings of the Stage 2 Archaeological Assessment for the DRIC Environmental Assessment (EA). These findings are being used in the assessment of the Practical Alternatives for the access road, inspection plaza and river crossing.

Six tasks are identified in this stage:

1. Define Area of Investigation
2. Data Collection
3. Data Analysis
4. Evaluate Alternatives
5. Conduct Impact Assessment
6. Recommend Environmental Protection Measures

This update summarizes the analysis of collected data and how the alternatives have been assessed according to the potential for environmental impacts.

The process of heritage value evaluation is based on a number of overlapping considerations that are applied on a case-by-case basis. These considerations fall into three basic categories: information value; value as a public resource; and value to a community.

"Information value" refers to the likelihood that investigation of a site will contribute to an increased understanding of the past. Such an assessment must be carried out through consideration of several major criteria:

- The degree to which a site will contribute to our understanding of the past (its cultural, historical and scientific value)
- The relative rarity or commonness of similar sites locally or regionally
- Its productivity or richness in terms of the artefacts it contains
- The degree to which it has been disturbed by more recent land uses or natural processes.

"Value as a public resource" refers to the degree that a site will contribute to an enhanced understanding and appreciation of Ontario's past on the part of the general public.

"Value to a community" refers to whether or not the site has intrinsic value to a particular community, First Nation or other group.

The Matrices Evaluation was preliminarily conducted to reflect the results of archaeological survey on the access road corridor.

The analysis of alternatives was carried out based on an assessment of potential disturbances to, or destruction of, archaeological sites with cultural heritage value or interest using a comparative criterion.

Findings to Date

To date, a total of 42 sites have been located within the Area of Continued Analysis. All artefacts recovered from these sites were processed in Archaeological Services Inc.'s (ASI) laboratory. Data analysis includes the evaluation of each site with respect to those that require further investigation through additional surface or sub-surface testing in order to assess the cultural heritage value of the individual archaeological site. Included in the data analysis is the registration of archaeological sites within the Ontario Archaeological Sites Database (OASD) by assigning numbers within the Borden system.

Under the Borden system, Canada has been divided into grid blocks based on latitude and longitude. A Borden block is approximately 13 km (8 miles) east to west, and approximately 18.5 km (11.5 miles) north to south. A four-letter designator references each Borden block, and sites within a block are numbered sequentially as they are found. The study area under review is located within the *AbHr* Borden Block.

In total, the analysis to date has identified 20 Aboriginal site components and 23 Euro-Canadian components along the access road corridors.

Aboriginal Sites

The Aboriginal sites identified include 16 sites represented only by flaked lithics, three sites that also include fragments of prehistoric ceramics, and one (Site P18) that, after lab processing and analysis, was determined to be non-cultural and removed from further consideration. Within the former group, only two sites P1[1] and P2[2] yielded diagnostic artefacts that provide information pertaining to cultural affiliation: Site P1 is represented by an Early Archaic Nettling point dating to ca. 9800-8900 B.P. (Ellis et al. 1990: Figure 4.3, pp. 73-78), and Site P2 is characterized by a Middle Archaic Brewerton Corner-notched point dating ca. 5000-4500 B.P. (Ellis et al. 1990: Figure 4.3, pp. 83-93). The remaining sites feature non-diagnostic flaking detritus. Of the three ceramic-bearing Aboriginal sites, none have specimens large enough to provide observable evidence of surface preparation or decoration, and all are characteristic of the Woodland period, which dates post-3000 B.P.

To date, only two Aboriginal sites were surface-collected, the rest are represented by a limited number of positive test pits. All are either considered to be isolated findspots or limited scatters.

Euro-Canadian Sites

The Euro-Canadian sites identified include 17 components based on material culture that includes refined white earthenware, various types of window and bottle glass, saw-cut bone, and a variety of metal objects and personal items, to name a few. A series of detailed land use histories were compiled for selected sites to provide assistance in evaluating their heritage potential and significance. Selection of sites for further evaluation is based on the analysis of artefact material from each site. Materials recovered from sites that are characteristic of nineteenth century life were identified as having heritage potential. A general land use summary gives information on the history and ownership of lands settled by Euro-Canadians in the area. The concessions and lots that underwent a land use history assessment include:

- Concession 1, Lots 53 – 57, Sandwich West Township
- Concession 2, Lots 48, 56, and 57, Sandwich West Township
- Concession 4, Lot 1, Sandwich West Township
- Concession 5, Lot 1, Sandwich West Township, and
- Lot 306, Sandwich East Township

Practical Alternatives

Based on the assessment of the number and significance of sites found in the lands surveyed, as well as for previously known archaeological sites, there is little to no difference between access road alternatives.

