

**ARCHAEOLOGICAL
MONITORING OF
THE FORKS
SKATEBOARD PARK**

Submitted to

Scatliff + Miller + Murray

**QUATERNARY
CONSULTANTS
LIMITED**

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1.0 INTRODUCTION

In conjunction with the construction of a Skateboard Park at The Forks, it was deemed necessary to have all sub-surface impacts monitored by an archaeologist in order to ascertain presence and/or absence of cultural horizons.

Quaternary Consultants Ltd. was contracted by Scatliff + Millar + Murray to provide the archaeological expertise. The project, occurring from July 25 to November 29, 2005, was conducted under the terms of Heritage Permit A37-05, issued by Historic Resources Branch, Manitoba Culture, Heritage and Citizenship (Appendix A).

1.1 Location and Scope of the Project

The project (Figure 1) is located on the east side of Waterfront Drive (formerly Pioneer Boulevard) on land owned by The Forks North Portage Partnership. It lies to the west of the Scotia Bank Stage and is bounded on the north by the Festival Park Pathway and on the south by the Parking Structure.

The project had three components which required archaeological monitoring. The first was the drilling of three geo-technical holes on July 25, 2005. The second component was the drilling of pile holes for the two sections of the project—the bowl section in the northeast area of the project (61 holes) and the plaza section (138 holes). The holes for the piles were drilled between August 30 and October 3, 2005. The final component was the excavation of a vertical shaft for the installation of site drainage for the bowl section. This occurred on November 28 and 29, 2005. The stratigraphic and cultural data from the three components have been compiled into a single report.

1.2 Previous Projects with Cultural Resources

Over the past fifteen years numerous archaeological projects have occurred at The Forks. Some were public archaeology programs and some were academic research programs but most were involved with cultural resource management due to construction projects. Previous projects in the immediate vicinity of the Skateboard Park are:

- ◆ Stage I (Kroker and Goundry 1990:29-36): Twelve cultural deposits were recorded during the installation of sub-surface services in the vicinity of Arrival Square. Horizons were recorded at 140 cm, 163 cm, 190 cm, 210 cm, 320 cm, 330 cm, 390 cm, 400 cm, and 405 cm. Ceramic artifacts were recovered at the 190 cm, the 320 cm, and the 400 cm horizons. Faunal remains were recorded at the other depths. Allowing for undulations in the sub-surface soil layers, at least five distinct cultural occupations are represented.
- ◆ Travel Manitoba Idea Centre (Quaternary 1994): A ceramic occupation site was recorded at a depth of 145 cm below surface. Later research by Speidel (1996) identified the ceramics as belonging to the Avonlea tradition.
- ◆ Forks Access Project (Quaternary 1999): While located north of the Skateboard Park (between York Avenue and Water Avenue), this project recovered evidence of a minimum of eight cultural horizons, including evidence of the Peace Meeting of 700 years ago.

- ◆ Legacy Estates Project (Quaternary 2000a): Located in the northwest corner of Parking Lot P4 at the York Avenue intersection, this project recorded at least five cultural horizons at varying depths below surface.
- ◆ Festival Park (Quaternary 2000b): Lying immediately north of the Skateboard Park, the monitoring of the installation of services recorded Pre-Contact cultural horizons at several locations. They seemed to represent at least three discrete occupation zones at depths of 155 cm, 185 cm, and 280 cm below surface.
- ◆ Festival Park Gateway (Quaternary 2000c): The construction company drilled eleven pile holes without notifying the monitoring archaeologist so that no data was obtained from this location.
- ◆ Parking Structure (Quaternary 2002): An extensive Avonlea occupation site, radiocarbon dated at A.D. 650, was recorded in the central portion of the footprint at a depth of 130 cm below original grade. A second cultural horizon was recorded at the northeast corner of the structure at a depth of 175 cm.
- ◆ The Inn at The Forks (Quaternary 2003a): During monitoring of the pile drilling, cultural resources were recorded at several locations. The depths suggested at least four different occupations, the uppermost at 130 to 150 cm being correlated with the Avonlea occupation recorded at the Parking Structure.
- ◆ The Forks Axial Pathway (Quaternary 2003b): No cultural evidence was recorded during the monitoring of the limited impact occasioned by this project.
- ◆ Human Rights Museum (Quaternary 2004): Test trenches throughout the northern portion of Parking Lot P4 and the adjacent City of Winnipeg property resulted in the recording of as many as four distinct cultural layers at several locations.

The cultural evidence from the pre-European occupations recorded during these projects indicates that The Forks was heavily utilized as a seasonal campsite and trading centre. The identified cultures span several thousand years and represent groups from the north, the west, the east, and the south. As the favoured location for campsites could be dependent upon local details such as drainage and vegetation, there was a high potential that some of the occupation sites could extend into the Skateboard Park area.

1.3 Study Team

The entire archaeological resources management program was directed by Sid Kroker (M.A.) (Senior Archaeologist), who monitored the construction impacts. Artifact preparation was undertaken by Sid Kroker and Pam Goundry (B.A. Hon.) (Research Archaeologist). The computer cataloguing was done by Pam Goundry. Faunal remains were identified by Sid Kroker and Pam Goundry. Artifact analysis and report preparation was undertaken by Sid Kroker and Pam Goundry.

