STAGE 2 ARCHAEOLOGICAL ASSESSMENT FOR PHASE 1 OF THE WINDMILL ZIBI CHAUDIÈRE WEST DEVELOPMENT CHAUDIÈRE ISLAND PART LOT 40, CONCESSION A OTTAWA FRONT GEOGRAPHIC TOWNSHIP OF NEPEAN NOW IN THE CITY OF OTTAWA, ONTARIO

Past Recovery
Archaeological Services Inc.

STAGE 2 ARCHAEOLOGICAL ASSESSMENT FOR PHASE 1 OF THE WINDMILL ZIBI CHAUDIÈRE WEST DEVELOPMENT, CHAUDIÈRE ISLAND, PART LOT 40, CONCESSION A, OTTAWA FRONT, GEOGRAPHIC TOWNSHIP OF NEPEAN, NOW IN THE CITY OF OTTAWA, ONTARIO

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Crete-Ryan Construction provided back-hoe and reinstatement services.

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EXECUTIVE SUMMARY

Past Recovery Archaeological Services Inc. (Past Recovery) was retained by Windmill Development Group Ltd. to undertake a Stage 2 archaeological assessment for Phase 1 of the Zibi Chaudière West Development on Chaudière Island in the Ottawa River between the cities of Ottawa and Gatineau. The study area is comprised of an irregularly shaped parcel of land that is just under one hectare in size (c. 2.5 acres). The land is currently occupied by a large, vacant former paper mill and a paved asphalt parking area. The parcel is nominally located within Part Lot 40, Concession A, Ottawa Front, in the former Township of Nepean, now in the City of Ottawa (see Maps 1 to 3).

A previous Stage 1 archaeological assessment of Chaudière Island, also prepared by Past Recovery (2014), had determined that part of the study area lay within a location identified as exhibiting archaeological potential, and included a recommendation that the area be subjected to a Stage 2 archaeological assessment prior to any proposed development. The purpose of the Stage 2 assessment was to document all archaeological resources within the study area and to determine if there were archaeological deposits requiring further assessment. Given that the property consisted mostly of a paved asphalt surface in an urban brownfield setting with an expectation of deep fill and industrial waste deposits, the Stage 2 assessment was conducted by means of mechanical test trenches. A total of six trenches were excavated and recorded across the part of the study area exhibiting archaeological potential. A single feature was noted during the Stage 2 field survey: a stone and concrete footing dating to the early to mid-twentieth century., Though an occupation surface dating to the use of the area as a lumber piling yard in the second half of the nineteenth and the early twentieth centuries was encountered in some of the test trenches, very few artifacts from this period were found. The combination of the footing and scattered artifacts did not meet criteria established by MTCS for registration with the Ontario Archaeological Sites Database, nor was it considered to be of sufficient cultural heritage value or interest to warrant further excavation in the form of a Stage 3 site-specific archaeological assessment.

The results of the Stage 2 assessment documented in this report form the basis for the following recommendations:

1) The cultural heritage value or interest of the concrete and limestone footing found in Trench 1D has been sufficiently documented with the Stage 2 research conducted to date and for this reason no further archaeological assessment is warranted;

2) As the Stage 2 property survey did not result in the identification of any archaeological sites requiring further assessment or mitigation prior to development, and thus no further archaeological assessment of the current Zibi Chaudière West Phase 1 study area is required;

3) Should planning associated with the proposed Zibi Chaudière West Phase 1 development result in the identification of additional areas beyond the Phase 1 boundary as defined in Maps 2 and 3 to be impacted through soil disturbances or other alterations, further Stage 2 to 4 archaeological assessment may be required. It should be noted that impacts include all aspects of the proposed development, including temporary property needs (i.e. access roads, staging/lay down areas, associated works, etc.);

4) Any future Stage 2 archaeological assessment should be undertaken by a licensed consultant archaeologist, in compliance with *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

The reader is also referred to Section 5.0 below to ensure compliance with relevant provincial legislation and regulations that may relate to this project.

TABLE OF CONTENTS

Page No.

Acknowledgements ii
Project Personnel ii
Executive Summary iii
List of Images vii
List of Maps viii
List of Tables viii

1.0 Introduction 1

2.0 Project Context 2
2.1 Property Description 2
2.2 Development Context 2
2.3 Access Permission 2

3.0 Summary of the Previous Stage 1 Archaeological Assessment 3
3.1 Historical Context 3
3.2 Archaeological Context 5
3.2.1 Previous Archaeological Research 5
3.2.2 Registered Archaeological Sites in the Vicinity of the Study Area 5
3.2.3 Built Heritage and Heritage Plaques 8
3.2.3 Environment 8
3.3 Analysis and Conclusions 9
3.3.1 Archaeological Potential 9
3.3.2 Previous Stage 1 Recommendations 9

4.0 Stage 2 Archaeological Assessment 10
4.1 Fieldwork Methods 10
4.2 Laboratory Methods 11
4.3 Results 12
4.4 Analysis and Conclusions 16
4.5 Stage 2 Recommendations 18

5.0 Advice on Compliance with Legislation 20

6.0 Limitations and Closure 21

7.0 References 22

8.0 Maps 24

9.0 Images 32

TABLE OF CONTENTS (Continued)

Page No.

Appendix 1: Photographic Catalogue 49
Appendix 2: Artifact Inventory 50
Appendix 3: Glossary of Archaeological Terms 52

LIST OF IMAGES

Image No.		Page No.
1	Staff monitoring the mechanical excavation of Trench 1E, facing northeast	32
2	Staff monitoring the mechanical excavation of Trench 1A, facing northwest	32
3	Staff monitoring the mechanical excavation of Trench 1C, facing west	33
4	Staff manually excavating the occupation layer: Lot 5,Trench 1E, facing southwest	33
5	Staff screening the manually-excavated occupation layer: Lot 5, Trench 1E, facing west	34
6	Staff screening the manually-excavated occupation layer: Lot 5, Trench 1A, facing northwest	34
7	Staff manually excavating Feature 1 in Trench 1D, facing southeast	35
8	Staff cleaning the west profile of Trench 1F in advance of recording the profile, facing northwest	35
9	Staff recording the south profile of Trench 1E, facing west	36
10	View of the field crew recording Trenches 1A and 1B, facing east	36
11	Profile drawings of Trenches 1A, 1B and 1C	37
12	View of the west profile of Trench 1A, facing west	38
13	View of the north profile of Trench 1B, facing north	38
14	A representative sample of artifacts collected from Trench 1B	39
15	View of the north profile of Trench 1C, facing north	39
16	Two samples of brick from within Lot 6, Trench 1C	40
17	Profile drawings of Trenches 1D, 1E and 1F	41
18	Plan view of the footing in Trench 1D, with the trowel pointing north	42
19	The single artifact collected from Trench 1D	42
20	View of the south profile of Trench 1E, facing southwest	43
21	The single diagnostic artifact collected from Trench 1E	43
22	View of the west profile of Trench 1F, facing west	44
23	The Perley and Pattee lumber yard on Chaudière Island in 1878	44
24	The J.R. Booth sawmills and yard at the Chaudière Falls c. 1900, facing northwest	45
25	The J.R. Booth lumber mill and yard on Chaudière Island in 1907, facing north from the new boiler house	45
26	The J.R. Booth lumber mill and yard on Chaudière Island in 1907, facing northeast from the new boiler house	46
27	Oblique aerial photograph showing the study area, 1929	46
28	Aerial photograph showing the study area (outlined in red), 1930	47
29	Aerial photograph showing the study area (outlined in red), 1965	48

LIST OF MAPS

Map No.		Page No.
1	Location of the study area	24
2	Recent aerial photograph depicting the Phase 1 Zibi Chaudière West study area	25
3	Concept plan showing the proposed new structures within Phase 1 of the Zibi Chaudière West development	26
4	Recent aerial photograph with overlays indicating the archaeological potential within the Phase 1 study area	27
5	Site plan showing test trench locations and Stage 2 field testing methods	28
6	Locations and orientations of photographs taken during the Stage 2 field survey and mentioned within the body of this repor.	29
7	Segment of the 1901 fire insurance plan for Ottawa showing reconstruction after the Great Fire of 1900 and the study area (outlined in red)	30
8	Segment of the 1912 fire insurance plan of Ottawa showing the study area (outlined in red)	31

LIST OF TABLES

Table No.		Page No.
1	Listing of Registered Archaeological Sites within a 1 km Radius of the Centre of the Study Area	6
2	Listing of Registered Archaeological Sites within a 1 km Radius of the Centre of the Study Area Not in the Provincial Database	7
3	Inventory of the Stage 2 Documentary Record	11
4	Lots assigned to Test Trench 1A	12
5	Lots assigned to Test Trench 1B	13
6	Lots assigned to Test Trench 1C	14
7	Lots assigned to Test Trench 1D	15
8	Lots assigned to Test Trench 1E	15
9	Lots assigned to Test Trench 1F	16

1.0 INTRODUCTION

Past Recovery Archaeological Services Inc. (Past Recovery) was retained by Windmill Development Group Ltd. to undertake a Stage 2 archaeological assessment for Phase 1 of the Zibi Chaudière West Development on the former Domtar Inc. lands on Chaudière Island in the Ottawa River between the cities of Ottawa and Gatineau (Maps 1 to 3). The islands were never part of the formal townships laid out on either side of the river, though some land transactions for Chaudière Island have been listed under Lot 40, Concession A, Ottawa Front, in the geographic Township of Nepean, now in the City of Ottawa. This assessment follows recommendations made in a recent Stage 1 archaeological assessment of Albert and Chaudière Islands completed by Past Recovery (2014).

The objectives of the Stage 2 archaeological assessment are as follows:

- To document all archaeological resources on the property;
- To determine whether the property contains archaeological resources requiring further assessment; and,
- In the event that an archaeological site requiring further assessment is discovered, to recommend appropriate Stage 3 assessment strategies.

2.0 PROJECT CONTEXT

This section of the report provides the context for the archaeological work undertaken, including a description of the study area, the related legislation or directives triggering the assessment, and the confirmation of permission to access the subject property.

2.1 Property Description

The study area consists of a just less than one hectare (2.5 acre) parcel of land on Chaudière Island within the City of Ottawa (see Maps 1 to 3). Chaudière Island is located on the Ottawa River, between the cities of Ottawa and Gatineau, on the south side the Chaudière Falls and thus within the Province of Ontario. As stated above, the islands in the Ottawa River in this location were not included in the surrounding townships on either the Upper or Lower Canada side. A few late nineteenth century transactions involving Chaudière Island, likely related to the acquisition of former public land, do appear in the land record abstract for Lot 40, Concession A, Ottawa Front, of the geographic Township of Nepean. The island was formally surveyed in 1851, registered as subdivision plan No. 10 in the Carleton County (now Ottawa) land registry office. The study area for Phase 1 of the project is currently occupied by a vacant former paper mill and a paved asphalt surface.

2.2 Development Context

Ownership of Chaudière Island is currently divided between Public Works & Government Services Canada, the Ontario Ministry of Natural Resources, the City of Ottawa, the National Capital Commission and Windmill Development Group Ltd. (Windmill). The last is the current project proponent and has recently purchased the former Domtar Inc. lands. Part of the northern shoreline of Chaudière Island has also been leased to Hydro Quebec. The result is an interweaving pattern of ownership resulting in a puzzle of intermeshed jurisdictions. Windmill wishes to redevelop the Domtar Inc. lands into a mixed residential and commercial site. The concept plan for the current study area indicates the development will include the construction of three new multi-storey buildings within the Phase 1 section, as well as the retention of portions of the existing building (see Map 3). The Stage 2 archaeological assessment is being completed in accordance with the recommendations laid out in the recent Stage 1 archaeological assessment of Chaudière and Albert Islands (Past Recovery 2014), which determined that a portion of the Phase 1 study area retained archaeological potential and thus required Stage 2 testing in advance of any soil disturbances. Approval authority for the project rests with the City of Ottawa planning department.

2.3 Access Permission

Permission to access the study area and complete all aspects of the archaeological assessment, including excavation, photography and the collection of any artifacts encountered, was granted by the project proponent.

3.0 SUMMARY OF THE PREVIOUS STAGE 1 ARCHAEOLOGICAL ASSESSMENT

This section of the report contains a summary of the previous Stage 1 archaeological assessment. This information is included to provide both historical and archaeological contexts for an interpretation of the results of the present study. For more information, the reader is encouraged to consult the full Stage 1 archaeological assessment report (Past Recovery 2014).

3.1 Historical Context

This section of the Stage 1 report included an overview of human settlement in the region with the intention of providing a context for the evaluation of known and potential archaeological sites, as well as a review of property-specific detailed archival research presenting a record of land use history as an aid to determining archaeological potential. *Only information of direct relevance to the Phase 1 of the Zibi Chaudière West Development study area will be reproduced here.* Again, for a complete account of the broader island and all references from primary sources, the reader is encouraged to consult the full Stage 1 assessment report (Past Recovery 2014).

Native occupation of southern Ontario began approximately 11,000 years ago with the arrival of groups referred to by archaeologists as Palaeo-Indians. Most archaeological evidence for the Palaeo-Indian period has been found in south-western and south-central Ontario at sites located on the former shorelines of glacial Lake Algonquin. First Nations settlement of eastern Ontario was late in comparison to these other parts of the province as a result of the high water levels of the St. Lawrence Marine Embayment of the post-glacial Champlain Sea (Hough 1958:204). The Ottawa Valley remained very much on the fringe of occupation at this time. The ridges and old shorelines of the Champlain Sea and the Ottawa River channels would be the most likely areas to find evidence of Palaeo-Indian occupation. A number of lithic sites that may date to the Late Palaeo-Indian or Early Archaic period have been reported for the Ottawa area (eg. Swayze 2005; Swayze and McGhee 2011).

Later Archaic and Woodland Period sites are known for the general study area, indicating an active use of the Ottawa river system by Native peoples, with hints of more permanent occupation of the area. Throughout much of this period the Chaudière Falls was a significant site to First Nations peoples, and parts of the Quebec shoreline and probably the Richmond Landing area were used as convenient stop-over sites for those travelling up or down river having to portage around the rapids. The islands themselves were likely inaccessible through this period given their rugged shorelines and the rapidly moving water around them throughout much of the year. The use of portage routes around the falls was continued into the post-Contact period by local Algonquin populations, followed as well by early European explorers. In the wake of Champlain's travels in the early seventeenth century, the Ottawa River (also known as the Grand River) became the principal route to the interior for explorers, missionaries, and fur traders. Throughout the seventeenth and eighteenth centuries this route remained an important link in the French fur trade. At the beginning of the nineteenth century there was an economic shift from the fur trade to the lumber industry as the Napoleonic blockades increased Europe's demand for quality pine.

Settlement in the Ottawa area was not actively encouraged by the colonial government until the late eighteenth century. To this end, in 1793, two years after the division of the Province of Québec into Upper and Lower Canada, the Deputy Surveyor, John Stegmann, was asked to undertake an initial survey of four townships (Gloucester, North Gower, Osgoode, and Nepean) on both sides of the Rideau River near its junction with the Ottawa River. The islands in the Ottawa River were not included in this survey, and in the early nineteenth century were reserved for government purposes. A series of bridges across the islands connecting the growing development at Bytown through the LeBreton Flats to Hull on the north shore of the river were completed in 1828, though the main bridge across the falls collapsed in 1836. A timber slide was installed along the south side of Chaudière Island in 1832. A toll house was the first permanent building to be erected on Chaudière Island following the construction of the Union Suspension Bridge in 1843.

