

The Calgary Airport Authority

Parallel Runway Project

Volume V – Item 11

Cultural Resources Baseline Report

Report

The Calgary Airport Authority

**Parallel Runway Project
Volume V – Item 11
Cultural Resources Baseline Report**

Prepared by:

AECOM

2540 Kensington Road NW

Calgary, AB, Canada T2N 3S3

www.aecom.com

403 270 9200 tel

403 270 0399 fax

Project Number:

60114017

Date:

June 2010

March 16, 2010

Project Number: 60114017

Peter Rudolf
Director Airfield Development
Calgary Airport Authority
2000 Airport Road N.E.
Calgary, AB
T2E 6WS

Dear Peter:

**Re: Baseline Study – Cultural Resources
Comprehensive Study Environmental Assessment
Parallel Runway Project 16L-34R - Runway Development Program**

This report presents the results of the baseline study for Cultural Resources conducted by AECOM Canada Ltd. for the Parallel Runway Project 16L-34R and connecting taxiways to be constructed at the Calgary International Airport in Alberta.

The report is part of the Comprehensive Study – Environmental Assessment and forms part of Volume V of that study.

If you have any questions concerning this report, please contact the undersigned at (403) 717-3498.

Sincerely,
AECOM Canada Ltd.



Barry Hawkins Project Manager
barry.hawkins@rwy-yyc.com

TJ:
Encl.
cc: File

Acronyms

Abbreviation	Full text
the Authority	The Calgary Airport Authority
CEA	Cumulative Effects Assessment
CS	Comprehensive Study
EA	Environmental Assessment
FMA	Fedirchuk McCullough & Associates Ltd
HRIA	Historical Resources Impact Assessment
PRP	Parallel Runway Project
YYC	Calgary International Airport

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Appendix C	Fedirchuk McCullough & Associates Ltd. 2006. Paleontological Overview Functional Planning Study

1. Introduction

This Baseline Report forms part of a Comprehensive Study (CS) of the proposed Parallel Runway Project (PRP) at Calgary International Airport (YYC). The CS is being prepared as part of an environmental assessment (EA) and approval process established by the Calgary Airport Authority (the Authority). The process shadows the EA process under the *Canadian Environmental Assessment Act* (CEAA).

The PRP consists of the following components:

- A 4267 m x 60 m runway (14,000 ft x 200 ft)
- Associated taxiways
- A perimeter road with security fencing
- Grading of workspace to the east of the proposed runway
- Visual navigation aids
- Electronic navigation aids
- A maintenance building
- A field electric centre
- Changes to airside/groundside roads necessitated by construction of the runway
- Closure of Barlow Trail between 48 Avenue and Airport Road
- A taxiway underpass (designated Taxiway J Underpass) servicing the airport's cargo area for airport service vehicles to pass under one of the taxiways
- Utility services to the runway including some changes to the airfield storm drainage system
- A taxiway underpass (designated Taxiway F Underpass)

Further details regarding the process and project can be found in Volume II, Chapter 5 of the CS.

As part of the CS, a series of baseline studies have been undertaken to describe the biophysical, socio-economic and cultural resource baseline conditions. In total, 13 baseline studies have been undertaken:

- Soils and Terrain
- Vegetation
- Surface Water and Aquatics Resources
- Wildlife and Wildlife Habitat
- Groundwater
- Transportation
- Land Use
- Noise
- Climate and Greenhouse Gases
- Air Quality
- Cultural Resources
- Socio-economics
- Human Health

During the CS the results of each of the baseline studies were documented in stand-alone technical reports such as this one. In each case, a draft was prepared and made available for public, stakeholder and government agency comment. The final baseline conditions will be summarized in each individual assessment chapter (Volume III), with each of the stand-alone technical reports becoming an appendix to the CS.

2. Summary

In 2001, the Authority commissioned Fedirchuk McCullough & Associates Ltd. (FMA) to conduct a Historical Resources Impact Assessment (HRIA) and Cumulative Effects Assessment (CEA) of YYC lands under the guidelines established under the *Alberta Historical Resources Act* (1980). The report is attached as Appendix A. FMA found that YYC property holds few archaeological sites and that those that were present were not unique historical resources in a regional context. Only a small proportion of the types of sites commonly found were represented. The report found that YYC sites have, for the most part, already been removed or significantly disturbed, or are of low interpretive potential. The report recommended mitigation measures for two of the sites. In 2006, these mitigation measures were implemented by FMA under the Authority's direction.

3. Regulatory Frameworks

3.1 Federal

3.1.1 Canadian Environmental Assessment Act (CEAA)

The PRP is to be built on lands leased from Transport Canada by the Calgary Airport Authority (the Authority). Normally this would mean that the PRP would be subject to environmental assessment under CEAA. However, currently CEAA does not apply to airport authorities, although it may do so in the near future. The Authority has elected to subject the PRP to a Comprehensive Study level environmental assessment by means of a process that shadows that which would normally be followed under CEAA. Further detail is provided in Volume II Chapter 5 of the CS.