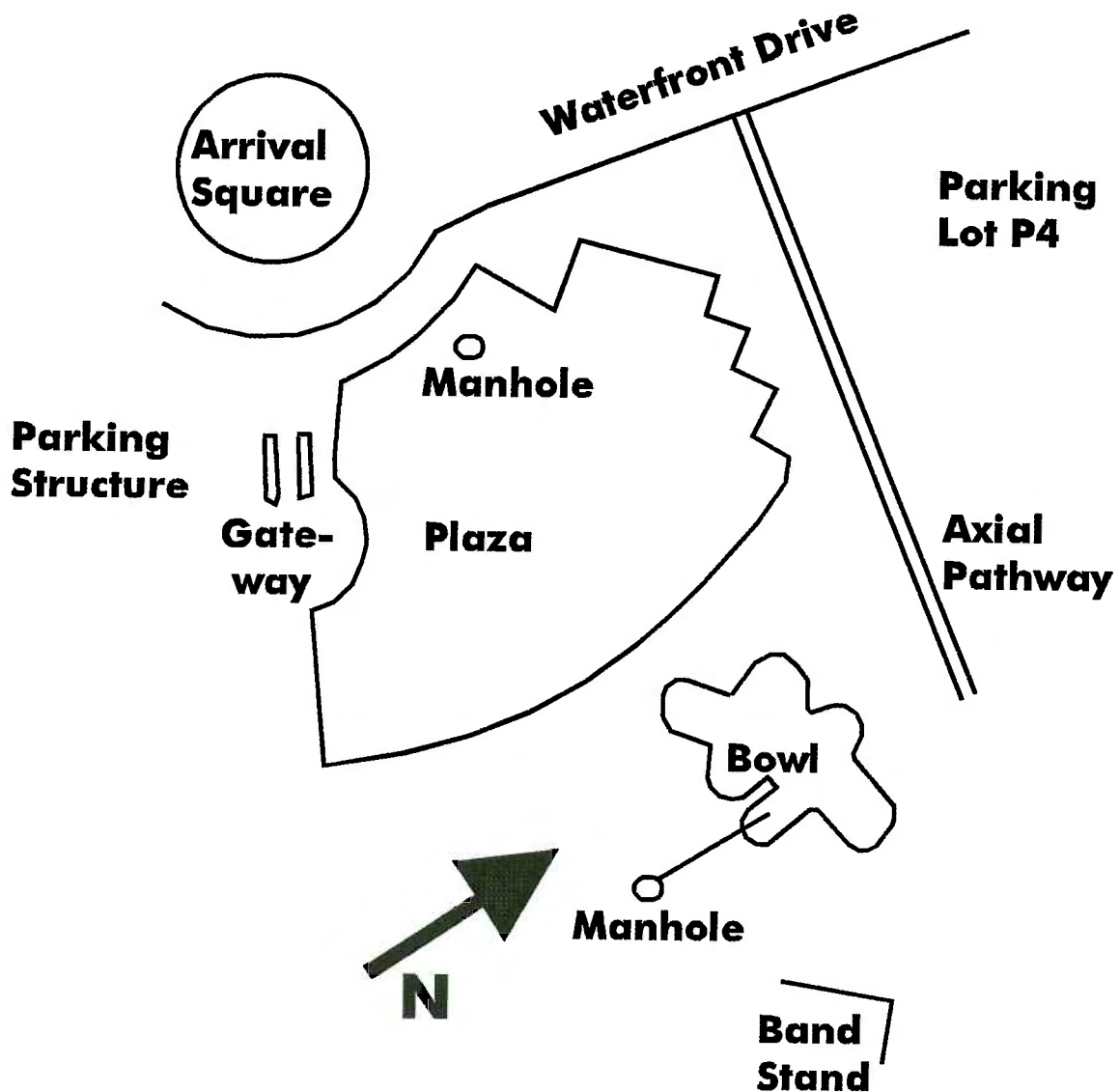


Figure 1: Location of Skateboard Park Components Relative to Existing Features

1.4 Investigation Methods

The monitoring of drilling operations for geo-technical investigations and pile seating holes consists of visual inspection of the soil column observed from the auger cuttings. The operator drills a 5 foot (1.5 metre) section of the auger bit into the ground and then extracts it for observation of the soil column. Given the plasticity of the soil and the resultant deformation of the soil column by the auger, only thicker soil layers are readily observable. Thin horizons tend to become smeared and, if observable, can not always be accurately placed in a vertical context. The skill of the drill operator is a factor in that the

rotational speed of the auger and cessation of rotation at the end of each five foot drilling segment determines the degree of smearing and spiral deformation of the sediments. After each drilling and extraction, another five foot section is drilled until the desired depth is reached.

In the instance of drilling for pile seating holes, the operator is not as concerned with exact five-foot increments as the focus is the drilling of the hole. Thus, often the auger is extracted after less than five feet is drilled or the auger is drilled deeper than the five foot increment. Occasional slumpage in the hole, due to sand and gravel fill material near the surface or wet sandy silt at lower depths, requires the operator to spin the auger to seal the hole, thereby losing sections of the soil column for observation.

When the excavations extend into undisturbed original sediments below the fill horizons, the archaeologist watches for buried soil horizons and changes in soil texture which could indicate possible former ground surfaces. The changes in type of deposit (fill versus original sediment) and texture (silt versus clay) are recorded as are any indicators of possible cultural layers.

The indicators are buried soil horizons and/or charcoal layers, ash lenses, or reddish stained soil. The presence of a buried soil layer, denoted by a dark brown or black loam layer, indicates a stable ground surface between floods which would have deposited sediments. Charcoal or ash can indicate either a natural event, such as a brush or prairie fire, or a cultural event, such as a campfire. 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. If 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 fragments of earthenware containers and/or lithic tools or flakes resulting from tool manufacture.