The islands were finally opened up for industrial development after 1849 when the Province of Canada, acting as an agent for the Crown, purchased the land fronting the Chaudière Falls and following a formal survey in 1851 began leasing hydraulic and building lots. A structure of unknown purpose had been erected in the southern part of the study area by this time. The firm of Perley, Pattee & Brown (later Perley & Pattee) had erected a large sawmill along the northwest shoreline by 1857, as had J.R. Booth (directly north of the study area) by 1858. A lithograph dating to the latter year shows that a row of small residences and a hotel had been constructed along the south shore of the island to the west of the road by this time. Several of these were occupied by the Mason brothers who were boat builders and remained there until the mid-1880s. Most of the centre of the northern half of Chaudière Island remained open and was being used for piling lumber - an activity which continued in this area into the early twentieth century, complete with various outbuildings and horse tram tracks. For most of the second half of the nineteenth century the yard was used by both Booth and Perley & Pattee, who had constructed a stone office building within the study area by 1867. What appears to have been a small residence or pump house was erected within the lumber piling yard just to the northwest of the study area by 1876. The residences and hotel along the south shore of the island were demolished in late 1886 or 1887 and replaced in the mid-1890s by warehouses serving the Thomas McKay & Co. mills on the opposite side of Bridge (Booth) Street. Fire was a constant hazard, and both the Perley & Pattee and J.R. Booth mills were destroyed several times, though immediately rebuilt. Sometime after 1888 Booth replaced one of his sawmills with an extraordinarily large mill which necessitated the demolition of the old toll booth at the entrance to the suspension bridge, only to have it destroyed by arson in 1894. Fortunately he had acquired the Perley& Pattee mills and yards in 1891, allowing production to continue while his own mill was rebuilt. Booth's industries had thus dominated Chaudière Island by the late nineteenth century.

On April 26, 1900, a large portion of Ottawa and Hull was destroyed by a devastating fire. The fire left the Chaudière area, LeBreton Flats, Rochesterville, and Sherwood south to Dow's Lake in smouldering ruins, having burned a swath nearly half a mile wide, covering more than 70 city blocks (Bond 1984:89). Remarkably the Union Bridge and J.R. Booth's mills on Chaudière Island were spared, thanks to the mill employees who fought back the fire even as their homes were consumed. All of the other structures within the study area, including the steel bridges linking Chaudière and Albert Islands with LeBreton Flats, were destroyed. Booth, however, was

able to keep up production and take advantage of the disaster to acquire much of the remainder of Chaudière Island, including the south shore lots previously owned by the McKay Milling Co.

Booth had erected a two storey concrete paper mill along the south shoreline within the study area by 1907, together with a large refuse burner in the area of the current parking lot entrance. By 1912 a brick and concrete sawmill and power house had been erected to the north of the paper mill, connected by overhead conveyors and underground tunnels to a pulp mill and power house to the north, necessitating the removal of the old Perley & Pattee office. The space between the paper mill and brick and concrete power house had been filled in by 1922 and a second chimney stack added by 1925; an addition to the north of the power house was completed by 1928. Several smaller extensions were added over the following years, with the large former Perley & Pattee mill removed by 1945.

All of the J.R. Booth Ltd. premises were sold to the E.B. Eddy Co. in 1946, who had removed the remaining former sawmill north of the study area by 1956. All of the north shore, including the still extant pulp mill and power house, were leased to the Quebec Hydro Commission in 1967. Domtar Inc. purchased the E.B. Eddy Co. site in 1998 and then closed in 2007, the remaining large concrete stack having been removed between 2002 and 2005.

3.2 Archaeological Context

This section of the Stage 1 report described the archaeological context of the study area and, combined with the historical context outlined above, provided the necessary information to assess the archaeological potential of the property.

3.2.1 Previous Archaeological Research

Following the initiation of environmental assessments on the LeBreton Flats in the early 1990s and a direct appeal to the NCC at the on-set of soil remediation by archaeologist Hugh Daechsel regarding the potential destruction of significant archaeological resources, numerous archaeological assessments have been completed within the LeBreton Flats North sector lands (north of the aqueduct), and a few have been focussed on the islands to the south of the Chaudière Falls. Brief summaries of these reports were included in the Stage 1 archaeological assessment (Past Recovery 2014).

Only one archaeological assessment is known to have been conducted on Chaudière Island. In 2006 Ken Swayze was retained by Domtar Inc. to undertake a Stage 1 archaeological assessment of Chaudière Island and a Stage 2 assessment of part of the northern shoreline (Swayze 2006). Nothing of archaeological significance was found.

3.2.2 Registered Archaeological Sites in the Vicinity of the Study Area

In order to acquire a listing of all nearby archaeological sites that have been registered with the Ontario Archaeological Sites Database, a request for a search of the database was submitted to the Ministry of Tourism, Culture and Sport's Archaeological Data Coordinator. Table 1 shows all registered archaeological sites occurring within a 1 km radius of the study area, on the Ontario side of the provincial border. It is important to note that a number of archaeological sites

Table 1. Listing of Registered Archaeological Sites within a 1 km Radius of the Centre of the Study Area.

Site Name	Borden Number	Cultural Affiliation	Site Type	Date Range	Status
Old Supreme Court Building	BiFw-35	Euro-Canadian	institutional	late 19th to early 20th century	No further concerns*
Fournier's Dry Goods Store	BiFw-36	Euro-Canadian	commercial	mid- to late 19th century	No further concerns*
Britannia Hotel	BiFw-37	Euro-Canadian	commercial	mid-19th to early 20th century	No further concerns*
Carriage Way	BiFw-38	Euro-Canadian	carriage way	early to mid-19th century	No further concerns
Firth Tavern	BiFw-53	Euro-Canadian	commercial	c.1819-1860s	No further concerns*
Cathcart Square	BiFw-62	Euro-Canadian	commercial	1870-1900	No further concerns*
Levi Young House (Lloyd Street Site)	BiFw-63	Euro-Canadian	residential and industrial	1870s-1900 (Residence) & 1901-1960s (Foundry)	No further concerns*
Inlet Bridge Site	BiFw-65	Euro-Canadian	intake and headworks for Ottawa waterworks	late 19th to early 20th century	Further assessment recommended
LeBreton Railyards	BiFw-66	Euro-Canadian	transportation	late 19th to early 20th century	No further concerns*
Passenger Depot	BiFw-67	Euro-Canadian	transportation	1880s to 1900	No further concerns*
LeBreton Flats East	BiFw-68	Euro-Canadian	residential and commercial	late 19th to early 20th century	No further concerns*
Old Booth Street	BiFw-70	Euro-Canadian	residential and commercial	late 19th to early 20th century	No further concerns*
Waterworks Yard Shed	BiFw-72	Euro-Canadian	municipal	c.1901 - 1960s	No further concerns*
McGinnis House	BiFw-73	Euro-Canadian	residential	1870-1964	No further concerns*
Meat Juice (13 and 15 Ottawa Street)	BiFw-78	Euro-Canadian	residential	1870-1900	No further concerns*
LeBreton 2002	BiFw-79		community		
Victoria Island 1	BiFw-87		n/a	n/a	

* While the Ontario Archaeological Sites Database identifies these sites with "further work recommended," staff at Past Recovery are aware of more recent archaeological mitigations of these sites, resulting in the up-dated status information provided in this table.

for which Borden Numbers have been requested from the database administrator have yet to appear in the database as registered archaeological sites as their Archaeological Site Record (ASR) forms have not been submitted to the province. For this reason, a second table listing archaeological sites known to Past Recovery for which no ASR form has yet been filed is provided below (Table 2).

There are no known archaeological sites located on Chaudière Island.

Table 2. Listing of Registered Archaeological Sites within a 1 km Radius of the Centre of the Study Area Not in the Provincial Database.

Site Name	Borden Number	Cultural Affiliation	Site Type	Date Range	Status
James Skead Estate	BiFw-54	Euro-Canadian	residential	mid- to late 19th century	No further concerns
Aubrey Row House	BiFw-55	Euro-Canadian	residential	1890s	No further concerns
E. P. Hall Grocery	BiFw-57	Euro-Canadian	commercial	late 19th century	No further concerns
Occidental Hotel	BiFw-58	Euro-Canadian	commercial	mid- to late 19th century	No further concerns
Ahern/Perley House	BiFw-59	Euro-Canadian	residential	mid- to late 19th century	No further concerns
Tin Smith	BiFw-60	Euro-Canadian	commercial	mid- to late 19th century	No further concerns
Ste. Famille Separate School	BiFw-88	Euro-Canadian	institutional and residential	mid-19th century to 1960s	No further concerns
Broad Street Hotels	BiFw-89	Euro-Canadian	commercial	late 19th century	No further concerns
Canada Central Railway Station	BiFw-93	Euro-Canadian	transportation	1870 to c.1880	No further concerns
Broad Street CPR Union Station	BiFw-99	Euro-Canadian	transportation	c.1900 to c.1933	No further concerns
Western Methodist Church	BiFw-166	Euro-Canadian	Institutional - religious	1873 to 1960s	Stage 4 recommended
West End Hotel	BiFw-167	Euro-Canadian	commercial	mid-19th to early 20th century	Stage 4 recommended
Nos. 541-549 Albert Street outbuildings	BiFw-168	Euro-Canadian	residential	mid-19th to early 20th century	Stage 4 recommended
Nos. 555-561 Albert Street outbuildings	BiFw-169	Euro-Canadian	residential	mid-19th to early 20th century	Stage 4 recommended

3.2.3 Built Heritage and Heritage Plaques

In order to augment the archival research discussed above, the Stage 1 archaeological assessment included a search of available listings of recognized (eg. listed or designated) built heritage features to assist with the evaluation of the archaeological potential of the study area. Lists of built heritage created and maintained by the NCC, the City of Ottawa, the Ontario Ministry of Tourism, Culture and Sport, and the Federal Heritage Building Review Office (FHBRO) were consulted for information pertaining to recognized built heritage structures located within the study area.

It was determined that none of the existing buildings on Chaudière Island had been listed in the city or provincial databases, though all of the former J.R Booth/E.B. Eddy/Domtar standing structures have recently been assessed by FHBRO (Clerk and Dufresne 2010). Consultation with the FHBRO list of designated buildings, however, indicated that none had yet been awarded a federal heritage designation. There were also no heritage plaques noted within the study area.

3.2.3 Environment

Chaudière Island lies within the Ottawa River, anchoring the south end of Chaudière Falls. The study area forms part of the Ottawa Valley Clay Plains physiographic region (Chapman and Putnam 1984: 113). This region is characterized by clay plains that are interrupted by ridges of rock or sand. The upper section of the region, lying above Ottawa along the river, is a broad valley with rocky Laurentian uplands rising on either side. On the Ontario shore, the slope of the bedrock is more gradual, though some prominent scarps are present.

Surficial geological mapping of the Ottawa region conducted in the 1970s identified the Chaudière Islands as part of the Ottawa Formation of Palaeozoic bedrock (MacDonald 1979; Richards 1982: Map 1506A). The Ottawa River has eroded the limestone sides of the islands, particularly next to the Chaudière Falls, leaving steep rocky shelves in several areas, with shallow soil development on level and outcrop surfaces sustaining forest cover.

Soil mapping of Carleton County, conducted in the 1940s (Hills et. al. 1944) and the 1980s (Schut and Wilson 1987), does not include the study area as it was within the urbanized core of Ottawa. Soils mapped slightly upstream to the west over identical surficial geological deposits, however, were identified as Farmington loam, a neutral to alkaline flaggy sandy loam, fine sandy loam, loamy fine sand, or loamy sand undifferentiated drift material over Paleozoic limestone or dolomite bedrock, with bedrock typically lying within 10 to 50 centimetres of the surface (Schut and Wilson 1987:Map Sheet 3). The results of the numerous environmental and archaeological assessments on the adjacent islands and LeBreton Flats have indicated that although in many areas the pre-development soil profiles that may have existed have been all but obliterated by subsequent activity, pockets of this material survive in places, usually below extensive fill deposits. In can be inferred that given the similar land use history on Chaudière Island it is likely that pockets of original soil material survive amidst larger areas of development disturbance. Archaeological testing along the northern edge of the island revealed that most of this area had been scraped to bedrock prior to the construction of the present parking lot (Swayze 2006).

The study area lies within the Upper St. Lawrence sub-region of the Great Lakes - St. Lawrence Forest Region (Rowe 1972). This region is characterized by a mix of coniferous and deciduous tree species. Typically, these forests include sugar maple, beech, red maple, yellow birch, basswood, white ash, large tooth aspen, and red and burr oaks. On shallower soils, conifers are more common including eastern white pine, eastern hemlock, white spruce, and balsam fir. Much of the original forest growth had been cleared by c. 1858, with the remainder removed by 1861.

3.3 Analysis and Conclusions

3.3.1 Archaeological Potential

The Phase 1 study area was determined to have pre-Contact archaeological potential based on its proximity to the Ottawa River and Chaudière Falls (Map 4). It was also determined to have post-Contact archaeological potential based on the well-documented history of land-use on the island by Euro-Canadians beginning in the latter half of the nineteenth century (see the Stage 1 report, Past Recovery 2014). It was recognized, however, from a series of historical map overlays that much of the area has been deeply disturbed by the piecemeal construction of the extant former paper mill (which had a basement level) and the installation of underground utility lines, including a large utility line tunnel connecting the paper mill with the former pulp mill and hydro-electric power station to the north.

3.3.2 Previous Stage 1 Recommendations

It was recommended that a Stage 2 archaeological assessment be conducted in all areas determined to retain archaeological potential by a licensed archaeologist prior to any below grade construction disturbance. Given that potential archaeological resources in the study area were likely to be situated within a deeply buried urban brownfield context, it was also recommended that the Stage 2 archaeological assessment strategy should consist of the excavation of test trenches by backhoe or mini-hoe (Past Recovery 2014).

4.0 STAGE 2 ARCHAEOLOGICAL ASSESSMENT

This section of the report describes the methods and results of the Stage 2 property survey, conducted in order to determine whether the subject property contained significant archaeological resources. The methods and results of the assessment are presented below. For the purpose of clarity in this section, the *study area* here refers to those areas determined to retain archaeological potential in the Stage 1 assessment (Past Recovery 2014) and thus were tested during the Stage 2 field survey, not the overall Phase 1 development zone.

4.1 Fieldwork Methods

The Stage 2 archaeological fieldwork was completed over the course of one day (July 16th, 2015) with a crew of four people. Fieldwork was conducted according to the archaeological fieldwork standards outlined in *Standards and Guidelines for Consultant Archaeologists* (MCTS 2011). Weather and lighting conditions were good with clear skies providing good visibility, ideal conditions for the identification, documentation and, where appropriate, recovery of archaeological resources**.**

The limits of the subject property were determined in the field using maps of the property provided by Windmill Development Group Ltd., which allowed the study area to be referenced in relation to features such as extant structures and roads. Using these maps, Past Recovery staff were able to ensure full coverage of the study area. Given that the property consisted mostly of a paved asphalt surface in an urban brownfield setting, the Stage 2 testing consisted of mechanically excavated slit trenches placed at c. 10 metre intervals across the site. These slit trenches were placed away from known disturbances, such as utility lines and an underground tunnel, in order to determine whether there were any archaeological deposits surviving in minimally disturbed locations. To this end, a total of six trenches were placed across the study area (Map 5). Grid north was established parallel to Booth Street to facilitate the description of soil profiles in the test trenches, which were all excavated either parallel to or perpendicular to this road.