Examining the individual access road alternatives (Alternatives 1A, 1B, 2A, 2B and 3), there are no alternatives that have either human remains or large pre-contact Aboriginal sites in their corridors. The at-grade access road alternatives (options 1A and 2A) have a slightly higher count of small pre-contact Aboriginal sites, average of 9.5 sites, compared to the below-grade access road alternatives (Alternatives 1B and 2B), which has an average of 8.9 sites). These compare to access road Alternative 3 (tunnel) which

[1] Borden number – AbHr-10
[2] Borden number – AbHr-11

has nine sites. In examining access road alternatives with pre-contact Aboriginal findspots, access road alternatives 1A, 1B and 3 are relatively equal, averaging 5.6 and 5.5 sites respectively. Access road Alternative 2A and 1B have a slightly higher count, averaging 6.8 sites.

Given that no access road alternatives have sites with human remains or large pre-contact Aboriginal (village) sites (based on the evidence to date), all access road alternatives are assessed to have low to medium archaeological impact to known archaeological sites.

Crossings and Plazas

The plaza and crossing alternatives have not undergone a full evaluation to determine their archaeological potential, and have not undergone a Stage 2 Archaeological Assessment.

Survey results to date for the plazas indicate the following:

- The area proposed for Plaza A was completely archaeologically assessed during the 2006 field season.
- Half of Plaza B (50 per cent) was assessed during the 2006 field season. Of the remaining lands to be examined, half have no archaeological potential, and the balance will require Stage 2 Archaeological Assessment. It should be noted that lands requiring assessment also lie within the area of the original 1749 French settlement. These lands, therefore, not only have archaeological potential but also a high priority for further evaluation.
- Most of Plaza B1 has been archaeologically assessed. The remaining 10 per cent also lies in the area of the original 1749 French settlement. These lands, therefore, not only have archaeological potential but also a high priority for further evaluation.
- All of Plaza C remains to be archaeologically assessed; however, approximately 50 per cent of these lands have been identified as having no potential. Approximately 40 per cent of Plaza C is also situated in the area of the original 1749 French settlement. These lands, therefore, not only have archaeological potential but also a high priority for further evaluation.

Remaining Activities

The following is the proposed work plan to complete archaeological assessment activities within the technically and environmentally preferred alternative to be selected.

Practical Alternatives

Many properties in the access road corridor were not surveyed because permission to enter these properties is either unknown or denied. As the required properties are acquired for the project, archaeological surveys will be conducted on any outstanding locations.

Plaza and Crossing

West of Ojibway Parkway and south of Prospect Avenue lies the eighteenth century French settlement of Petite Côte. Areas of no archaeological potential due to disturbances have been identified where the plaza and crossings alternatives are located.

A Stage 2 Archaeological Assessment will be required for all lands within the right-of-way established for the technically and environmentally preferred alternative (once identified) that have archaeological potential (e.g. the eighteenth century French settlement). Before this fieldwork can commence, however, additional research is necessary, involving the examination of borehole logs and other geo-technical information to determine if intact deposits underlie areas of perceived disturbance (based on Stage 1 field reviews). A Stage 2 Archaeological Assessment may involve pedestrian survey, test pit survey, and/or deep testing using a backhoe, backhoe mounted auger, and/or Gradall.

Stage 3 Archaeological Assessment within the Area of Continued Analysis

All archaeological sites provide information about the past and reflect the human history of Ontario, but some have greater cultural heritage value or interest than others (MCL 2006: Unit 1E-2). A Stage 3 site-specific assessment is conducted on sites identified from the Stage 2 assessment that require further investigation pertinent to its cultural heritage value or interest.

The required assessment method, either controlled surface pick-up or test unit excavation, depends on field conditions, techniques used during the Stage 2 assessment, and type of archaeological site. The assessment may include one or both methods.

The objectives of the Stage 3 Site-specific Assessment are to:

- Delineate the complete extent of the archaeological site
- Determine the cultural affiliation and time period of the archaeological site
- Assess the cultural heritage value or interest of the archaeological site
- Determine whether Stage 4 work is required and the extent of Stage 4 work.

An assessment of the impacts associated with the archaeological resources associated with the Parkway alternative is not yet complete.

Once a technically and environmentally preferred alternative is selected, Stage 3 Site-specific Assessments will be conducted on only those sites determined to have cultural heritage potential or interest that will be disturbed or destroyed by the undertaking.