Many of the piling locations provided some evidence of strata that could contain archaeological deposits. Layers of buried soil horizons sometimes containing charcoal, albeit thin and intermittent, were recorded across the footprint of both the bowl section (Figure 2) and the plaza section (Figure 3). Occasionally a layer of fire-reddened soil was observed. Cultural evidence, usually in the form of butchering remains—fish and mammal bone—was recovered from five holes. When a cultural layer was observed on the auger bit, the entire soil matrix was collected for laboratory processing. All recoveries were bagged according to hole number and depth below surface.

The depths recorded during augering are not to be considered as exact. Due to field circumstances, such as slumpage in the holes, fallback off the auger, and spiral deformation, depths of layers can be different from those recorded from wall profiles.

Mechanized equipment was used to excavate around each of the piles, or pile clusters, to a depth of 30 cm below cutoff. The depth of cutoff in the centre of the bowl area was the deepest, approximately 250 cm below the drilling surface. The excavations for cutoff for the exterior of the bowl and the entire plaza area were shallow and did not extend below the railroad fill layers.

A similar methodology was used during the excavation of the vertical shafts for the installation of the site drainage. A new catchbasin was installed slightly below the base of the excavation for the bowl (Figure 1) and linked to an existing manhole adjacent to the Scotia Bank Stage.

1.5 Laboratory Procedures

During the project, a total of 469 artifacts was recovered. These were recovered from the soil matrix samples which had been brought to Quaternary Consultants laboratory facilities. The soil samples were washed through 2 mm and 1 mm screens to remove the encapsulating soil. Some samples, with a high clay content, required several successive soakings to eliminate the clay.

The artifacts were sorted by material class and identified by the lab personnel. Standard faunal references include Casteel (1976), Clarke (1981), Gilbert (1973), Mundell (1975), Olsen (1960, 1964, 1968, 1971), and Schmid (1972). Material of the same type (e.g., bison vertebra fragments) within the same location and depth were combined under a single catalogue number.

Each artifact received a catalogue number consisting of the Borden designation for the site and a sequential number for permanent identification, i.e., DILg-33:05A/#####. The Borden designation, consisting of a four-letter prefix and a numerical suffix, is a Canada-wide system of identifying archaeological sites based upon latitude and longitude (Borden 1954). The four letter identifier, DILg, designates a geographical block between 49° 50' and 50° 00' North latitude and 97° 00' and 97° 10' West longitude. Within each block, archaeological sites are assigned sequential numbers upon discovery. This site, lying south of Water Avenue, west of the Red River, and east of the CNR Main Line Embankment, had been previously designated as DILg-33. As numerous archaeological projects have occurred within the site boundaries over the past decade, the site designation has been expanded to include a sequential year/project identifier. The identifier for this project is 05A, denoting that this is the first project initiated at the site during 2005.

All pertinent data associated with the artifact was entered into the computer cataloguing system which is based on the Canadian Heritage Inventory Network (CHIN) system (Manitoba Museum of Man and Nature 1986; Kroker and Goundry 1993:Appendix B). The computer cataloguing program is derived from **DBASE3®** and generates individual artifact catalogue cards.

Processed artifacts were prepared for storage by inserting the specimens and the catalogue card into standard plastic storage bags, then stapling the bags closed. At the end of the project, all recovered artifacts will be delivered to the Manitoba Museum which is the repository designated by The Forks North Portage Partnership for artifacts recovered during development projects at The Forks.

2.0 STRATIGRAPHIC DATA

Stratigraphic data was recorded for all sub-surface excavations which consisted of three geo-technical holes, 61 pile seating holes for the bowl component, 138 holes for the plaza component, and the vertical shaft for the installation of site drainage. Portions of the area had been previously landscaped during the past decade with the sculpting of extensive berms of relocated soil. After the drilling of the geo-technical holes but prior to the drilling of the pile seating holes, a large portion of this landscaping feature was removed, leaving the majority of the area approximately one metre above the original grade of 1988.

2.1 Geo-Technical Holes

The three geo-technical holes were initially to be drilled with a 16" truck-mounted auger. The holes were located in the southeast, southwest, and northeast corners of the impact zone. Due to the saturated nature of the soils, it became necessary to use a 24" auger and sleeve the upper portion of the first hole. Even so, severe slumpage within the holes resulted in abandonment at relatively shallow depths. No cultural evidence was observed but the soil stratigraphy for each of the holes was recorded (Table 1).

Strata	SE Hole	SW Hole	NE Hole
Recent Fill	0 - 105	0 - 30	0 - 30
Cobblestones		30 - 53	
Concrete		53 - 60	
Cinder/Ash	105 - 137		30 - 105
Sand/Gravel	127 - 165		105 - 120
Railroad Clay Fill		60 - 105	120 - 230
Organic Soil/Wood		105 - 120	
Medium Brown Silty Clay	165 - 260	120 - 243	230 - 243
Buried Soil Horizon	260 - 262	243 - 245	243 - 245
Medium Brown Silty Clay	262 - 320	245 - 275	245 - 305
Buried Soil Horizon	320 - 321	275 - 276	
Medium Brown Silty Clay	321 - 380	276 - 297	
Buried Soil Horizon	380 - 381	297 - 298	305 - 306
Sandy Silt		298 - 305	306 - 365
Medium Brown Silty Clay	381 - 550	305 - 365	Abandoned
Silty Clay/Hematite Stain	550 - 565	365 - 380	
Sand		380 - 388	
Medium Brown Silty Clay	565 - 640	388 - 410	
Silty Clay/Hematite Stain	640 - 700	Abandoned	
Grey Brown Silty Clay	700 - 850		
	Abandoned		

Table 1: Stratigraphic Profiles of Geo-Technical Holes

2.2 Bowl Component Pile Holes

The bowl component is configured like an irregular oval with the central portion depressed. The piles are located around the perimeter and along an interior outline (Figure 2). A total of 61 holes were excavated using a truck-mounted auger with a 14" bit. The majority of the bowl area was located where a berm had been built during the late 1990s and excavation had resulted in a level surface approximately 1.5 metres above the original 1988 surface which was the result of landscaping associated with the Stage I construction phase.