After first cutting through the asphalt with an asphalt and concrete circular saw, all test trenches were carefully excavated using a back-hoe with a smooth-edged ditching bucket, removing a few centimetres of material at a time under the supervision of a licenced archaeologist (Images 1 to 3). The trenches were approximately 1 metre in width and 4metres in length. The entire study area was assigned a single operation number (1), with each trench given a sub-operation letter from west to east. Different sediments and soil layers were identified during excavation, each assigned a lot number in the order of appearance and any artifacts noted were collected and assigned to the appropriate soil layer. An occupation layer was encountered in Trenches 1A, 1B and 1E; this was excavated by hand with shovel and trowel, and screened through 6 millimetre hardware mesh (Images 4 to 6). Any archaeological features or significant artifact deposits encountered were likewise excavated by hand (Image 7). Upon the completion of excavation (reaching either an *in situ* feature obstructing further work or bedrock), one or both of the revealed long soil profiles were examined for stratigraphy, cultural features, and/or evidence of deep and intensive disturbance, and recorded through photography and measured drawings at 1:20 scale (Images 8 to 10). All test trenches were plotted on a site map with surface elevations taken with a dumpy level and tied to a known elevation point (see Map 5). After all recording

activities were complete, all trenches were immediately back-filled for site safety reasons then compacted and topped with gravel and broken-up concrete stockpiled on site.

Field activities were recorded through field notes, scale drawings and digital photographs. A catalogue of the material generated through the Stage 2 property survey is included below in Table 3. The complete photographic catalogue is included as Appendix 1, and the locations and orientations of all photographs used in this report are shown on Map 6. A hand-held Geographic Positioning System (GPS) receiver was used to record the locations and extent of the test trenches, as well as features of interest. The GPS unit used in the assessment was a Garmin GPSMAP 60CSx, equipped with a built-in quad helix antenna, and capable of calculating its position to within 10 metres (95% typical). This unit was also capable of receiving Wide Area Augmentation System (WAAS) position correction signals, which could improve the accuracy of the position reporting to within 3 to 5 metres under ideal conditions (95% typical). At the time of Stage 2 property survey, the GPS consistently gave estimated probable error readings of less than 4 metres.

Table 3. Inventory of the Stage 2 Documentary Record.

Type of Document	Description	Number of Records	Location
Photographs	Digital photographs documenting the Stage 2 property survey	34 photographs	On Past Recovery computer network – file PR15-24
Field Notesand Drawings	Notes on the Stage 2 test trench survey, trench locations and soil profile drawings	7 pages	Past Recovery office - file PR15-24
Artifacts	Artifacts collected during the Stage 2 assessment	30 Post-Contact Euro-Canadian Artifacts	Past Recovery office

4.2 Laboratory Methods

Following the completion of the Stage 2 archaeological fieldwork, the 30 artifacts recovered were cleaned, catalogued with their full provenience, and inventoried using a modified version of a database designed by staff at Parks Canada (Christianson and Plousos n.d.). The complete inventory information for the artifacts recovered is included as Appendix 2, and a sample of representative artifacts were photographed for inclusion in this report. As per the *Terms and Conditions for Archaeological Licences* in Ontario, curation of all artifacts collected during the Stage 2 archaeological assessment is being provided by Past Recovery Archaeological Services Inc. pending the identification of a suitable repository. The complete assemblage comprises less than one standard-sized banker's box of artifacts.

4.3 Results

A total of six mechanically excavated trenches were placed across the study area (see Map 5). The general soil stratigraphy across the site consisted of an undulating sandstone bedrock surface with some small pockets of a non-contiguous mottled brown, grey and orange, silty or loamy clay subsoil. This was overlain by a brown silty/sandy clay occupation layer full of wood fragments deposited during the late nineteenth to early twentieth century when the study area was used as a wood-piling yard and covered with wooden planks to allow for wagon traffic. Trenches 1A and 1B both contained preserved wooden planks placed directly on top of the bedrock. Above the occupation layer were up to three different levelling and/or demolition deposits, dating to the mid-twentieth century. Above these lots was a deposit of gravel acting as a bed for an application of asphalt. This first asphalt layer, having likely been placed between 1956 and 1965, was later covered in some areas by a second bed of gravel and a second layer of asphalt. In other areas, the new asphalt was placed directly above the older layer.

Trench 1A

Trench 1A was located in the southwest corner of the study area, 11.3 m north of the former paper mill, and measured 4.05 m (north-south) by 0.96 m (east-west). This trench had to be shifted to the northwest of its originally planned position given the location of disturbance from nearby utility lines. The soil stratigraphy in Trench 1A (Images 11 and 12; Table 4) consisted of two layers of asphalt (Lots 1A1 and 1A2), each measuring approximately 10 centimetres thick, above a 10 centimetre thick base layer of highly compact, grey-brown sandy gravel (Lot 1A3). Beneath this was a c. 15 centimetre thick mixed demolition and fill deposit of black-brown silty clay of moderate compaction containing inclusions of brick fragments, coal and clinker (Lot 1A4). Below this , Lot 1A5 was a c. 10 centimetre thick occupation deposit, comprised of medium to dark brown silty clay with wood and stone inclusions. Two wooden planks lay in a roughly north/south orientation along the western wall of the trench within Lot 5, likely remnants of the late nineteenth/early twentieth century planked floor used for wood piling. This extended to bedrock, found at 50 cm below grade. No diagnostic artifacts were found in Trench 1A, but Lot 1A4, the mixed fill and demolition layer, contained two tiny fragments of milk glass commonly used in lighting devices. Of the ten artifacts collected from Trench 1A, seven were samples of coal, clinker and brick fragments, with the eighth being a small fragment of machine made glass0.

Table 4. Lots assigned to Test Trench 1A.

Lot	Nature	Deposit Type	Colour	Compaction	Inclusions	# Art.
1	Modern surface	Asphalt	Grey	High	-	0
2	Modern surface	Asphalt	Black	High	-	0
3	Gravel bedding	Sandy gravel	Grey/brown	High	Gravel	0
4	Demolition layer/ Levelling fill	Silty clay	Black/brown	Moderate	Red brick fragments	10
5	Occupation layer	Silty clay	Medium brown	High	Wood, fragmented stone	0

Trench 1B

Trench 1B was located along the western edge of the study area, 21 m north of the former paper mill, and measured 1.15 m (north-south) by 3.53 m (east-west). The soil stratigraphy in this trench (Image 13; see Image 11; Table 5) was much the same as that in Trench 1A, with two layers of asphalt above a deposit of compact sandy gravel bedding (Lots 1B1 to 1B3). Below Lot 1B3 was a c. 10 centimetre thick layer of mottled medium brown sandy clay with beige lenses and rock inclusions (Lot 1B4), likely a mixed fill and demolition deposit. Beneath this was Lot 1B5, the same occupation deposit found in Trench 1A, comprised of c. 15 centimetres of medium to dark brown silty clay with wood and stone inclusions extending to bedrock at c. 45 cm below grade. Lot 1B4 contained 14 artifacts, one of which, a carbon rod fragment from an arc lamp, could be roughly dated to the period between 1877 and c. 1950 (Woodhead et. al. 1984). The remaining 13 artifacts collected included two mammalian bone fragments (one likely a rib from a pig, the other unidentifiable), a single shard of pane glass, and samples of brick fragments and clinker (Image 14).

Table 5. Lots assigned to Test Trench 1B.

Lot	Nature	Deposit Type	Colour	Compaction	Inclusions	# Art.
1	Modern surface	Asphalt	Grey	High	-	0
2	Modern surface	Asphalt	Black	High	-	0
3	Gravel bedding	Sandy gravel	Grey/brown	High	Gravel	0
4	Demolition layer/ Levelling fill	Sandy clay	Medium brown	Moderate	Fragmented rocks	14
5	Occupation layer	Silty clay	Dark brown/black	High	Wood, unidentifiable corroded ferrous material	0

Trench 1C

Trench 1C was located along the northern edge of the study area in the north west corner, 31.9 m north of the former paper mill and 19.5 m west of the entrance gate/fence, and measured 1.0 m (north-south) by 4.0 m (east-west). The soil stratigraphy in this trench (Image 15; see Image 11; Table 6) consisted of a total of seven lots, Lots 1C1 and 1C2 again being separate applications of asphalt. Lot 1C3 in this case, however, was not gravel bedding but consisted of a c. 10 centimetre thick, black-brown, silty sand of medium compaction with some gravel inclusions, likely a levelling fill deposit. Lot 1C4, found below Lot 1C3 was the same sand and gravel mix used as a base for the asphalt elsewhere throughout the study area. Lot 1C5 was a c. 5 centimetre thick, mixed demolition and fill deposit, consisting of a black-brown silty sand with flecks of corroded ferrous metal as well as brick and pebble inclusions. Beneath this was Lot 1C6, a thick (15 to 20 cm) deposit of mixed fill and demolition material, comprised of silty, medium brown clay mottled with beige degraded rock lenses, with inclusions of rocks, red bricks and yellow firebrick. Lot 1C7 was found only in small depressions on the surface of the bedrock (encountered at 50 cm below grade) as c. 1 to 2 cm of highly compact, mottled orange and grey loamy clay This appears to have been the original subsoil on the island, which had elsewhere throughout the site either been scraped away to the depth of the bedrock or had not been present indicating exposed rock. No artifacts were collected from Trench 1C, although photographs

were taken of some of the partial bricks found in Lot 1C6, one of which was embossed "O.B. [Co.]" (a red brick), and the other impressed "...NA..." (a yellow firebrick; Image 16). The "O.B. Co." mark was registered to the Ottawa Brick Manufacturing Co. Ltd. (later the Ottawa Brick and Terra Cotta Co. Ltd.") incorporated in 1890 and closing in 1958 after government expropriation of their brickyard in Billings Bridge (https://en.wikipedia.org/wiki/Billings_Bridge).

Table 6. Lots assigned to Test Trench 1C.

Lot	Nature	Deposit Type	Colour	Compaction	Inclusions	# Art.
1	Modern surface	Asphalt	Grey	High	-	0
2	Modern surface	Asphalt	Black	High	-	0
3	Levelling fill	Silty sand	Brown/black	Moderate	Gravel	0
4	Gravel bedding	Sandy gravel	Medium brown	Moderate	Gravel	0
5	Demolition layer/ Levelling fill	Silty sand	Black/brown	Moderate	Corroded ferrous material, pebbles, red brick fragments	0
6	Demolition layer/ Levelling fill	Silty clay	Medium brown	Moderate	Fragmented rocks, red bricks, yellow firebricks	0
7	Subsoil	Silty clay	Beige/brown	High	-	0

Trench 1D

Trench 1D was located towards the centre of the study area, 8.0 m north of the former paper mill and 8.2 m west of the entrance gate/fence, and measured 1.0 m (north-south) by 4.0 m (east-west). The soil stratigraphy in Trench 1D (Image 17; Table 7) was similar to that of the other trenches except that it lacked the upper asphalt deposits. Lot 1D1 consisted of c. 5 centimetres of sod mixed with sandy gravel. Below this, Lot 1D2 was the same sandy gravel fill deposit that had been placed elsewhere as bedding for the asphalt parking surface. Found beneath Lot 1D2, Lot 1D3 consisted of a moderately compact, 5 to 10 centimetre thick layer of black-brown, silty sand of medium compaction with some gravel inclusions, as well as occasional pieces of concrete, brick, yellow floor tile and fibrous asbestos wrapping, possibly an occupation deposit with some demolition material. Lot 1D4 consisted of highly compact, mottled orange and grey, loamy clay found directly above bedrock. This was probably the original subsoil and remained up to 10 centimetres thick.

Trench 1D contained a single feature, a rough stone footing joined with concrete. The footing lay in an approximately north-south direction and measured c. 60 centimetres in width (Image 18). The top of the footing was contiguous with the top of Lot 1D3, and it extended into Lot 1D4 below. A single artifact was recovered from Lot 1D3: a colourless, machine made embossed "Coca-Cola" bottle body shard, produced between 1917 and 1958 (Lockhart & Porter 2010; Image 19).

Table 7. Lots assigned to Test Trench 1D.

Lot	Nature	Deposit Type	Colour	Compaction	Inclusions	# Art.
1	Modern surface	Sod	Medium brown	Low	Roots, sand, gravel-	0
2	Gravel bedding	Sandy gravel	Grey/brown	Moderate	Gravel	0
3	Occupation layer/ Demolition layer	Sandy loam	Black/brown	Moderate	Gravel, concrete, asbestos wrapping, brick	1
4	Subsoil	Loamy clay	Orange/brown	High	-	0

Trench 1E

Trench 1E was located towards the northern edge of the study area, 16.4 m north of the former paper mill and 3.2 m west of the entrance gate/fence, and measured 1.0 m (north-south) by 4.0 m (east-west). The soil stratigraphy in Trench 1E (Image 20; see Image 18; Table 8) consisted of a single layer of asphalt (Lot 1E1) atop a 10 to 15 centimetre thick deposit of medium brown, sandy clay gravel of moderate compaction (Lot 1E2). Beneath the gravel, Lot 1E3 was a moderately compact, 5 to 10 centimetre thick, dark brown, silty sand with lenses of degrading mortar or concrete. Below this, Lot 1E4 was similar to Lot 1E3, but with many wood inclusions and without the mortar lenses, more likely and occupation layer or levelling fill than the clearly demolition material above it. Lot 1E4 lay above an occupation layer associated with the use of the area as lumber-piling yard (Lot 1E5). This consisted of a highly compact deposit of medium brown loamy clay with many wood and some rock inclusions. It measured 3 centimetres in thickness at the eastern end of Trench 1E, but became thicker (up to 25 centimetres) in the western half of the trench, where it extended to bedrock (found at 55 cm to 60 cm below grade). The wood content in Lot 1E4 above it suggests that it also was associated with the use of the area as a lumber yard. A c. 10 centimetre thick remnant of the original subsoil (Lot 1E6) remained between Lot 5 and the bedrock in the eastern half of the trench. A total of five artifacts were collected from Trench 1E, all recovered from Lot 1E4 context, including one diagnostic smoking pipe stem. This artifact, found in two pieces, was identified as having been produced by Henderson in Montreal, dating to between 1846 and 1876 (Smith 1986; Image 21). The remaining three artifacts were samples of brick fragments and clinker.

Table 8. Lots assigned to Test Trench 1E.

