ARCHAEOLOGICAL MONITORING OF THE GEO-TECHNICAL INVESTIGATIONS ALONG THE VIA RIGHT-OF-WAY AT THE FORKS

Submitted to

The Forks North Portage Partnership

QUATERNARY
CONSULTANTS
LIMITED

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1.0 INTRODUCTION

The Forks North Portage Partnership commissioned a geo-technical investigation along the right-of-way between the CNR Main Line and the parking lot west of Pioneer Boulevard (Figure 1). Archaeological resources are known to occur throughout The Forks. Specifically relevant are the various locations along Pioneer Boulevard (Kroker and Goundry 1990) and along the north bank of the Assiniboine River (Kroker 1989; Kroker and Goundry 1990, 1993a, 1993b, 1994; Quaternary 1993). It was deemed prudent to have the geo-technical drilling monitored by an archaeologist, and, accordingly, Quaternary Consultants Ltd. was engaged for the project. The drilling was monitored by Sid Kroker, Senior Archaeologist with Quaternary Consultants Ltd., under the terms of Heritage Permit A74-00 (Appendix A), issued by Historic Resources Branch, Manitoba Culture, Heritage and Tourism.

The archaeologist observed and recorded the extracted soil which was removed on the 5" diameter bit. The archaeologist watched for buried soil horizons and changes in soil texture which could indicate possible former ground surfaces. The soil profiles were recorded and all instances which suggested potential archaeological horizons were carefully examined. The indicators watched for were charcoal layers, ash lenses, and/or reddish stained soil. The colour change is usually indicative of oxidation of the iron particles in Red River silt by heat—the more intense the heat, the redder the soil. These features can indicate either a natural event such as a brush fire in the gallery forest lining the banks of the rivers or a cultural event such as a campfire. When evidence of fire is observed, the layer is investigated to ascertain if the cause was natural or cultural. The presence of food remains, particularly mammal or fish bones, resting upon a buried soil is a positive indicator of an archaeological occupation horizon. Other positive indicators are the presence of lithic tools, flakes resulting from tool manufacture, and/or fragments of earthenware containers. One of the goals of the archaeological monitoring was to obtain information on buried soil horizons and attempt to correlate those horizons with the known cultural levels to the east.

2.0 STRATIGRAPHY

Four holes were bored: two shallow holes, twenty-five feet (25') deep, and two deep holes which extended into the till layer, underlying the lacustrine clays deposited by Glacial Lake Agassiz which drained approximately 8500 years ago. The observed strata are listed in Table 1 and attempts at correlating the levels through placement in the table are made. However, as the test holes were located considerable distances apart, this is not successful. Previous investigation of linear trenches (Kroker 1989; Kroker and Goundry 1990; Quaternary 1994, 1996, 1999, 2000) have shown that alluvially deposited layers in this location are usually of short linear extent. Even thick layers tend to pinch out and disappear over a distance of ten metres. Thus, attempting to link stratigraphic features separated by several metres, let alone hundreds of metres, becomes impossible.