During the monitoring of the pile drilling, cultural material was observed at the eastern edge at a depth of 425 centimetres below drilling surface and in the southeast lobe at 380 centimetres. Non-cultural buried soils were recorded in most of the holes (Figure 2).

After the piles had been driven, a backhoe with a ditching bucket excavated the central portion of the bowl, baring the piles for cut-off. As the deepest excavation would be above the highest recorded cultural occurrence, minimal archaeological monitoring was required. Profiles of the edges of the bowl excavation were recorded (Table 2).

Strata	NE Corner	East End	North Side	South Central
Recent Fill	0 - 162	0 - 165	0 - 151	0 - 144
Limestone Gravel	162 - 171	165 - 174		
Cinder	171 - 218	174 - 203		144 - 181
Railroad Clay Fill			151 - 185	181 - 200
Disturbed Top Soil	218 - 228	203 - 216	185 - 192	200 - 204
Med. Yellow Brown Silty Clay	228 - 239	216 - 227	192 - 242	204 - 225
Buried Soil Horizon		227 - 228		225 - 226
Med. Yellow Brown Silty Clay		228 - 240		226 - 249
Double A Soil Horizon	239 - 245	240 - 248	242 - 249	Base
Med. Yellow Brown Silty Clay	245 - 262	249 - 260	249 - 263	
	Base	Base	Base	

Table 2: Stratigraphic Profiles Recorded at the Bowl Component

2.3 Plaza Component Pile Holes

The plaza component is configured like a large open fan with the spread portion at the eastern edge (Figure 1). Landscaping in the late 1990s had resulted in an elevated berm over most of the central and eastern portions of the plaza area. Much of this had been removed prior to the drilling, although the resultant surface was elevated approximately one metre above the original 1988 surface. The southern, western, and northern perimeters were at the 1988 elevation.