Lot	Nature	Deposit Type	Colour	Compaction	Inclusions	# Art.
1	Modern surface	Asphalt	Grey	High	-	0
2	Gravel bedding	Sandy gravel	Grey/brown	High	Gravel	0
3	Demolition layer/ Levelling fill	Silty sand	Brown/black	Moderate	Lenses of degraded mortar and concrete	0
4	Occupation layer/ Levelling fill	Silty sand	Brown/black	Moderate	Wood	5
5	Occupation layer	Loamy clay	Medium brown	Moderate	Wood	0
6	Subsoil	Loamy clay	Orange/brown	High	Rocks and pebbles	0

Trench 1F

Trench 1F was located towards the eastern end of the study area, 6.6 m north of the former paper mill and 6.2 m west of the entrance guardhouse, and measured 4.2 m (north-south) by 1.19 m (east-west). The soil stratigraphy in Trench 1F (Image 22; see Image 18; Table 9) consisted of five lots. Lot 1F1 was a 5 centimetre thick layer of asphalt. Below this was a bed of medium brown, sandy clay gravel, approximately 10 centimetres thick (Lot 1F2). Lot 1F3 consisted of an earlier, c. 10 centimetre thick layer of asphalt. This was atop Lot 1F4, a mixed bedding and fill layer (c. 20 centimetres thick) which consisted of medium brown, sandy gravel with occasional large rock fragments. Lot 1F5 existed as vestiges of the original topsoil and/or subsoil in depressions on the surface of the bedrock, up to a thickness of 1 centimetre. No artifacts or features of cultural heritage interest or value were found in this unit, which appeared to have been scraped to bedrock when the original parking surface was installed.

Table 9. Lots assigned to Test Trench 1F.

Lot	Nature	Deposit Type	Colour	Compaction	Inclusions	# Art.
1	Modern surface	Asphalt	Grey	High		0
2	Gravel bedding	Sandy gravel	Grey/brown	High	Gravel	0
3	Modern surface	Asphalt	Black	High		0
4	Gravel bedding	Sandy gravel	Grey/brown	High	Large rock fragments	0
5	Topsoil/Subsoil	Silty clay	Beige/brown	High		0

4.4 Analysis and Conclusions

The sequence of events which resulted in the soil stratigraphy present in the study area can be determined from a review of the development of this part of Chaudière Island over the second half of the nineteenth century and continuing through the twentieth (see Section 3.1 above and also the Stage 1 report - Past Recovery 2014). Of particular value are visual records such as the sequence of nineteenth and twentieth century fire insurance plans and twentieth century aerial photographs. Most of the structures erected within the Phase 1 study area in the nineteenth century, including the Perley & Pattee office and the row of residences and the hotel, later replaced by warehouses for the McKay Milling Co., along the south shoreline, lay within the footprint of the extant paper mill, to the south of the area tested. The area with archaeological potential remained an open lumber piling yard, with perhaps temporary outbuildings and horse tram lines to facilitate the movement of milled wood. The lack of a deep buried topsoil or subsoil in most of the units suggests that the area had very little soil cover prior to the mid-nineteenth century, or perhaps that at least some of the area has been graded to bedrock over the past century.

The use of the area as a lumber piling yard was evident in the concentrated wood fragments encountered in the lower occupation layer found in several of the units, particularly in Trenches 1A, 1B and 1E (Lots 1A5, 1B5, 1E5 and possibly 1E4). This activity lasted through the first decades of the twentieth century until the need for sawn lumber had declined sufficiently to prompt J.R. Booth to concentrate on pulp and paper production instead. Photographs of the yard

taken in 1878 when it was owned by Perley & Pattee (Image 23) and later c. 1900 and in 1907 after it had been purchased by J.R. Booth (Images 24 to 26) show that during this period the study area was entirely covered with wooden planking to ease the movement of carts and wagons laden with lumber. Furthermore, it is apparent from these photographs that clean sand and/or wood chips would have been deposited on top of the wood planking to provide traction and absorb moisture. This material would have needed to have been continuously replenished as a result of erosion or when it became too wet, accounting for the depth and homogeneity of the occupation layer. There was little natural soil in this deposit, which, apart from where sporadic patches of subsoil survived, extended to bedrock, with several in situ boards found resting directly on the surface (particularly in Trenches 1A and 1B).

Though the Booth mills survived the Great Fire of 1900, all of the buildings along the south shore were destroyed, and it is likely that much of the wooden planking in the yard would have been replaced shortly thereafter. The only diagnostic nineteenth century artifact recovered from the study area was the Henderson/Montreal smoking pipe stem (1846 to 1876 - Smith 1986; see Image 21), which was found in a context (Lot 1E4) that may have been levelling fill rather than an occupation surface and therefore is of questionable use as a dating tool. It is thus possible that the preserved planks within Lots 1A5, 1B5 and 1E5 post-date the fire, though no additional artifact evidence was found to confirm this. The lack of development within the study area in the aftermath of the Great Fire is evident on the 1901 fire insurance plan, which only shows the nineteenth century J.R. Booth office and the hose house within the Phase 1 boundary (Map 7).

The 1912 fire insurance plan illustrates a new paper mill (constructed shortly after 1900) along the south shore and a new sawmill/boiler house (constructed in 1907) to the north, with the latter connected via underground tunnels and overhead conveyors with a 155 foot tall, brick-lined waste burner erected just to the south of the present hydro-electric power house (Map 8; see Image 26). Given the shallow soils in this area, the tunnels had been excavated through the bedrock. An iron overhead conveyor running in an east-west direction from the western edge of the island to the cardboard mill to the east of Bridge (Booth) Street had also been erected by 1912, as well as a 150 foot tall, concrete smokestack at the southern end of the underground tunnel where it met the boiler house. The excavation for and construction of these features likely generated some of the scattered debris found in the occupation layer and the levelling fill deposits above it.

Additional changes to the study area over the first half of the twentieth century included the construction of what appears to have been a small concrete and steel motor shed just to the north of the study area in the present entrance drive by 1922, as well as in-filling between the boiler house and the paper mill to the south. A second smokestack had been added to the boiler house by 1925, and the old stone hose house demolished and replaced by a water tower supported by concrete footings. A turbine house had been erected on the north side of the boiler house by 1928. Aerial photographs from 1929 and 1930 best illustrate the locations of all of the above mentioned structures (Images 27 and 28). Again, some of the construction debris in the lower soil deposits may have originated from these changes.

It is clear, however, that most units contained at least one layer containing demolition debris (Lots 1A4, 1B4, 1C5, 1C6, 1D3 and 1E3), likely related to the selective demolition of components of the paper mill in the mid-twentieth century. The brick-lined waste burner had

been removed by 1945, and the ground around it levelled, perhaps resulting in the yellow firebrick fragments found in Lot 1C6. By 1956 the small motor shed had been removed, and by 1965 the earlier smokestack had likewise been demolished. An aerial photograph taken in the latter year appears to indicate that the study area had been paved and was in use as a parking lot for employees (Image 29) - the asphalt and bedding deposits found in all of the units apart from Trench 1D thus all likely date to the second half of the twentieth century. Most of the demolition deposits encountered, being directly below the asphalt and bedding layers, also likely date to the mid-twentieth century, perhaps spread over the area as levelling fill in preparation for the installation of the original parking surface. The area around and including Trench 1F appeared to have been scraped to bedrock during this process, perhaps in conjunction with the expansion of the paper mill in this area, the c. 1907 sawmill next to the boiler house having been replaced by a larger addition, as seen in the 1965 aerial photograph (see Image 29).

The single feature noted during the Stage 2 field survey was the rubble and concrete, c. 60 cm wide footing oriented in a roughly north-south direction within Trench 1D (see Image 18). Based on the presence of an early to mid-twentieth century "Coca-Cola" bottle fragment from the mixed demolition and occupation deposit contiguous with the stone footing, as well as the use of concrete rather than lime and sand mortar as the joining compound, this footing likely dates to the early to mid-twentieth century. As it does not correspond to the locations of any of the buildings shown on the nineteenth or twentieth century fire insurance plans, but was close to the location of an overhead iron conveyor first depicted on the 1912 fire insurance plan and visible in subsequent aerial photographs, it was most likely a support footing for this apparatus (see Images 27 to 29 and Map 8). The asbestos found in Lot 1F3 may have been used as insulation for a pipe along the conveyor; the entire device had been removed by 1976, consistent with the demolition material noted in the trench. Alternatively, the footing may represent a temporary, short-lived mid-twentieth century addition to the northern façade of the extant metal-clad, concrete and brick turbine house just south of the location of Trench 1D. Regardless, given its apparent mid-twentieth century use and demolition date, this feature is not considered to be of sufficient cultural heritage value or interest to warrant further excavation in the form of a Stage 3 site-specific archaeological assessment. This also applies to the other soil strata and artifacts found during the present Stage 2 assessment. Further, none of the archaeological deposits encountered meet criteria established by the Ministry of Tourism, Culture and Sport (MTCS) for registration with the Ontario Archaeological Sites Database.

4.5 Stage 2 Recommendations

On the basis of the results of the Stage 2 property survey discussed above, it is recommended that:

1) The cultural heritage value or interest of the concrete and limestone footing found in Trench 1D has been sufficiently documented with the Stage 2 research conducted to date and for this reason no further archaeological assessment is warranted;

2) As the Stage 2 property survey did not result in the identification of any archaeological sites requiring further assessment or mitigation prior to development, and thus no further archaeological assessment of the current Zibi Chaudière West Phase 1 study area is required;

3) Should planning associated with the proposed Zibi Chaudière West Phase 1 development result in the identification of additional areas beyond the Phase 1 boundary as defined in Maps 2 and 3 to be impacted through soil disturbances or other alterations, further Stage 2 to 4 archaeological assessment may be required. It should be noted that impacts include all aspects of the proposed development, including temporary property needs (i.e. access roads, staging/lay down areas, associated works, etc.);

4) Any future Stage 2 archaeological assessment should be undertaken by a licensed consultant archaeologist, in compliance with *Standards and Guidelines for Consultant Archaeologists* (MTCS 2011).

The reader is also referred to Section 5.0 below to ensure compliance with relevant provincial legislation and regulations that may relate to this project.

5.0 ADVICE ON COMPLIANCE WITH LEGISLATION

In order to ensure compliance with provincial legislation, the reader is advised of the following:

1) This report is submitted to the Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the Ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

2) It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed archaeological fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeological Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

3) Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

4) The *Cemeteries Act*, R.S.O. 1990 c. C.4 and the *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force) require that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Consumer Services.

5) Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological licence.

6.0 LIMITATIONS AND CLOSURE

Past Recovery Archaeological Services Inc. has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the archaeological profession currently practicing under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied, is made.

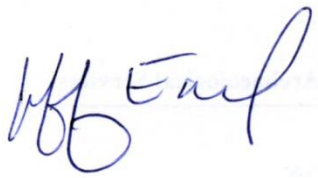
This report has been prepared for the specific site, design objective, developments and purpose prescribed in the client proposal and subsequent agreed upon changes to the contract. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the client in the design of the specific project.

Special risks occur whenever archaeological investigations are applied to identify subsurface conditions and even a comprehensive investigation, sample and testing program may fail to detect all or certain archaeological resources. The sampling strategies in this study comply with those identified in the Ministry of Tourism, Culture and Sport's *Standards and Guidelines for Consultant Archaeologists* (2011).

The documentation related to this archaeological assessment will be curated by Past Recovery Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to an approved and suitable repository can be made to the satisfaction of the project owner(s), the Ontario Ministry of Tourism, Culture and Sport and any other legitimate interest group.

We trust that this report meets your current needs. If you have any questions of if we may be of further assistance, please do not hesitate to contact the undersigned.



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7.0 REFERENCES

Bond, Courtney C.J.
1984 **Where Rivers Meet: An Illustrated History of Ottawa**. Windsor Publications Ltd., Ottawa.

Chapman, L. J. and D. F. Putnam
1984 **The Physiography of Southern Ontario**. 3rd edition. Ontario Geological Survey, Special Volume 2. Ministry of Natural Resources, Toronto.

Clerk, Nathalie and Judith Dufresne
2010 **Seize bâtiments, complexe industriel des Chaudières, Gatineau (secteur Hull), Québec et Ottawa, Ontario.** Reports 09-125 and 09-126, on file, Federal Heritage Building Review Office, Ottawa.

Hough, J.L.
1958 **Geology of the Great Lakes**. University of Illinois Press, Urbana.

MacDonald, G.
1979 **Generalized Bedrock Geology, Ottawa-Hull, Ontario and Quebec**. Geological Survey of Canada Map 1508A. 1:125,000 scale. Geological compilation by G. MacDonald, 1967; modified by J. E. Harrison 1976 based on earlier published material.

Ministry of Tourism, Culture, and Sport (MTCS)
2011 **Standards and Guidelines for Consultant Archaeologists**. Prepared by staff with the Culture Programs Unit, Programs and Services Branch, Culture Division, Ministry of Tourism and Culture, Toronto.

Lockhart, Bill and Bill Porter
2010 *The Dating Game: Tracking the Hobble-Skirt Coca-Cola Bottle.* **Bottles and Extras** 21(5):46-61.

Past Recovery Archaeological Services Inc.
2014 **Stage 1 Archaeological Assessment of Chaudière and Albert Islands, Part Lot 40, Concession A, Ottawa Front, Geographic Township of Nepean, Former County of Carleton, Now in the City of Ottawa, Ontario**. Report on file, Ministry of Tourism, Culture and Sport, Toronto.

Richards, S. H.
1982 **Surficial Geology, Ottawa, Ontario**. Geological Survey of Canada, Map 1506A. 1:50,000 scale.

Rowe, J.S.
1972 **Forest Regions of Canada**. Canadian Forestry Service Publication no. 1300. Information Canada, Publishing Division, Ottawa.

Schut, L. W. and E. A. Wilson
1987 **The Soils of the Regional Municipality of Ottawa-Carleton (excluding the Ottawa Urban Fringe)**. Two Volumes. Ontario Institute of Pedology Report No. 58.

Smith, R.
1986 *Analysis of the Clay Tobacco Pipe Assemblage From the Front Street Site (AjGu-15), Toronto*. **Ontario Archaeology** 46:55-61

Swayze, Ken
2006 **A Stage 1 & 2 Archaeological Assessment of the Proposed Domtar Inc. Hydroelectric Project on Chaudière Island, City of Ottawa**. Report on file, Ministry of Tourism, Culture & Sport, Toronto.
2005 **Stage 1 & 2 Archaeological Assessment of the Broughton Lands, Part of Lot 5, Concession 1, March Township, City of Ottawa**. Report prepared for Novatech Engineering Consultants, Ottawa.

Swayze, Ken and Robert McGhee
2011 *The Heritage Hills Site and Early Postglacial Occupation of the Ottawa Valley*. **Archaeology of Eastern North America** 39:131-152.

Walker, H. and O. Walker
1968 **Carleton Saga**. The Runge Press Limited, Ottawa.

Woodhead, Eileen, Gérard Gusset and Catherine Sullivan
1984 **Lighting Devices in the National Reference Collection, Parks Canada**. National Historic Parks and Sites Branch, Parks Canada, and Environment Canada, Ottawa.