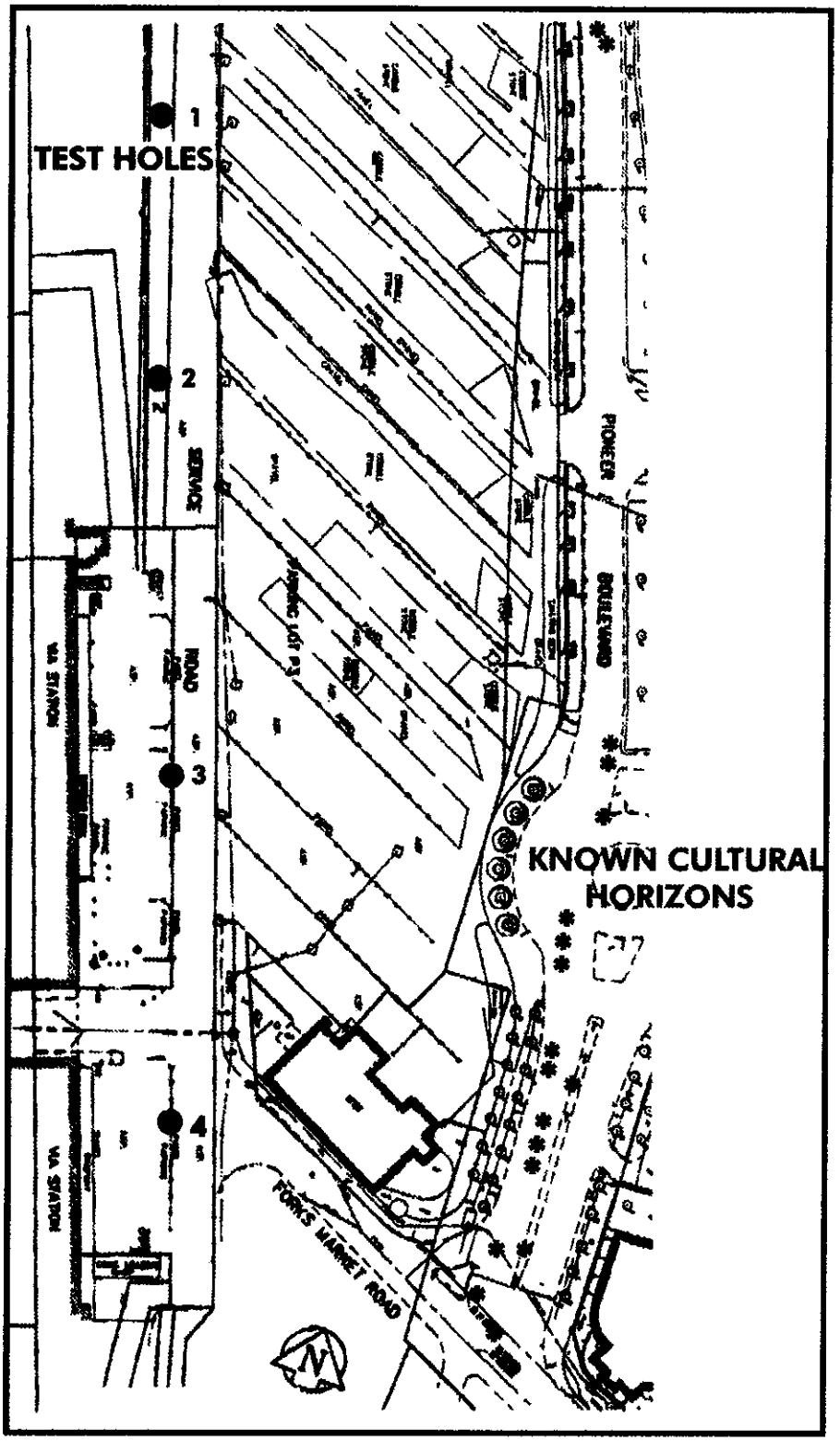

Figure 1: Location of Test Holes and Adjacent Known Cultural Horizons

HOLE 1	HOLE 2	HOLE 3	HOLE 4	STRATUM
0 - 5	0 - 5	0 - 5	0 - 5	Asphalt
5 - 12	5 - 135	5 - 45	5 - 30	Gravel
12 - 185		45 - 170	30 - 150	Clay fill
			150 - 152	A Horizon
185 - 290[1]	135 - 160	170 - 175		Medium brown silty clay
		175 - 175		**Relict soil horizon (2mm)**
		175 - 235		Medium brown silty clay
		235 - 235		**Relict soil horizon (3mm)**
		235 - 245	152 - 245[2]	Medium brown silty clay
		245 - 245		**Relict soil horizon (2mm)**
290 - 293	160 - 162			Tan sand
293 - 350	162 - 230			Medium brown silty clay
350 - 353	230 - 231			Tan sand
	231 - 290		245 - 425	Brown silty clay
		245 - 305		Marly brown silty clay
	290 - 305			Brown sandy silt
353 - 455	305 - 335	305 - 330		Brown silty clay
455 - 462		330 - 333		Light brown sand
462 - 520		333 - 370		Brown silty clay
		370 - 370		**Relict soil horizon (2mm)**
		370 - 430		Brown silty clay
	335 - 350	430 - 440	425 - 520	Brown sandy silt
	350 - 365[3]	440 - 455		Brown silty clay
520 - 530	365 - 373		520 - 525	Brown sand
530 - 535	373 - 390			Brown silty clay
535 - 580	390 - 610	455 - 580	525 - 610	Brown sandy silt
580 - 585	BASE	580 - 585	BASE	Brown silty clay
585 - 640		585 - 830		Brown sandy silt
640 - 645				Brown silty clay
645 - 685				Brown sandy silt
685 - 690				Brown silty clay
690 - 700				Brown sandy silt
700 -		830 -		Lake Agassiz clay

1 - thin (1.0 mm layer of caliche at 287 cm)
2 - stained greyish brown
3 - thin (1.5 mm oxidation layer at top of stratum)

Table 1: Stratigraphic Columns

3.0 DISCUSSION

As is obvious from Table 1, there is very little degree of correlation between the layers recorded in the four test holes. Buried soil horizons were observed at four depths: 175 cm, 235 cm, 245 cm, and 370 cm. All were recorded in Test Hole 3. The soil horizon at 175 cm may correlate with cultural strata recorded at Long Trench 306, Long Trench 317, Long Trench 347, Long Trench 391, Long Water 275, Long Water 280, or Long Water 385 (Kroker and Goundry 1990:31-36). The two deeper horizons (235 cm and 245 cm) may correlate with Long Trench 317 or Long Trench 404 (Kroker and Goundry 1990:31-36). The deepest layer at 370 cm may correlate with Long Trench 314, Long Trench 333, Long Trench 337, Long Trench 351, Long Trench 355, Long Water 339, or Long Water 418 (Kroker and Goundry 1990:31-36).