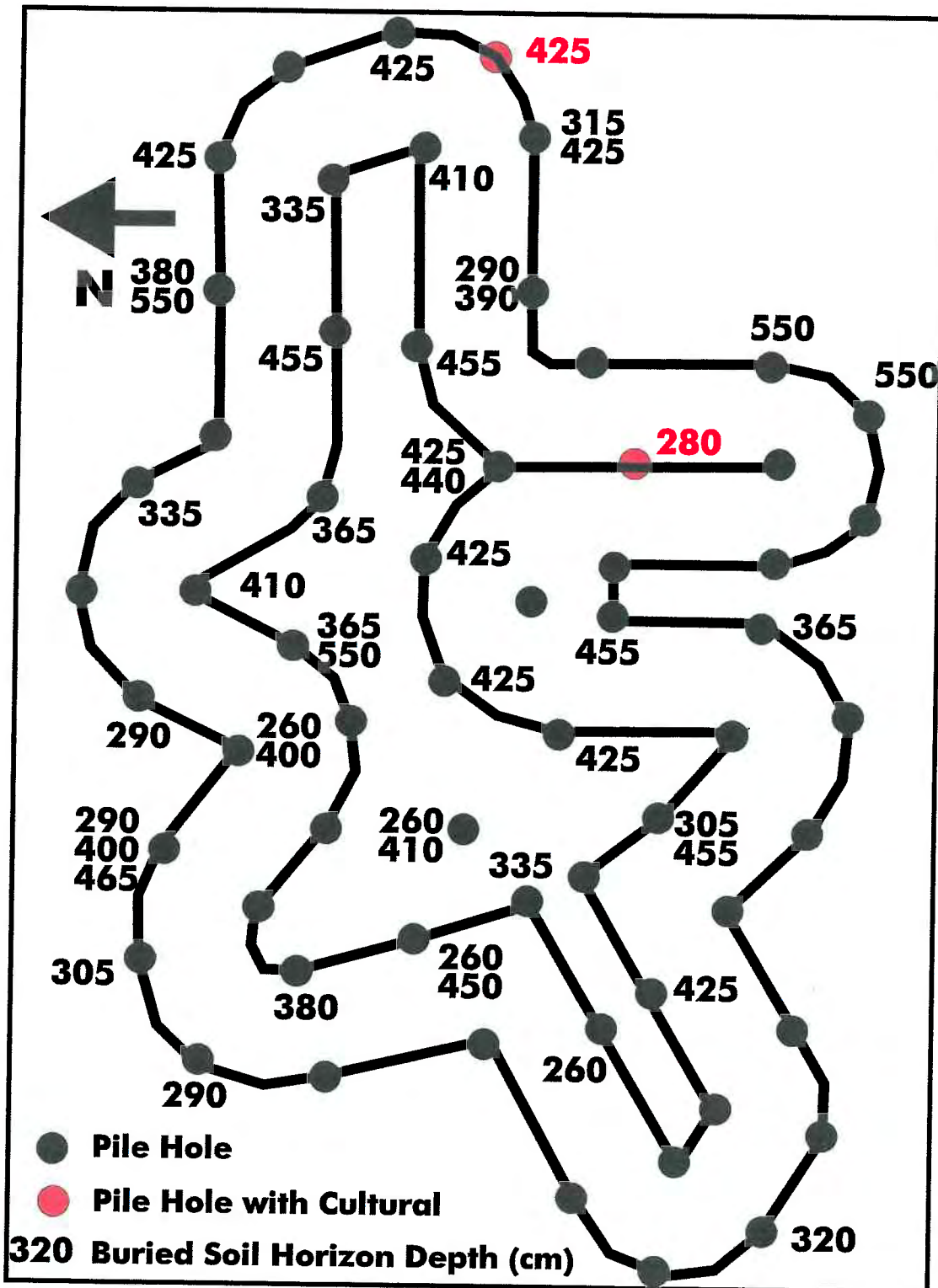


Figure 2: Location of Pile Holes, Cultural Recoveries, and Buried Soil Depths in Bowl Component

A total of 138 pile holes were drilled (Figure 3) and more than half of the holes had at least one buried soil horizon that was observed during the monitoring. It must be noted that many of the holes had soils which had been hydrocarbon stained. This staining, resulting from diesel fuel leakages during the period that the area was an active railroad yard, turns the soil a dark blue grey and often obscures faint buried soil horizons. Cultural evidence was recorded in three holes: one in the southeast portion at a depth of 350 centimetres; a second one in the centre at a depth of 425 centimetres; and the third in the northwest portion at a depth of 245 centimetres (Figure 3).

2.4 Site Drainage Installations

Drainage for the site consisted of linking the newly built components with existing drainage systems. The bowl is to be drained through a catchbasin installed in the southeast lobe, slightly below the base of excavation for the bowl. This was linked to an existing manhole near the stage (Figure 1) in the drainage system which had been installed during the development of Festival Park (Quaternary 2000b). A vertical shaft was excavated on the north side of the manhole to permit the drilling of a horizontal pipe channel to the bowl catchbasin. Unmodified soil was present on the northern two metres of the shaft. The stratigraphy was recorded by the monitoring archaeologist. No cultural evidence was observed and the stratigraphy did not reveal any buried soil horizons (Table 3).

Strata	Depths (cm)
Limestone Gravel	0 - 29
Cinder	29 - 90
Disturbed Top Soil	90 - 107
Dark Brown Silty Clay	107 - 135
Dark Yellow Brown Silty Clay	135 - 270
Brown Sandy Silt	270 - 280
Dark Yellow Brown Silty Clay	280 - 295
	Base

Table 3: Stratigraphic Profile Recorded at the Band Stand Manhole

The drainage for the plaza will be accomplished by an extensive network of piping laid just below the floor of the plaza. This network will tie into a manhole at the west side of the plaza. This manhole links into the Land Drainage System pipe beneath Waterfront Drive. In the spring of 2006, an existing manhole on the west side of the plaza will be slightly relocated approximately three metres along the existing pipeline to accommodate structural components of the plaza. The manhole had been installed during Stage I (Kroker and Goundry 1990) by employing open-cut installation. Thus, the location into which the new catchbasin/manhole will be placed has already been impacted and monitoring will not be necessary.