Primary Sources

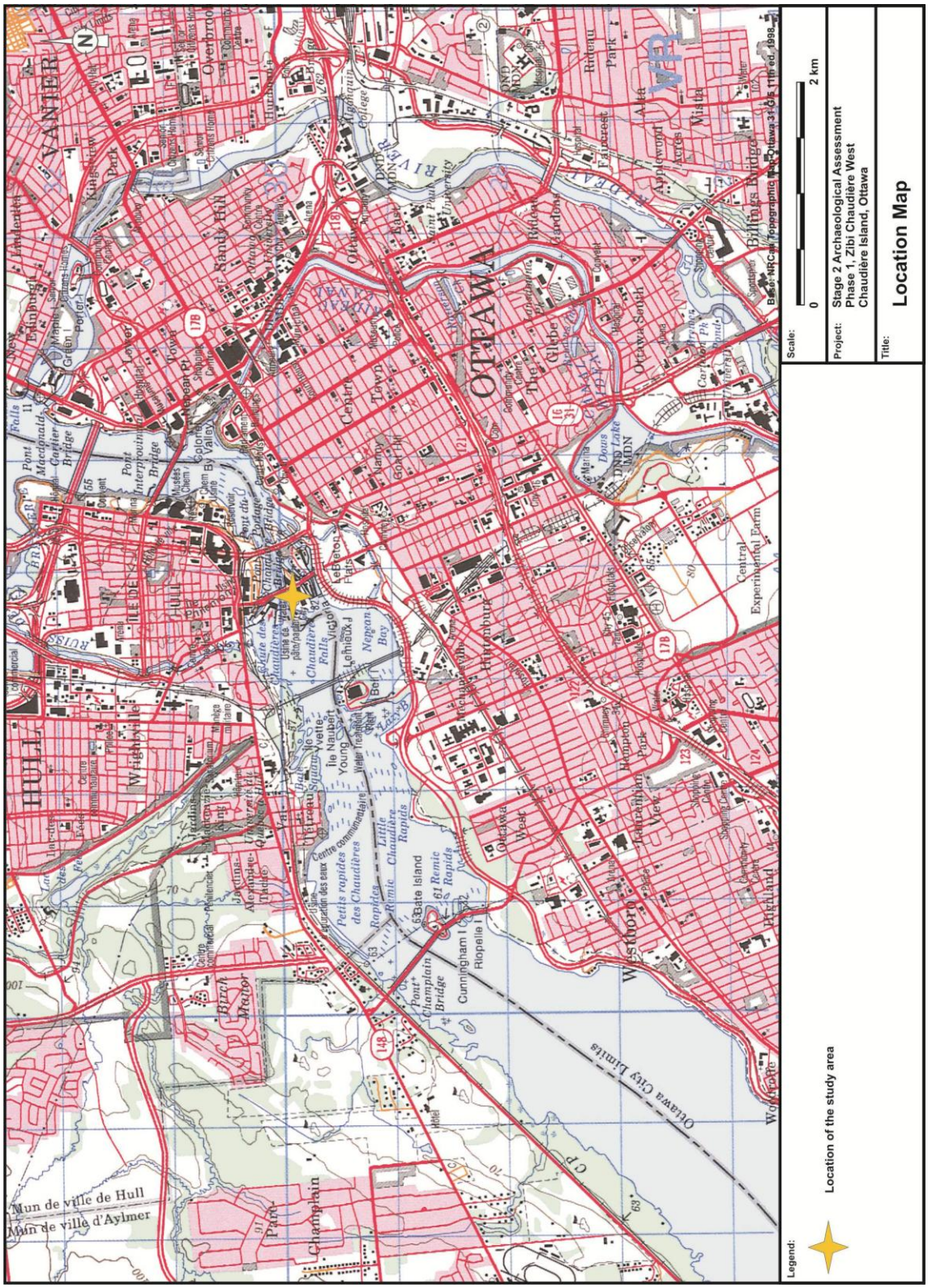
Library and Archives Canada (LAC):

Plans: NMC 13793 – Sheet 103; NMC 9883 – Sheet 103
Photographs: PA-012571; C-003017; PA-008961; PA-008960

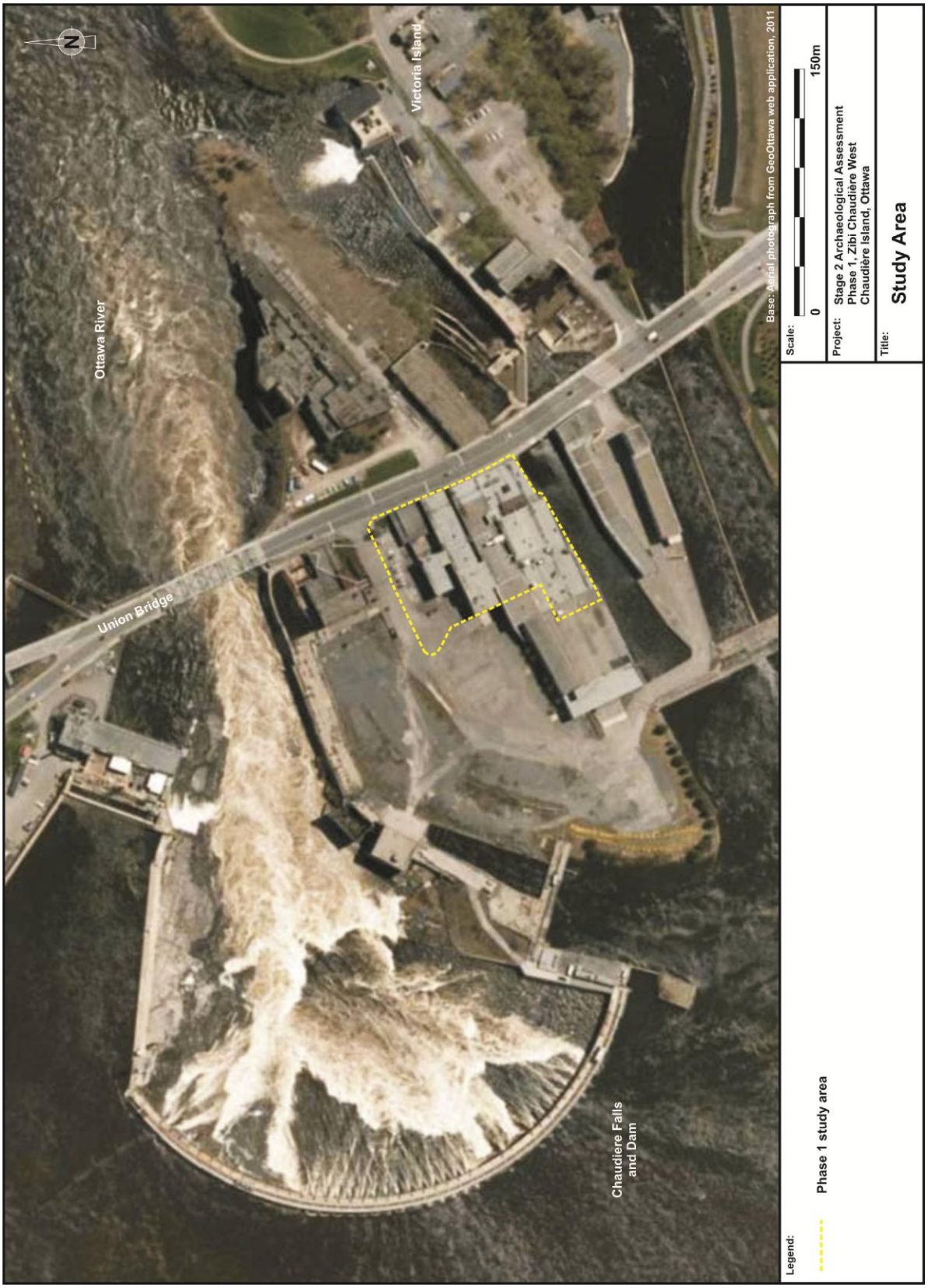
National Air Photo Library (NAPL):

Photographs: A2199-55

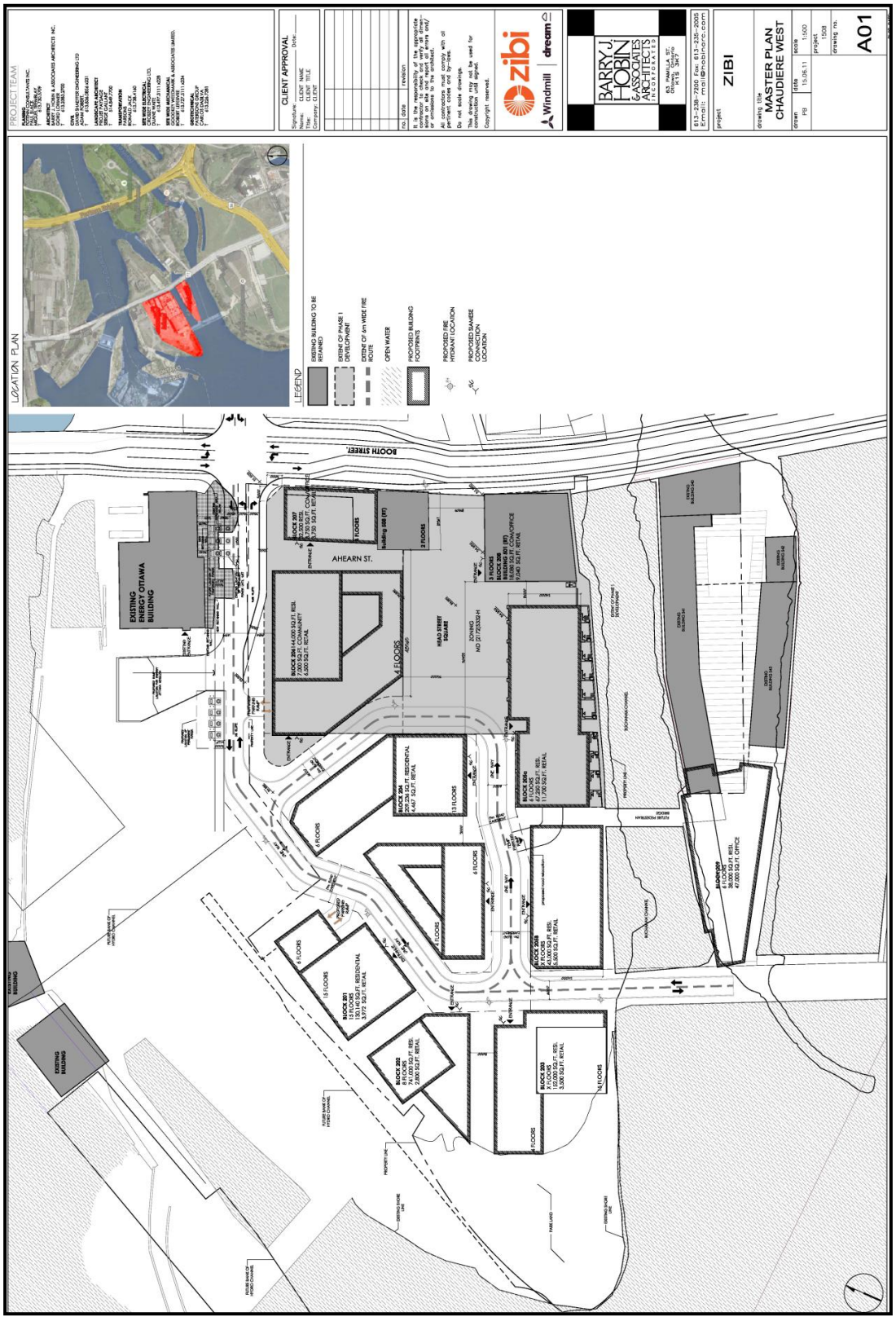
8.0 MAPS



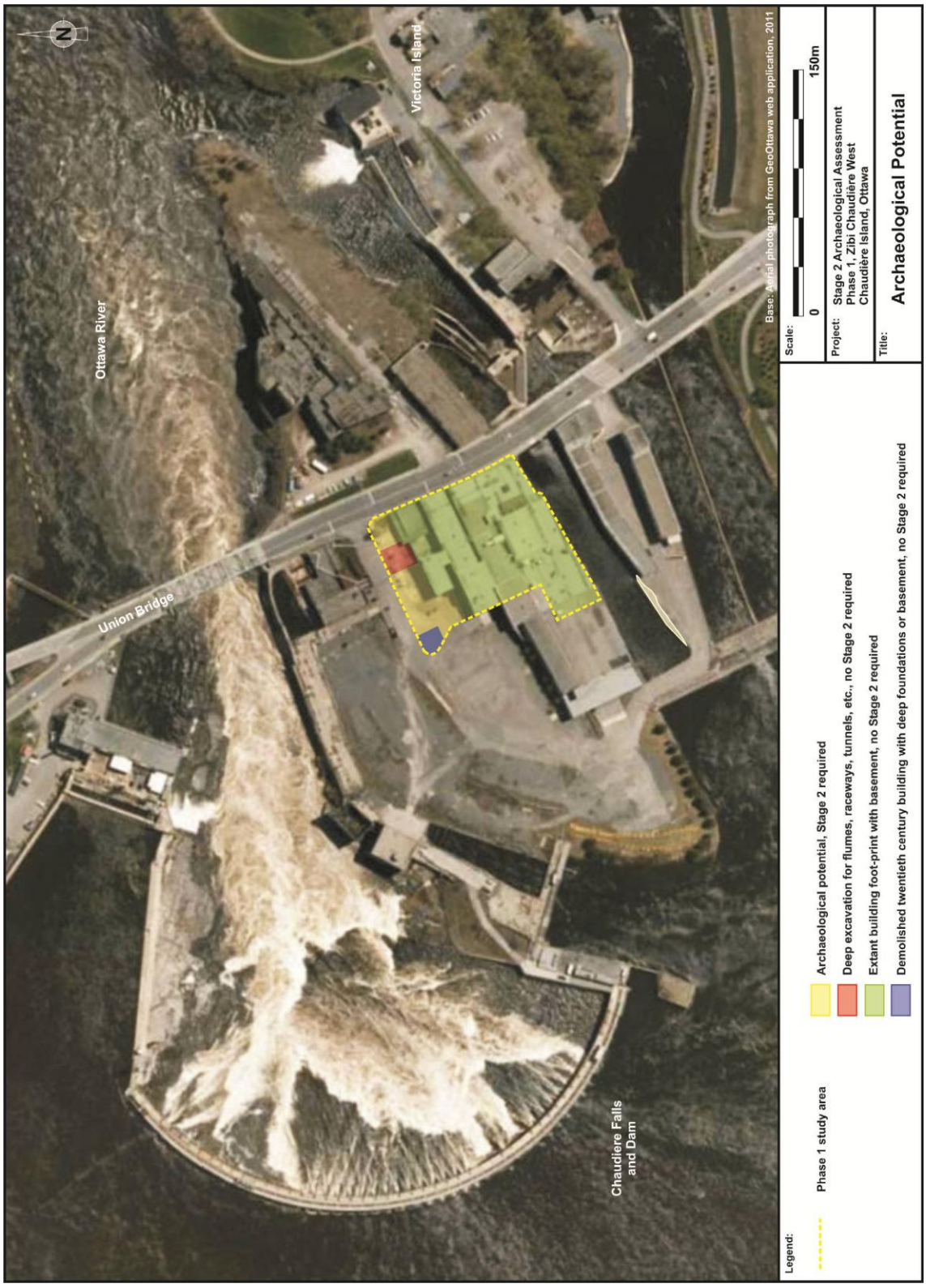
Map 1. Location of the study area.