As noted earlier, the degree of reliability for correlating strata across considerable intervening distances is minimal because of the vagaries of fluvial sedimentation. Thus, the buried soil horizons observed during the geo-technical investigation may have no direct linkages with previously recorded soil levels or cultural horizons. The minimalistic investigation afforded by a small auger in a large area does not allow one to draw definitive conclusions. Even dense, wide-spread cultural layers have areas which contain no evidence of the surrounding matrix. The situation becomes more pronounced if the cultural layer is thin and/or sparse. Accordingly, on the basis of information obtained from this project, Quaternary Consultants Ltd. can neither confirm nor deny the presence of sub-surface cultural horizons in the vicinity of the right-of-way. A more extensive testing program, using a linear trench, would be necessary to provide definitive data.

4.0 BIBLIOGRAPHY

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Quaternary Consultants Ltd.

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1996 *Archaeological Monitoring of the Extension of the Parking Lot Drainage System at The Forks.* On file with The Forks North Portage Partnership; Manitoba Culture, Heritage and Citizenship, Historic Resources Branch, Winnipeg.

1999 *Archaeological Monitoring of The Forks Access Project: South of Water Avenue (DlLg-33:97A).* On file with Reid Crowther & Partners; Manitoba Department of Culture, Heritage and Citizenship, Historic Resources Branch.

2000 *Archaeological Impact Assessment of the Legacy Estates Project at The Forks.* On file with The Forks North Portage Partnership; Manitoba Department of Culture, Heritage and Citizenship, Historic Resources Branch.

APPENDIX A

HERITAGE PERMIT

The Heritage Resources Act (Subsection 14(2) and Sections 52 and 53)

Manitoba
Culture, Heritage
And Tourism

Heritage Permit No. A74-00

Pursuant to Section/Subsection 53 of *The Heritage Resources Act*:

Name: Quaternary Consultants Ltd.
Address: 130 Fort Street
Winnipeg MB R3C 1C7

ATTENTION: Mr. Sid Kroker

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

monitor the drilling of geo-technical bore holes at The Forks in the parking lot area between The Forks Market Road and York Avenue, Pioneer Boulevard and the CN embankment in order to record the soil stratigraphy, the presence or absence of cultural materials and recover artifacts, should they be present,

during the period:

January 3 – March 31, 2001.

This permit is issued subject to the following conditions:

(1) That the information provided in the application for this permit dated the 2nd day of January 2001, is true in substance and in fact;

(2) That the permittee shall comply with all the provisions of *The Heritage Resources Act* and any regulations or orders thereunder; **Please note attachment re custody and ownership of heritage objects**

(3) That the Permittee shall provide to the Minister a written report or reports with respect to the Permittee's activities pursuant to this permit, the form and content of which shall be satisfactory to the Minister and which shall be provided on the following dates: June 30, 2001;

(4) That this permit is not transferable;

(5) This permit may be revoked by the Minister where, in the opinion of the Minister, there has been a breach of any of the terms or conditions herein or of any provision of *The Heritage Resources Act* or any regulations thereunder;

(6) Special Conditions:

a. All heritage objects are to be deposited with the Manitoba Museum by June 30, 2001, for permanent curation and storage, unless appropriate loan requirements are arranged with the Curator of Archaeology prior to that date;
b. A complete set of archaeological field records, catalogue sheets, laboratory analysis records, photographs, reports, etc. are to be deposited with the Manitoba Museum of Man and Nature upon completion of the archaeological research, or sooner if required, and any subsequent revisions or additions to these records are to be filed as soon as possible thereafter;
c. Neither the Government of Manitoba nor the party issuing this permit shall be liable for any damages resulting from any activities carried out pursuant to this permit, and the Permittee specifically agrees, in consideration for receiving this permit, to indemnify and hold harmless the Minister and the Government of Manitoba, the Minister and any employees and officials of the Government, against any and all action, liens, demands, loss, liability, cost, damage and expense including, without limitation, reasonable legal fees, which the Government, Minister or any employee or official of the Government may suffer or incur by reason of any of the activities pursuant to or related to this permit.

Dated at the City of Winnipeg, in Manitoba, this 3rd day of January 2001.

for Minister of Culture, Heritage and Tourism