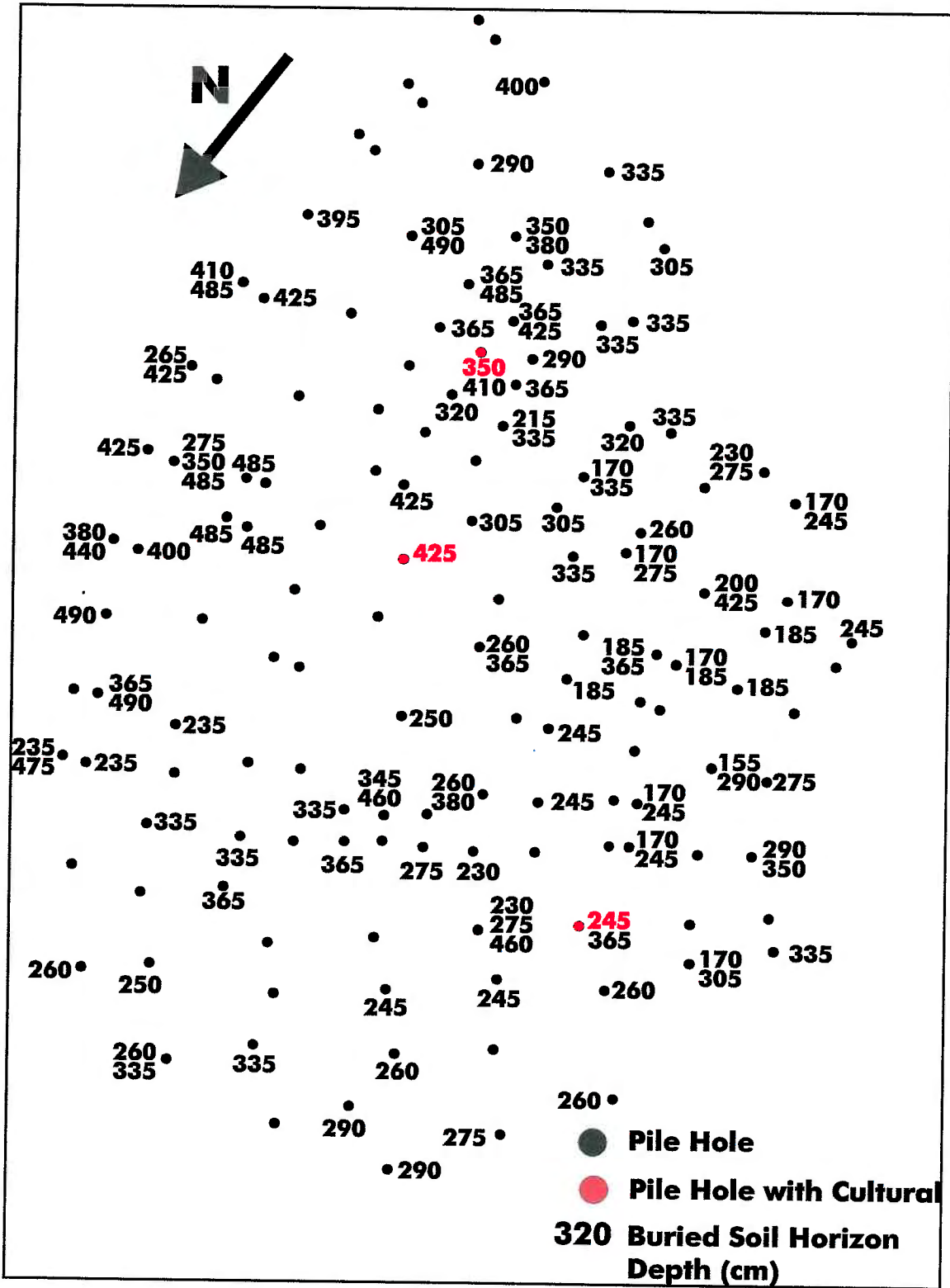


Figure 3: Location of Pile Holes, Cultural Recoveries, and Buried Soil Depths in Plaza Component

2.5 Stratigraphic Observations

The uppermost stratum consisted of the remnants of the berms and topographic features resulting from landscaping during the late 1990s. This layer consisted of clay and silty clay relocated from other projects which had occurred at The Forks. The soil had been placed on top of the original surface that was present when the development of The Forks began in 1988. The upper stratum of the original surface consists of fill deposited by the railroads during the past century. This fill layer is composed of bands of railroad cinders, sands, gravels, and clay or silty clay fill. The cinder resulted from the operation of steam locomotives and the nearby Steam Plant. This waste product was used to raise the surface of the area as well as provide drainage equivalent to the use of aggregate. Below the railroad fill layer, which often rested on a moderately well-developed soil horizon showing varying degrees of disturbance, sequences of river-deposited clays and silts were present. Different flood episodes could be distinguished on the basis of differing textures of the sediments and by the presence of buried soil horizons separating the different layers of sediments.

As the primary focus of the investigation was to determine the depths of cultural levels and, secondarily, to determine depths of buried soil horizons, description of the deeper, culturally sterile sedimentological regimens portrayed by the profiles will be minimal. Cultural horizons were encountered in only five of the pile holes (Figure 2, Figure 3).

Given that the area is a flood deposition (and erosion) zone, it is nearly impossible to correlate strata between the isolated holes. Due to vagaries of sediment deposition, where flood swirls, ice jams, and tree falls cause impediments to water flow, silts will be deposited in areas of slower water movement while erosion can occur where the flow is faster. Thus, even a thick sediment layer will tend to pinch out and disappear after ten or twenty metres. In the current project, all correlation must be considered as tenuous.

In attempting to correlate cultural levels and buried soil layers, the additional overburden resulting from recent landscaping must be compensated for. Inasmuch as the elevation of the drilling surface was not surveyed for elevation, this compensation must be determined by the recorded depths of recent fill from the auger cuttings of each hole. Given that the drilling methodology for pile holes is not as rigorous as that for geo-technical holes, the depths determined for the recent fill are considered approximate, i.e., plus or minus as much as 30 centimetres due to the necessity of sealing the upper portion of the hole by spinning the soil upward during the first drive of the drill.

The original elevation of the 1988 surface tended to be 231.0 metres above sea level, although this varied across The Forks, with a variation of one metre or more. This means that with the current data, it is not possible to calculate the exact elevation of each stratum in terms of elevation. As an example, at Bowl Hole 17, which had cultural material at 425 centimetres below surface, the recent fill layer appears to be 140 centimetres which means that the cultural horizon would have been 285 centimetres below the 1988 surface. The determinations of the other cultural layers are tabulated in Table 4. These calculated depths can permit a limited degree of correlation with cultural horizons recorded during other projects which had not had material added during surface landscaping.

	Bowl Hole 17	Bowl Hole 51	Plaza Hole 101	Plaza Hole 128	Plaza Hole 135
Recent Fill	140	140	105	90	55
Recorded Cultural Depth	425	280	350	410	245
Depth below 1988 Surface	285	140	245	320	190

Table 4: Calculated Depths of Cultural Layers in Reference to 1988 Surface Levels

The depth of the cultural layer at Bowl Hole 51 is similar to the depth of the Avonlea occupation horizon recorded during the mitigation of the Travel Manitoba Idea Centre (Quaternary 1994; Speidel 1996), The Forks Parking Structure (Quaternary 2002), and the Inn at The Forks (Quaternary 2003a) as well as the upper horizon recorded during Stage I (Kroker and Goundry 1990).

The depth of the layer at Plaza Hole 135 correlates with horizons recorded during Stage I (Kroker and Goundry 1990) as well as in the services corridor for Festival Park (Quaternary 2000b), The Forks Parking Structure (Quaternary 2002), and the Inn at The Forks (Quaternary 2003a). More distant correlations can be attempted with horizons recorded at similar depths during The Forks Access Project (Quaternary 1999), Legacy Estates Project (Quaternary 2000a), and Human Rights Museum Project (Quaternary 2004) although, given the vagaries of riverine deposition, these are extremely tenuous.