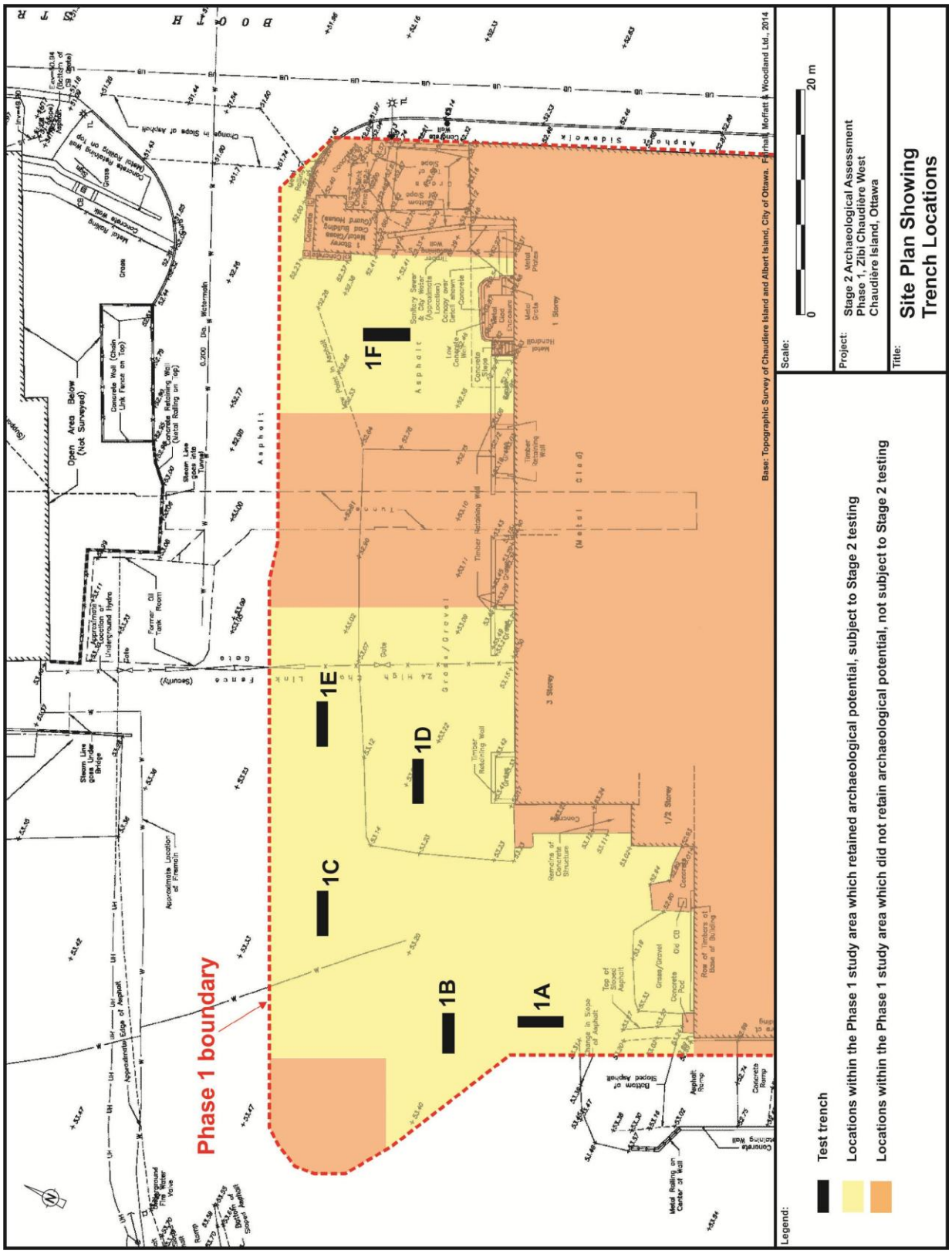
Map 2. Recent aerial photograph depicting the Phase 1 Zibi Chaudière West study area.



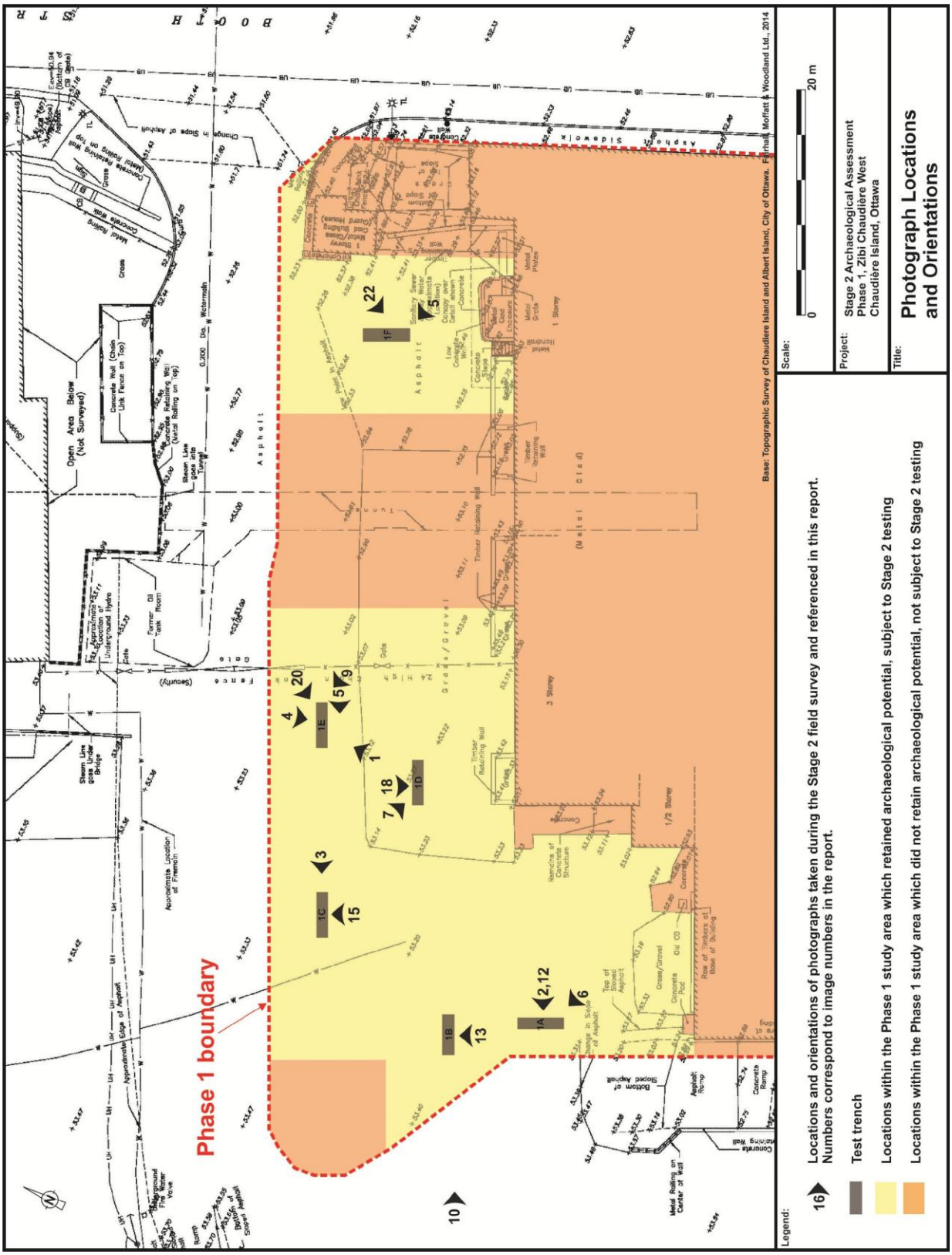
Map 3. Concept plan showing the proposed new structures within Phase 1 of the Zibi Chaudière West development. (Windmill Development Group Ltd.)



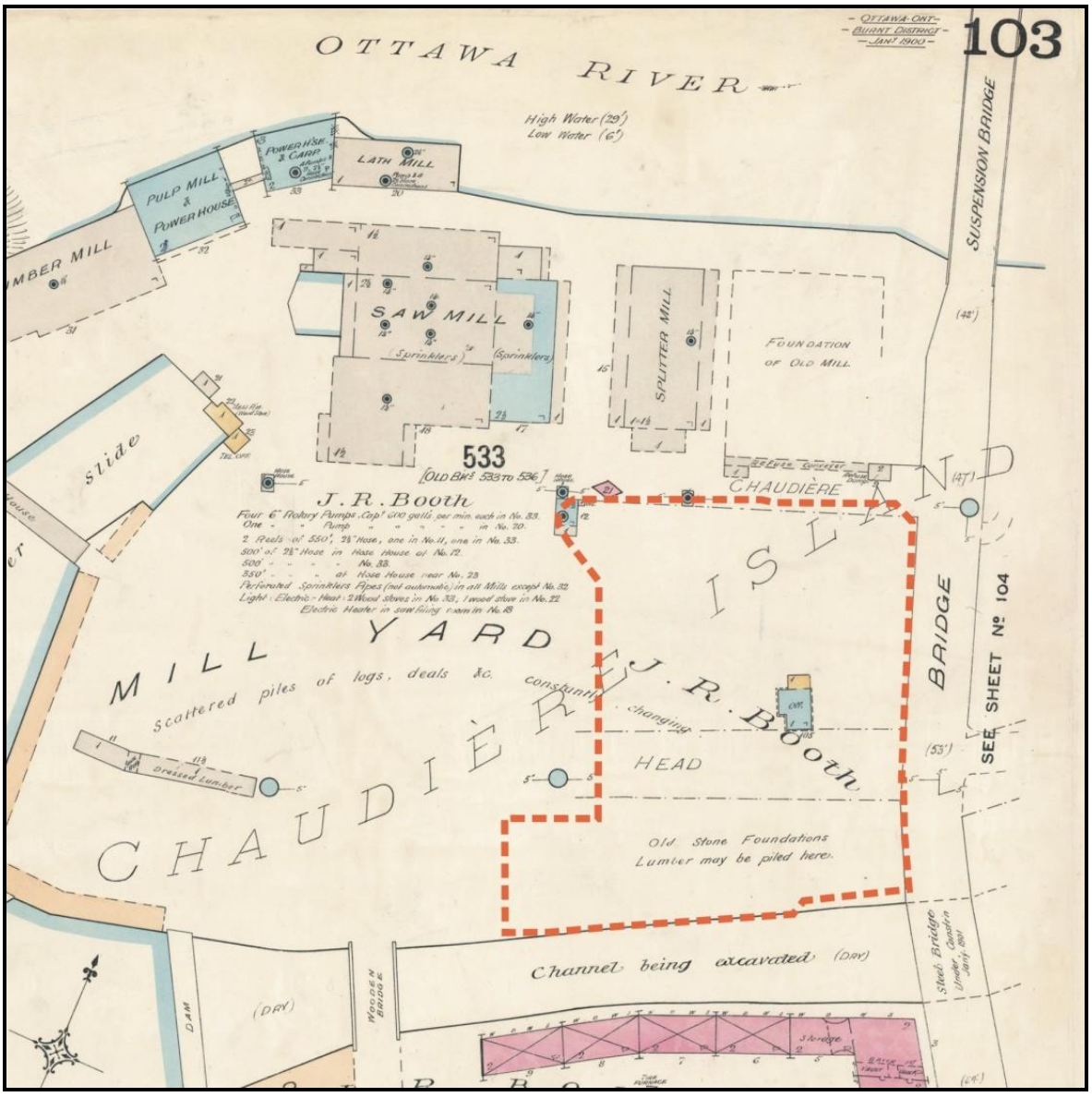
Map 4. Recent aerial photograph with overlays indicating the archaeological potential within the Phase 1 study area. This plan has been modified from the full archaeological potential map in the Stage 1 report.



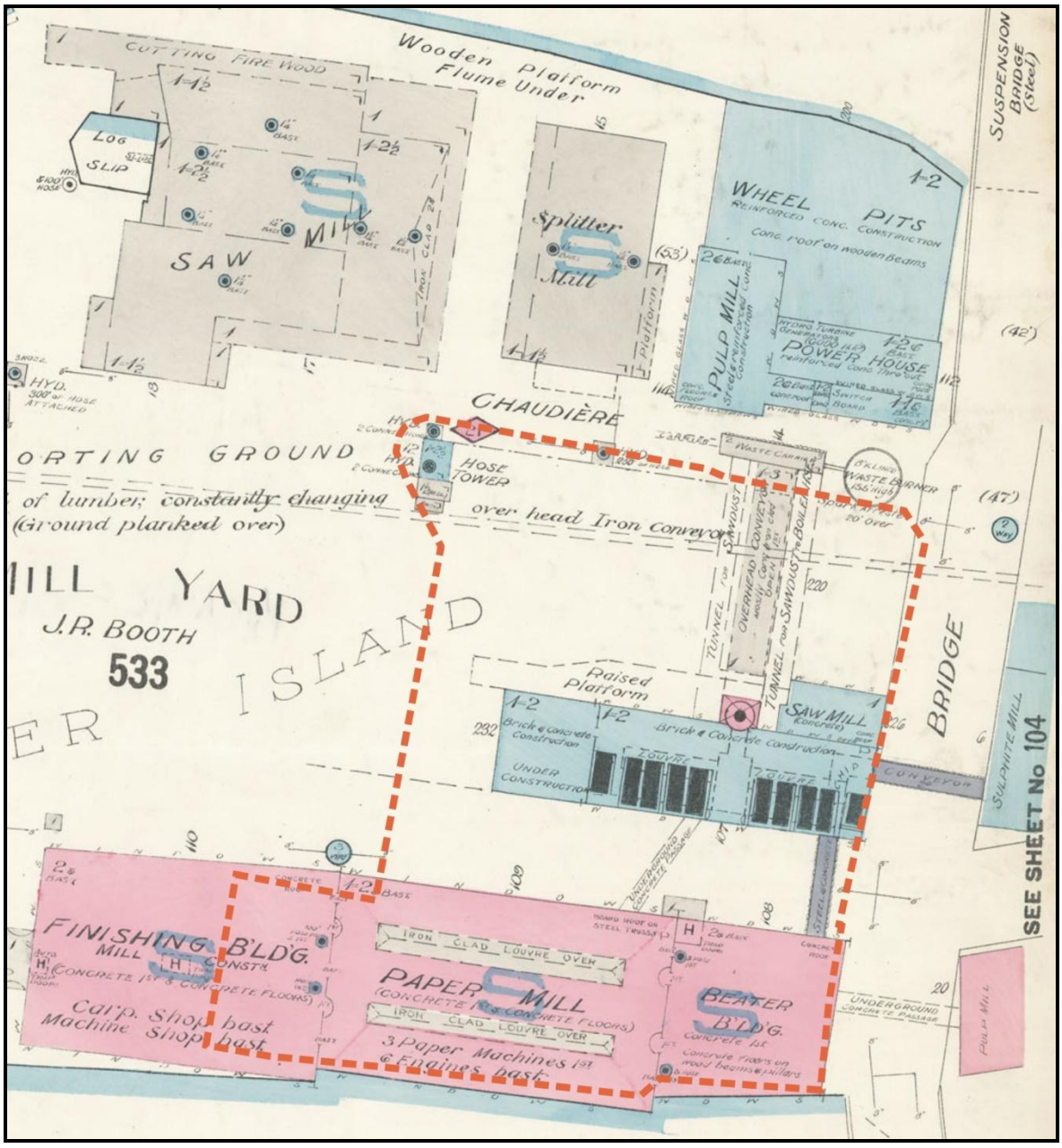
Map 5. Site plan showing test trench locations and Stage 2 field testing methods.



Map 6. Locations and orientations of photographs taken during the Stage 2 field survey and mentioned within the body of this report.