The depth of the layer at Plaza Hole 101 is similar to occurrences at the Inn at The Forks (Quaternary 2003a). This depth could possibly be correlated with recoveries during The Forks Access Project (Quaternary 1999), Legacy Estates Project (Quaternary 2000a), and Human Rights Museum Project (Quaternary 2004). However, as noted above these correlations would be more tenuous.

The depth at Bowl Hole 17 also correlates with data recorded at the Inn at The Forks (Quaternary 2003a) and Festival Park (Quaternary 2000b).

The depth at Plaza Hole 128 correlates with recoveries from Stage I (Kroker and Goundry 1990) as well as the Inn at The Forks (Quaternary 2003a).

3.0 ARTIFACT RECOVERIES

Cultural levels were encountered in five of the pile holes, two are in the bowl area and three are in the plaza area. Due to the relatively small diameter of the auger, only limited quantities of small artifacts were recovered from each of the horizons. A total of 469 artifacts, predominantly faunal remains, was recovered from five holes.

3.1 Bowl Hole 17 - 425 cm dbs

Bowl Hole 17 is located in the eastern lobe. DILg-33:05A/1, a single fragment of rib bone from a medium mammal, was recovered. It weighs 0.6 grams.

3.2 Bowl Hole 51 - 280 cm dbs

Bowl Hole 51 is located in the southeast lobe. A total of 15 specimens was recovered. These include six skull fragments from a large mammal (DILg-33:05A/2). They weigh 13.0 grams. A single undetermined large mammal fragment (DILg-33:05A/3), weighing 1.5 grams, was recovered. The term 'undetermined' is used to delineate a faunal specimen which cannot be identified to element with available resources but may potentially be identifiable with use of a complete faunal reference collection. Eight small unidentifiable mammal fragments were also recovered. DILg-33:05A/4 has a total weight of 0.2 grams. The term 'unidentifiable' is used to denote bone fragments which do not have any landmarks or components which could lead to identification even given unlimited time and resources.

3.3 Plaza Hole 101 - 425 cm dbs

Plaza Hole 101 is located near the centre of the plaza complex. A total of 16 specimens was recovered. The identifiable elements all derive from rabbit (*Lepus* sp.). DILg-33:05A/5 is a phalanx (weight 0.1 gms); DILg-33:05A/6 is a humerus (weight 0.1 gms); and DILg-33:05A/7 is a scapula (weight 0.1 gms). Thirteen small unidentifiable fragments, DILg-33:05A/8, were also recovered. These weigh 0.2 gms and possibly derive from the identified rabbit.

3.4 Plaza Hole 128 - 350 cm dbs

Plaza Hole 128 is located near the south edge of the plaza. A total of 376 specimens was recovered, including faunal and floral specimens.

3.4.1 Faunal Remains

The faunal remains consist primarily of food residue in the form of butchering remains. Other faunal representation consists of naturally deposited specimens which have been incorporated into the cultural stratum. Small, generally unidentifiable specimens are catalogued as samples and while samples could be construed as butchering remains in that they are the result of cluster cataloguing of minute residue

obtained during the wet screening process, they are not included in the quantities or weights of butchering remains. This is done so as not to skew the percentages inordinately in favour of undetermined or unidentifiable fragments. As such, the quantities that can be identified to specific taxa more closely reflect the actual food procurement practices of the peoples that camped here.

3.4.1.1 Butchering Remains

Only two elements from bison (*Bison bison*) are present in the recoveries. Due to the rotary action of the auger, the vertebra and rib bones were fragmented during excavation resulting in large numbers of specimens from a small number of elements. DILg-33:05A/23 consists of eleven rib fragments weighing 21.3 grams. DILg-33:05A/22 is two rib fragments, both of which have cut marks from butchering processes. These two fragments weigh 38.9 grams. DILg-33:05A/25 is 62 vertebra fragments with a weight of 573.1 gms, while DILg-33:05A/24 is two vertebra fragments with butchering cut marks. These two fragments weigh 11.5 grams. DILg-33:05A/26 consists of 289 undetermined fragments weighing 55.2 gms. These likely derive from either vertebrae or ribs and result from impact by the drilling auger.

3.4.1.2 Naturally Deposited Fauna

DILg-33:05A/21 consists of three fragments of freshwater snail (*Lymnaeidae*) which would have been deposited with sediments during a high water episode and been incorporated into the soil matrix upon which the cultural evidence was deposited. These fragments weigh 0.1 grams.

3.4.1.3 Samples

Samples are an expeditious mechanism for the cataloguing of myriads of minuscule recoveries. DILg-33:05A/27 consists of bone fragments recovered on a 2 millimetre screen. This sample weighs 11.2 grams. DILg-33:05A/28, recovered on a 1 millimetre screen, is a sample containing diverse artifacts: charcoal fragments, shell fragments, and small fragmented bone elements. It weighs 5.5 grams. Intensive detailed study of the material in a sample may result in the identification of various plant or animal species, but most of the dominant taxa are already represented by larger recoveries. The additional information obtained through a comprehensive analysis of samples is usually that of degree and further confirmation of specific taxa rather than the identification of previously unrecorded species.

3.4.2 Floral Remains

The floral recoveries consist of one seed (DILg-33:05A/18), one fragment of bark (DILg-33:05A/19), and three fragments of charcoal (DILg-33:05A/20). Each catalogue number has a weight of 0.1 grams.

DILg-33:05A/18 is a cone scale from a coniferous tree, e.g., pine, spruce, or larch (Hosie 1975). It probably became incorporated in the cultural strata as a result of water transport from a Boreal Forest area. It likely did not result from nearby trees as conifers are not a component of the natural riverine gallery forest along the Red or Assiniboine Rivers.

DILg-33:05A/19 is a small fragment of bark, probably from a local deciduous tree such as oak, maple, willow, poplar, etc.

DILg-33:05A/20 consists of three very small fragments of charcoal. While too small for macroscopic analysis, they probably derive from deciduous trees (oak, maple, poplar, willow, etc.) in the local riverine gallery forest.

3.5 Plaza Hole 135 - 245 cm dbs

Plaza Hole 135 is located near the north edge of the plaza. A total of 61 artifacts was recovered, including lithic, faunal, and floral specimens.

3.5.1 Lithic Artifacts

The lithic component of pre-European tool kits is the portion that tends to preserve the best. Bone and wooden tools, as well as clothing and other organic artifacts, decay or burn during prairie/forest fires. Due to the indestructibility of stone artifacts, they have become one of the standard diagnostic tools for assessing cultural affiliations. Detritus is the category under which the byproducts and waste elements of the tool manufacturing process are catalogued. This category refers to lithic material and includes flakes and cores. Only lithic flakes were recovered from Plaza Hole 135.

DILg-33:05A/9 consists of two very small Swan River Chert flakes weighing a total of 0.1 grams. Swan River Chert is a type of stone which has relatively good conchoidal fracture and is, therefore, commonly used for tool manufacture. It derives from the western portion of Manitoba in the Swan River Valley region near the Saskatchewan border.

3.5.2 Faunal Remains

The faunal remains consist of butchering remains, naturally deposited faunal remains, and a sample.

3.5.2.1 Butchering Remains

The 23 food fragments are all elements of undetermined fish species. DILg-33:05A/14 is an otolith weighing 0.1 grams; DILg-33:05A/15 is twenty unidentifiable fragments weighing 0.7 grams; and DILg-33:05A/16 consists of two unidentifiable fish fragments which are charred. These charred specimens weigh 0.1 grams and are the result of post-depositional trauma which occurs during or immediately after the food preparation process when the bone fragments are placed into the fire.

3.5.2.2 Naturally Deposited Fauna

Thirty specimens of non-food faunal remains were curated. DILg-33:05A/11 is three ribs from a frog or toad with a weight of 0.1 grams. DILg-33:05A/12 is an incisor, weighing 0.1 grams, from a small rodent. The frog/toads would burrow into the soil for hibernation, while natural residents, such as the small rodent, would scavenge the occupation site.

The remaining 26 naturally deposited specimens are fragments of freshwater snail (Lymnaeidae). DILg-33:05A/13 weighs 0.1 grams.

3.5.2.3 Samples

DILg-33:05A/17 is a sample obtained on a 1 mm screen. It weighs 0.1 grams and contains bone, shell, and charcoal fragments.

3.5.3 *Floral Remains*

Only charcoal fragments were recovered from Hole 135. DILg-33:05A/10 consists of five minuscule specimens weighing 0.1 grams. These likely derive from local deciduous trees such as oak, maple, poplar, etc.

4.0 DISCUSSION

Minimal impact on cultural resources occurred during the construction of The Forks Skateboard Park. This is due to the fact that the majority of the facility was built at grade, resting upon piles. During the drilling of pile seating holes, numerous buried soil horizons were recorded but cultural evidence only occurred in five holes (Figure 2, Figure 3). Tenuous correlations with known cultural occurrences in adjacent localities have been drawn but linear trenches would be necessary to provide definite confirmation.

In summary, the archaeological monitoring of the project has provided some additional data about additional sub-surface cultural resources while causing minimal impact. The widely spaced pile holes represent small impact holes which may or may not encounter archaeological material, even when penetrating a cultural layer. However, the presence of the known locations of cultural resources plus the presence of buried soil horizons at similar depths suggest that occupation sites are present. Thus, when further development occurs in future decades, after the skateboard park has become obsolescent, it would behoove the developer to undertake appropriate measures to mitigate any impact which could occur.

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APPENDIX A
HERITAGE PERMIT



Heritage Permit No. **A37-05**

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

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

Attention: Sid Kroker,

(hereinafter referred to as "the Permittee"),

is hereby granted permission to:

conduct archaeological assessment and monitoring in the vicinity of site DILg-33, at the Forks, City of Winnipeg, Manitoba.

during the period:

July 7 – November 15, 2005.

*Extended. until. Nov. 30/05.
after conversation with Sid Kroker.
Nov. 18/05. [Signature]*

This permit is issued subject to the following conditions:

- (1) That the information provided in the application for this permit dated the 4th day of July 2005, 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:

March 31, 2006;
- (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. The permittee must obtain permission from any landowner, lessee or regulatory authority as applicable, concerning access to any property to be examined;
- b. 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 actions, liens, demands, loss, liability, cost, damage and expense including, without limitations, reasonable legal fees, which the Government, Minister or any employee or official of the Government may suffer or incur by reasons of any of the activities pursuant to or related to this permit.
- c. The permittee has, along with this permit, received enclosure: *Provisions Regarding Found Human Remains Under THE HERITAGE RESOURCES ACT, And Manitoba's Policy Respecting the Reporting, Exhumation and Reburial of Found Human Remains (1987).*

Dated at the City of Winnipeg, in Manitoba, this 4th day July 2005.

for Anna Dul
Minister of Culture, Heritage and Tourism