Map 7. Segment of the 1901 fire insurance plan for Ottawa showing reconstruction after the Great Fire of 1900 and the study area (outlined in red). (LAC NMC 13793 – Sheet 103)



Map 8. Segment of the 1912 fire insurance plan of Ottawa showing the study area (outlined in red). (LAC NMC 9883 – Sheet 103)

9.0 IMAGES

Image 1. Staff monitoring the mechanical excavation of Trench 1E, facing northeast. (PR15-24D002)

Image 2. Staff monitoring the mechanical excavation of Trench 1A, facing northwest. (PR15-24D013)

Image 3. Staff monitoring the mechanical excavation of Trench 1C, facing west. (PR15-24D019)

Image 4. Staff manually excavating the occupation layer: Lot 5,Trench 1E, facing southwest. (PR15-24D012)

Image 5. Staff screening the manually-excavated occupation layer: Lot 5, Trench 1E, facing west. (PR15-24D011)

Image 6. Staff screening the manually-excavated occupation layer: Lot 5, Trench 1A, facing northwest. (PR15-24D034)

Image 7. Staff manually excavating Feature 1 in Trench 1D, facing southeast. (PR15-24D026)

Image 8. Staff cleaning the west profile of Trench 1F in advance of recording the profile, facing northwest. (PR15-24D004)

Image 9. Staff recording the south profile of Trench 1E, facing west. (PR15-24D017)

Image 10. View of the field crew recording Trenches 1A and 1B, facing east. (PR15-24D022)

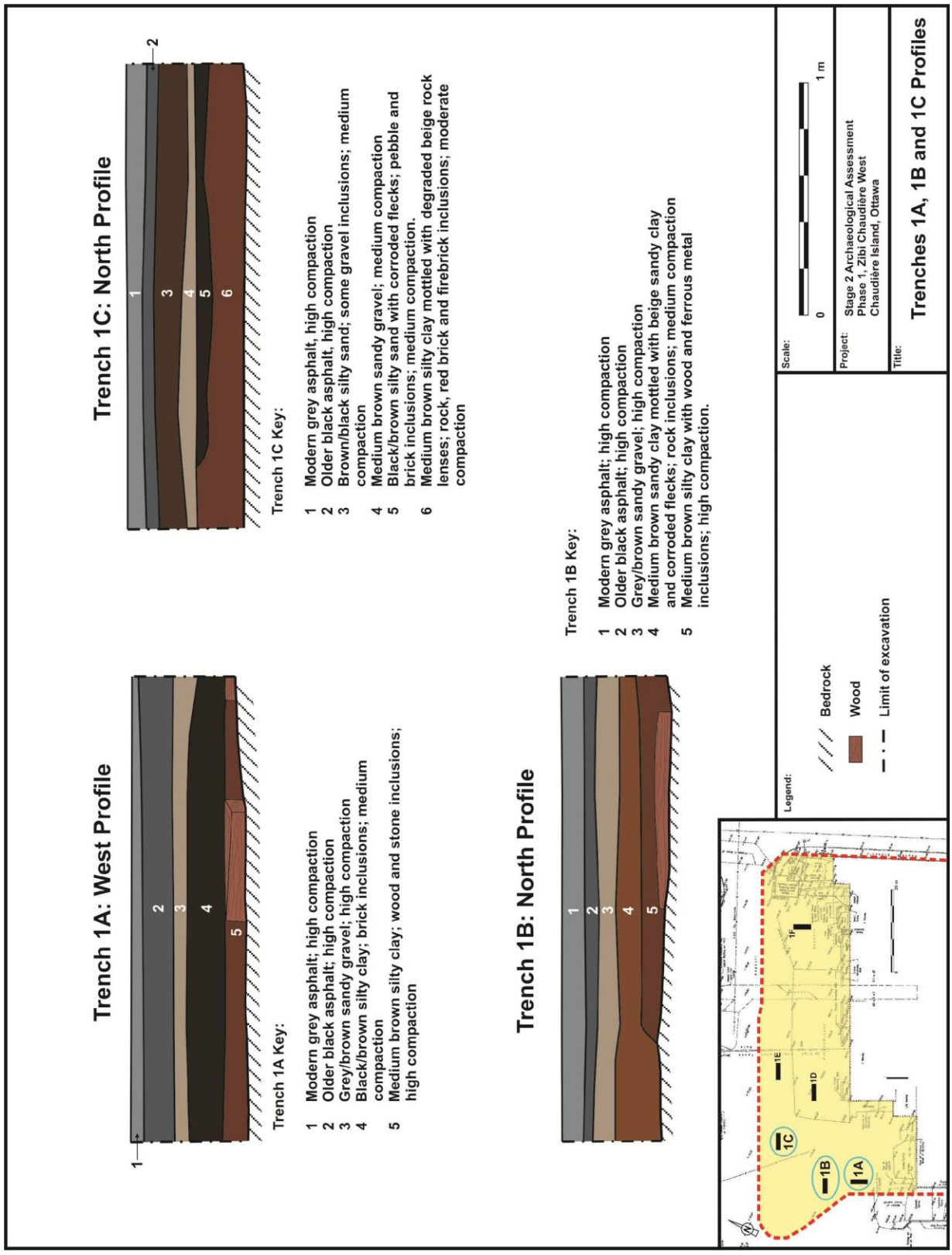


Image 11. Profile drawings of Trenches 1A, 1B and 1C.

Image 12. View of the west profile of Trench 1A, facing west. (PR15-24D033)

Image 13. View of the north profile of Trench 1B, facing north. (PR15-24D020)

Image 14. A representative sample of artifacts collected from Trench 1B.
a: coarse red earthenware brick, 1B4 (#0006); b: graphite carbon rod, 1B4 (#0010)

Image 15. View of the north profile of Trench 1C, facing north. (PR15-24D023)

Image 16. Two samples of brick from within Lot 6, Trench 1C. (PR15-24D027) The brick on the left has the partial mark "O.B.[Co.]" denoting that it had been manufactured by the Ottawa Brick Manufacturing Company (1890 to 1958; https://en.wikipedia.org/wiki/ Billings_Bridge).

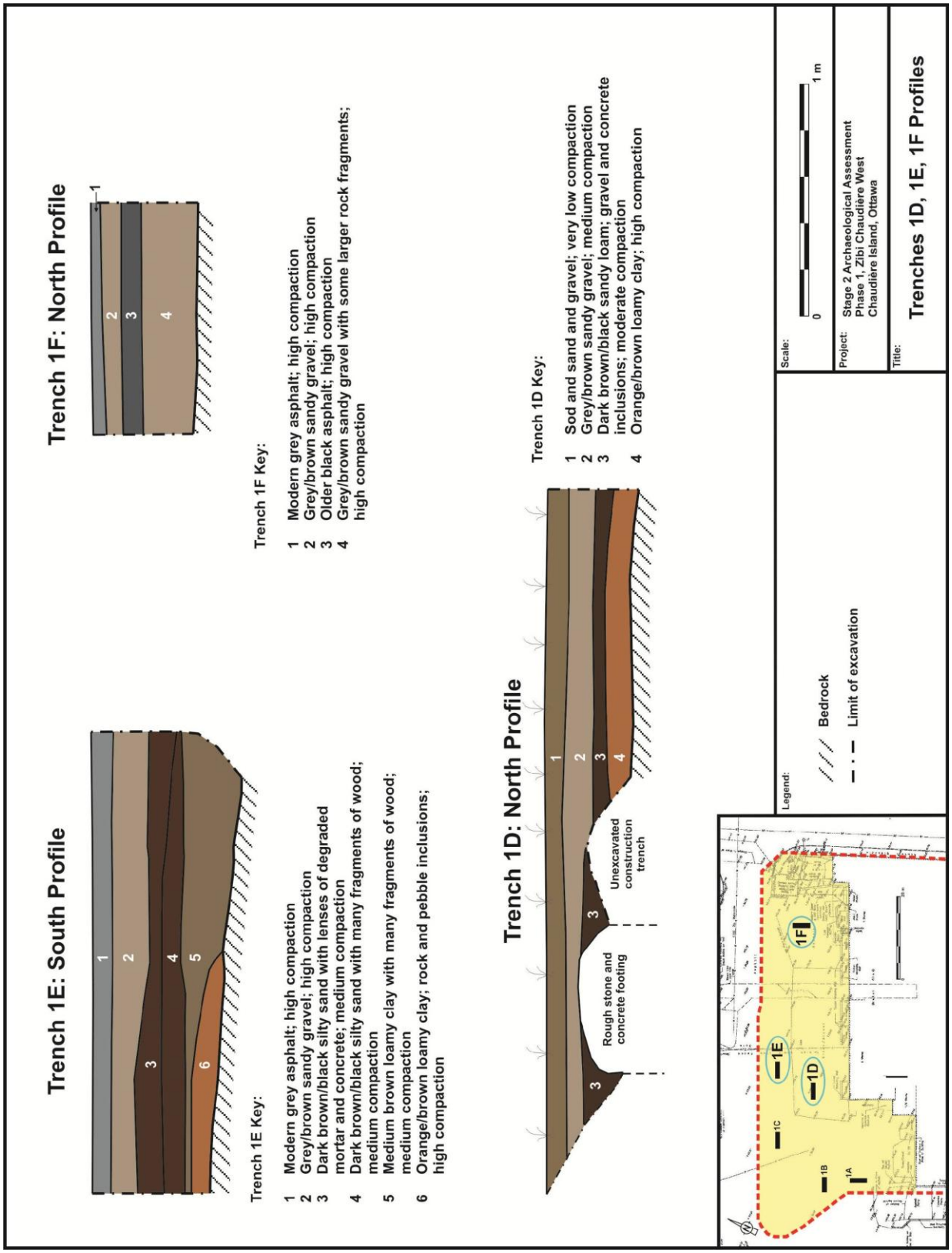


Image 17. Profile drawings of Trenches 1D, 1E and 1F.

Image 18. Plan view of the footing in Trench 1D, with the trowel pointing north. (PR15-24D028)

Image 19. The single artifact collected from Trench 1D.
a: colourless machine made embossed "Coca-Cola bottle", 1D3 (#0004)

Image 20. View of the south profile of Trench 1E, facing southwest. (PR15-24D015)

Image 21. The single diagnostic artifact collected from Trench 1E.
a: white clay smoking pipe stem, 1E4 (#0002)

Image 22. View of the west profile of Trench 1F, facing west. (PR15-24D030)

Image 23. The Perley and Pattee lumber yard on Chaudière Island in 1878. (LAC PA-012571) This early photograph best illustrates the convention of covering the ground with wooden planks within the lumber yard to facilitate the transport of lumber around the site. Horse tram lies are also visible on the right running north-south and in the distance running east-west.

Image 24. The J.R. Booth sawmills and yard at the Chaudière Falls c. 1900, facing northwest. (LAC C-003017) The building in the foreground is the J.R. Booth office, which survived the Great Fire. To the rear of this is the hose house. The hole in the ground (rear right) is where the concrete hydro-electric power station now stands.

Image 25. The J.R. Booth lumber mill and yard on Chaudière Island in 1907, facing north from the new boiler house. (LAC PA-008961) The study area is located to the right, just outside the limits of the photograph, but note the shadows of planking visible through the sand spread overtop.

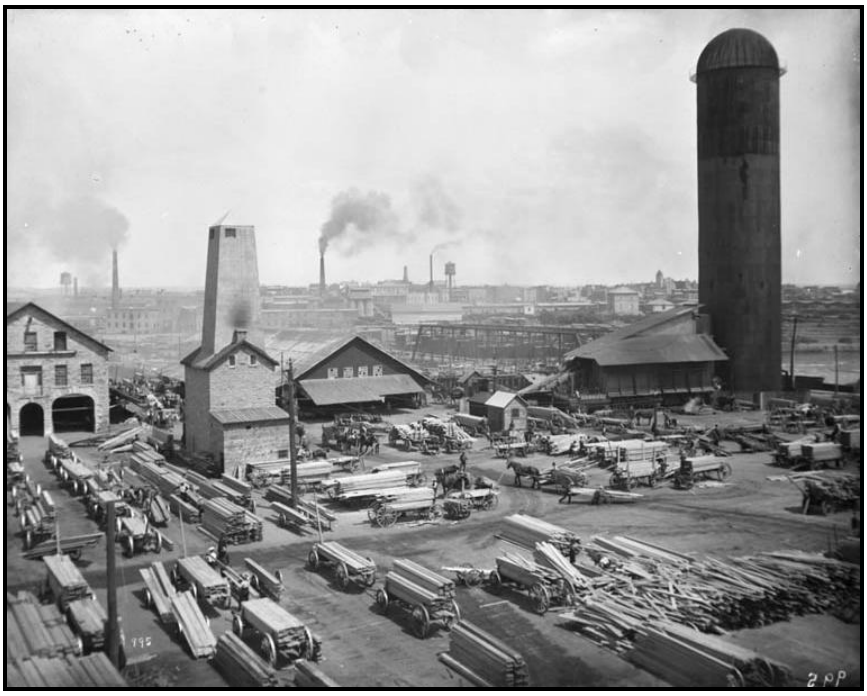


Image 26. The J.R. Booth lumber mill and yard on Chaudière Island in 1907, facing northeast from the new boiler house. (LAC PA-008960) The newly erected, brick-lined waste burner is on the right. The study area is partially shown in the bottom right of the photograph.

Image 27. Oblique aerial photograph showing the study area, 1929. (E.B. Eddy collection; http:// workershistorymuseum.ca/workers-history-behind-toilet-paper)

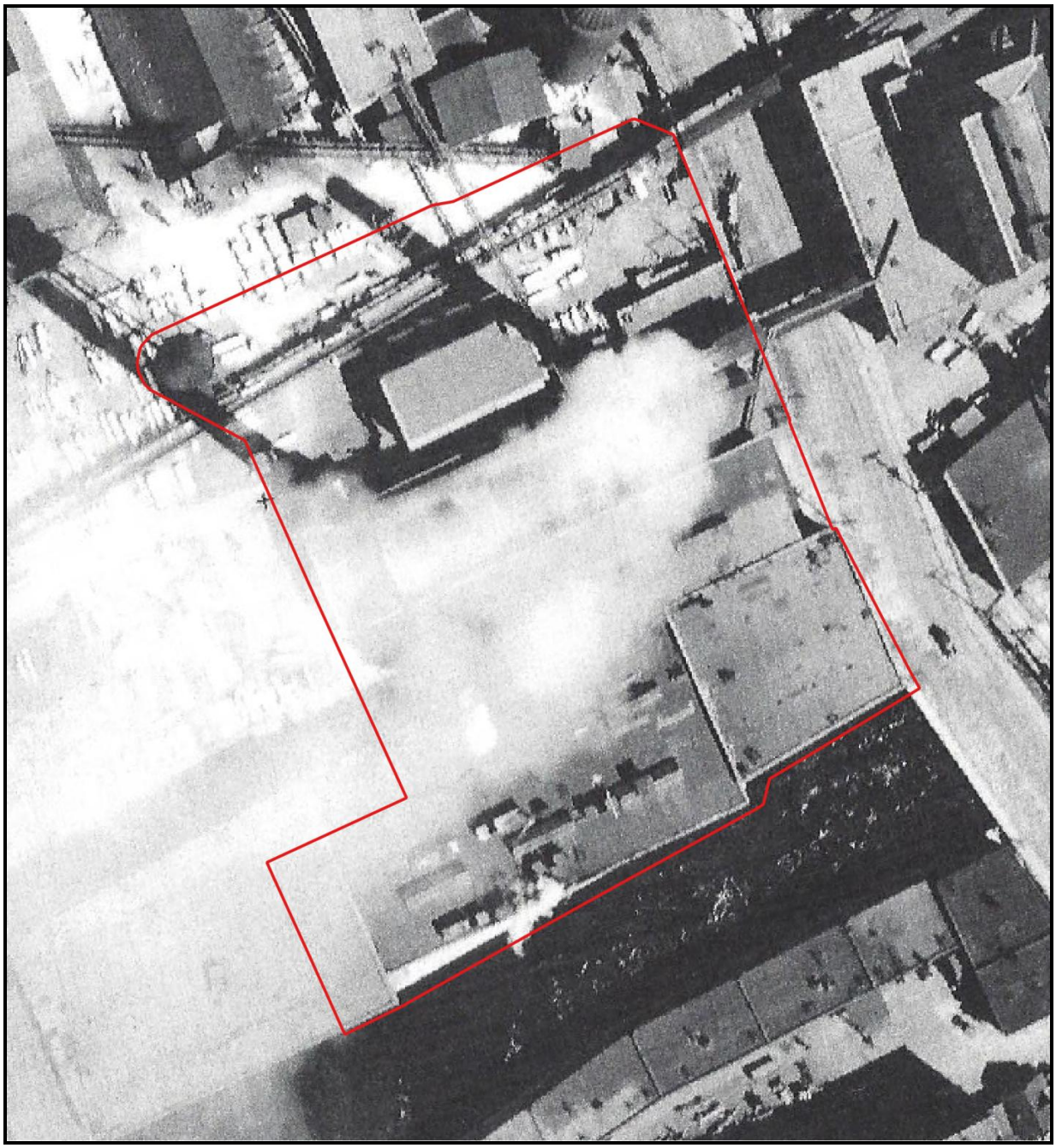


Image 28. Aerial photograph showing the study area (outlined in red), 1930. (NAPL A2199-55)

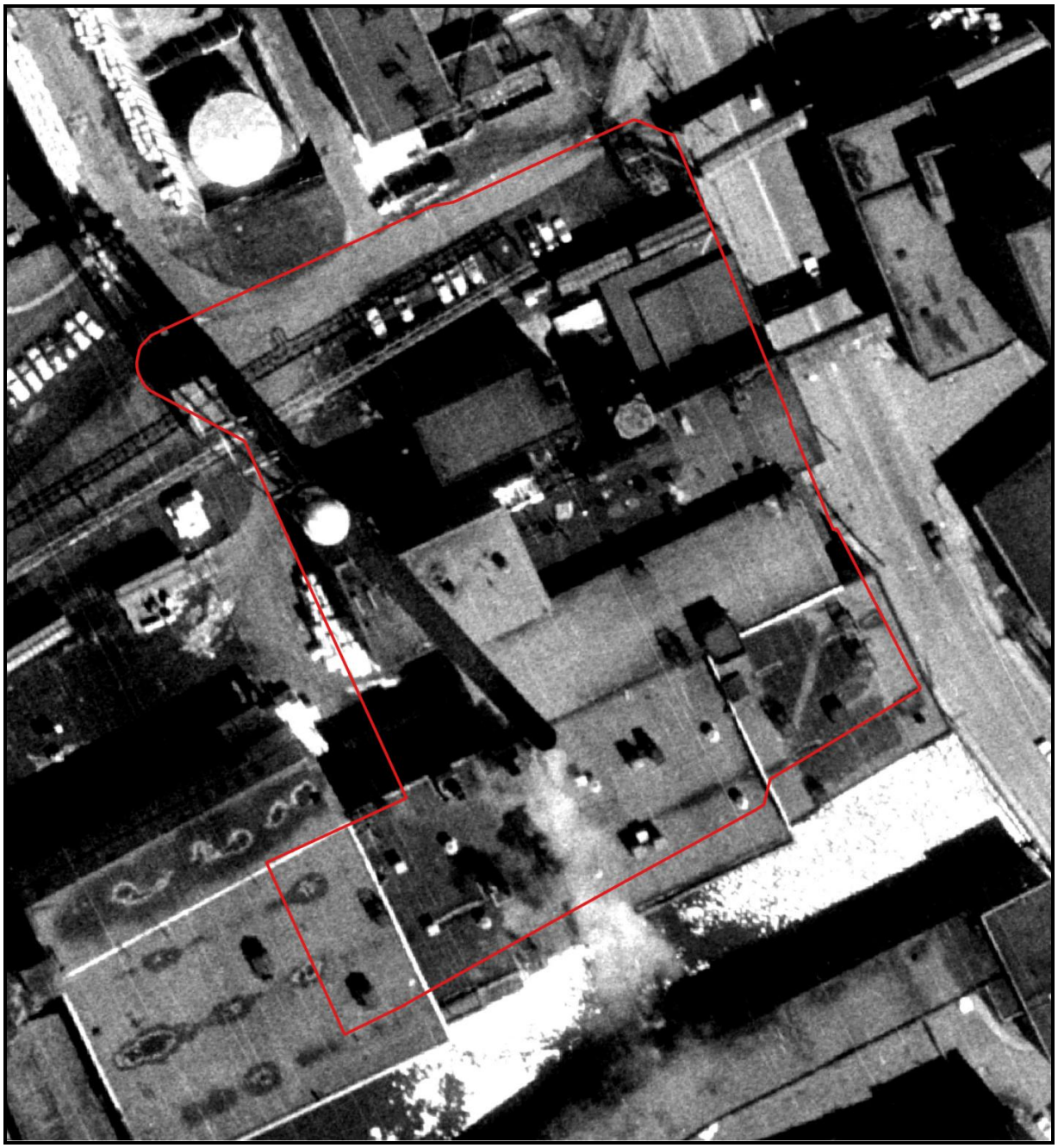


Image 29. Aerial photograph showing the study area (outlined in red), 1965. (City of Ottawa geoOttawa web application)

APPENDIX 1: Photographic Catalogue

Camera: Panasonic Lumix DMC-TS3 – 12.1 Megapixels

Catalogue #	Description	Direction
PR15-24D001	Staff monitoring mechanical excavation of Trench 1F	NE
PR15-24D002	Staff monitoring mechanical excavation of Trench 1E	N
PR15-24D003	Staff monitoring mechanical excavation of Trench 1E	W
PR15-24D004	Staff cleaning west profile of Trench 1F in advance of recording	NW
PR15-24D005	View of west profile of Trench 1F	SW
PR15-24D006	Staff monitoring mechanical excavation of Trench 1E	NW
PR15-24D007	Staff examining lot changes during mechanical excavation of Trench 1E	W
PR15-24D008	View of wood planking in the occupation layer: Lot 5, Trench 1E	N
PR15-24D009	Isometric view of Trench 1B with wood planking exposed	NE
PR15-24D010	Staff examining lot changes in Trench 1E	W
PR15-24D011	Staff screening manually-excavated occupation layer: Lot 5, Trench 1E	W
PR15-24D012	Staff manually excavating the occupation layer: Lot 5,Trench 1E	SW
PR15-24D013	Staff monitoring mechanical excavation of Trench 1A	NW
PR15-24D014	Staff monitoring mechanical excavation of Trench 1A	NE
PR15-24D015	View of south profile of Trench 1E	SW
PR15-24D016	View of south profile of Trench 1E	S
PR15-24D017	Staff recording the south profile of Trench 1E	W
PR15-24D018	Staff monitoring mechanical excavation of Trench 1C	N
PR15-24D019	Staff monitoring mechanical excavation of Trench 1C	W
PR15-24D020	View of north profile of Trench 1B	N
PR15-24D021	View of north profile of Trench 1B	NE
PR15-24D022	View of the field crew recording Trenches 1A and 1B	E
PR15-24D023	View of north profile of Trench 1C	N
PR15-24D024	Isometric view of Trench 1C	NE
PR15-24D025	View of north profile of Trench 1C	N
PR15-24D026	Staff manually excavating Feature 1 in Trench 1D	SE
PR15-24D027	Two samples of brick from within Lot 6, Trench 1C	
PR15-24D028	Plan view of Feature 1 in Trench 1D	
PR15-24D029	View of Feature 1 in Trench 1D	E
PR15-24D030	View of west Profile of Trench 1F	SW
PR15-24D031	Staff monitoring mechanical excavation of Trench 1F	NW
PR15-24D032	Staff monitoring mechanical excavation of Trench 1F	NE
PR15-24D033	View of west profile of Trench 1A	W
PR15-24D034	Staff screening manually-excavated occupation layer: Lot 5, Trench 1A	NW

APPENDIX 2: Artifact Inventory

Inv.	Unit	Lot	Q	Material	Class	Group	Object	Datable Attribute	Ware	Alt.	Mark	Comments
0001	1E	4	2	Brick	Architectural	Construction Material	Construction Block	Coarse Red Earthenware	CEW			small fragments, sample
0002	1E	4	2	Ceramic	Smoking	Smoking Pipes	White Clay Pipe, Marked Stem	Henderson, Montreal			partial, [...DERSON, MONTR...]	1 pipe stem, pieces fit together (1846-1876)
0003	1E	4	1	Clinker	Fuel	Unidentifiable	Unidentifiable	Unidentifiable				small sample
0004	1D	3	1	Glass	Foodways	Glass Beverage Containers	Pop Bottle	Machine Made			partial, [TRADE..., MIN.CON...]	colourless body sherd from Coke bottle, embossed vertical fluting (1917-1958)
0005	1A	4	1	Coal	Fuel	Cooking/ Heating	Sample	Unidentifiable				small sample of unburnt coal
0006	1A	4	1	Brick	Architectural	Construction Material	Construction Block	Coarse Red Earthenware	CEW			small fragment, sample
0007	1A	4	5	Clinker	Fuel	Unidentifiable	Unidentifiable	Unidentifiable				small pieces sample
0008	1A	4	1	Glass	Unassigned	Miscellaneous Material	Unid. Bottle/Cont. Glass	Machine Made				small sherd, colourless, curved
0009	1A	4	2	Glass	Furnishings	Lighting Devices	Unidentifiable	Milk Glass				opaque white very small sherds
0010	1B	4	1	Graphite	Furnishings	Lighting Device	Carbon Rod	Unidentifiable				segment (1877-1950)
0011	1B	4	4	Clinker	Fuel	Unidentifiable	Unidentifiable	Unidentifiable				3 small, 1 large sample
0012	1B	4	6	Brick	Architectural	Construction Material	Construction Block	Coarse Red Earthenware	CEW			small fragments, black staining
0013	1B	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	Unidentifiable				pig rib fragment
0014	1B	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	Unidentifiable				small indeterminate fragment
0015	1B	4	1	Glass	Architectural	Window Glass	Pane Glass	Unidentifiable				colourless, flat, 3mm thick

Legend:

Alt. Alteration
Inv. Inventory Number
Q Quantity
Unid. Unidentifiable
CEW Coarse earthenware

APPENDIX 3: Glossary of Archaeological Terms

Archaeology:
The study of human past by excavation of cultural material.

Archaeological Sites:
The physical remains of any building, structure, cultural feature, object, human event or activity which, because of the passage of time, are on or below the surface of the land or water.

Archaic:
A term used by archaeologists to designate a distinctive cultural period dating between 8000 and 1000 B.C. in eastern North America. The period is divided into Early (8000 to 6000 B.C.), Middle (6000 to 2500 B.C.) and Late (2500 to 1000 B.C.). It is characterized by hunting, gathering and fishing.

Artifact:
An object manufactured, modified or used by humans.

B.P.:
Before Present. Often used for archaeological dates instead of B.C. or A.D. Present is taken to be 1951, the date from which radiocarbon assays are calculated.

Backdirt:
The soil excavated from an archaeological site. It is usually removed by shovel or trowel and then screened to ensure maximum recovery of artifacts.

Chert:
A type of silica rich stone often used for making chipped stone tools. A number of chert sources are known from southern Ontario. These sources include outcrops and nodules.

Contact Period:
The period of initial contact between Native and European populations. In Ontario, this generally corresponds to the seventeenth and eighteen centuries depending on the specific area.

Cultural Resource / Heritage Resource:
Any resource (archaeological, historical, architectural, artifactual, archival) that pertains to the development of our cultural past.

Cultural Heritage Landscapes:
Cultural heritage landscapes are groups of features made by people. The arrangement of features illustrate noteworthy relationships between people and their surrounding environment. They can provide information necessary to preserve, interpret or reinforce the understanding of important historical settings and changes to past patterns of land use. Cultural landscapes include neighbourhoods, townscapes and farmscapes.

Diagnostic:
An artifact, decorative technique or feature that is distinctive of a particular culture or time period.

Disturbed:
In an archaeological context, this term is used when the cultural deposit of a certain time period has been intruded upon by a later occupation.

Excavation:
The uncovering or extraction of cultural remains by digging.

Feature:
This term is used to designate modifications to the physical environment by human activity. Archaeological features include the remains of buildings or walls, storage pits, hearths, post moulds and artifact concentrations.

Flake:
A thin piece of stone (usually chert, chalcedony, etc.) detached during the manufacture of a chipped stone tool. A flake can also be modified into another artifact form such as a scraper.

Fluted:
A lanceolate shaped projectile point with a central channel extending from the base approximately one third of the way up the blade. One of the most diagnostic Palaeo-Indian artifacts.

Lithic:
Stone. Lithic artifacts would include projectile points, scrapers, ground stone adzes, gun flints, etc.

Lot:
The smallest provenience designation used to locate an artifact or feature.

Midden:
An archaeological term for a garbage dump.

Mitigation:
To reduce the severity of development impact on an archaeological or other heritage resource through preservation or excavation. The process for minimizing the adverse impacts of an undertaking on identified cultural heritage resources within an affected area of a development project.

Multicomponent:
An archaeological site which has seen repeated occupation over a period of time. Ideally, each occupation layer is separated by a sterile soil deposit that accumulated during a period when the site was not occupied. In other cases, later occupations will be directly on top of earlier ones or will even intrude upon them.

Operation:
The primary division of an archaeological site serving as part of the provenience system. The operation usually represents a culturally or geographically significant unit within the site area.

Paleo-Indian:
The earliest human occupation of Ontario designated by archaeologists. The period dates between 9000 and 8000 B.C. and is characterized by small mobile groups of hunter-gatherers.

Profile:
The profile is the soil stratigraphy that shows up in the cross-section of an archaeological excavation. Profiles are important in understanding the relationship between different occupations of a site.

Projectile Point:
A point used to tip a projectile such as an arrow, spear or harpoon. Projectile points may be made of stone (either chipped or ground), bone, ivory, antler or metal.

Provenience:
Place of origin. In archaeology this refers to the location where an artifact or feature was found. This may be a general location or a very specific horizontal and vertical point.

Salvage:
To rescue an archaeological site or heritage resource from development impact through excavation or recording.

Stratigraphy:
The sequence of layers in an archaeological site. The stratigraphy usually includes natural soil deposits and cultural deposits.

Sub-operation:
A division of an operation unit in the provenience system.

Survey:
To examine the extent and nature of a potential site area. Survey may include surface examination of ploughed or eroded areas and sub-surface testing.

Test Pit:
A small pit, usually excavated by hand, used to determine the stratigraphy and presence of cultural material. Test pits are often used to survey a property and are usually spaced on a grid system.

Woodland:
The most recent major division in the pre-Contact cultural sequence of Ontario. The Woodland period dates from 1000 B.C. to A.D. 1550. The period is characterized by the introduction of ceramics and the beginning of agriculture in southern Ontario. The period is further divided into Early (1000 B.C. to A.D. 0), Middle (A.D. 0 to A.D. 900) and Late (A.D. 900 to A.D.1550).