3.2 Provincial

As stated above, the Project is situated on federal land so Canadian rather than Alberta legislation applies. It is important to note that where Canadian regulations do not deal specifically with a topic (e.g. soil handling) normal Federal regulatory practice is to require that operators comply with the equivalent provincial regulation. Federal Alberta legislation does apply to effects of the project that are felt beyond the boundaries of the airport lands.

In addition, the Canada-Alberta Agreement on Harmonization of Environmental Assessment provides for involvement of both governments in environmental assessments of projects in Alberta regardless of the prime jurisdiction. Several Alberta Government Departments have informed the Canadian Environmental Assessment Agency of their desire to be kept informed about the PRP.

4. Methodology

The study area was examined through pedestrian traverse and intensive visual surface examination, supplemented by shovel testing in areas of limited visibility or high archaeological potential. The level of disturbance in the LSA was found to be quite high. Much of the area had been disturbed by many years of cultivation or of housing and airport construction. A total of 87 shovel tests were used to examine subsurface deposits within the study area.

5. Results

5.1 Record Review

A record review was conducted for the Authority. The review indicated that one site previously recorded in 1969 was located within the airport boundaries. It consisted of two stone cairns and one possible tipi ring, with an unknown cultural affiliation and no observed artifacts. In 2000, no site evidence remained when an environmental assessment was conducted on the area. Further record review showed that the site had been used for agricultural purposes and was under lease for 20 years prior to 2000. The loss of this site prompted the Authority to undertake an HRIA for the entire airport property.

5.2 Archaeological Sites

5.2.1 Ground Reconnaissance

Ground reconnaissance resulted in the discovery of one pre-contact and three historical archaeological sites. The sites were classified on the basis of primary physical attributes and/or predicted primary function. Alberta Archaeological Site Inventory Data Forms have been completed for each site, with sketch plans illustrating the position of the sites relative to the development zone.

The pre-contact archaeological site (EgPI-13) was an isolated artifact site consisting of one secondary flake of silicified siltstone on the edge of a small, dry, ephemeral drainage. The site was determined to have limited interpretive potential and no further work was required.

The first of the historic archaeological sites (EgPI-12) consisted of an old sandstone foundation and possible remains of a wooden structure, as well as an associated ceramic and glass scatter. The site was determined to have moderate interpretive potential, and further mitigation was recommended prior to development of the area. Mitigation recommendations included a collection of any visible artifacts, and a detailed architectural study of the foundation, including clearing and excavation if necessary. In addition, a more thorough archival study was recommended including interviews with surviving family members.

The second of the historical archaeological sites (EgPI-11) consisted of the remains of an old farm, with a barn foundation, three outbuildings, an outhouse, and a possible house. The site was determined to have moderate interpretive potential, and further mitigation was recommended prior to development of the areas. Mitigation recommendations included further archival research, detailed mapping of the site, and clearance of the possible dwelling area to determine if a house was located here. Excavations were recommended if significant undisturbed remains were found during mitigation.

The third of the historic archaeological sites (EgPm-304) consisted of the remains of a very large concrete pad foundation lying on the escarpment edge overlooking Nose Creek. Currently, the site is located outside the airport boundary, but the original structure may have extended slightly onto airport property. It was determined that the site was of limited interpretive potential and no further work was required.

5.2.2 Mitigation

In 2006, at the Authority's request, FMA conducted the follow-up mitigation for sites EgPI-11 and EgPI-12. The report is attached as Appendix B.

EgPI-11 fell outside the proposed development plan for the golf course. Therefore, no extensive mitigation was required for the site. Mitigation included an intensive pedestrian traverse and visual

examination of the site, as well as detailed mapping, a limited shovel testing program, the collection of diagnostic artifacts, and interpretation. The collection of diagnostic artifacts helped accurately interpret activities at the site while it was occupied and the dates of occupation. Currently, the site falls within the footprint for the proposed parallel runway.

EgPI-12 fell within an area subsequently developed as a golf course. Therefore, more extensive mitigation was required. Mitigation was conducted in phases. The first phase included an intensive pedestrian traverse and visual examination of the site, as well as detailed mapping, a limited shovel testing program, the collection of diagnostic artifacts, and interpretation. The collection of diagnostic artifacts helped accurately interpret activities at the site while it was occupied and the dates of occupation. The second phase involved shovel testing and exploratory trenches, adjacent to and across structural foundations. The third phase included monitoring the removal of wood debris from inside the structural foundation. The site was then capped by covering it with landscaping fabric to protect the foundation and any other buried historic deposits. The site was then filled.

5.3 Cumulative Effects Assessment (CEA)

As part of the report, FMA conducted a CEA of the region. The CEA indicated that development in the region had destroyed a number of known historical resource sites; however, the majority of the known sites had not been destroyed. As the airport property holds few archaeological sites that are not unique historical resources in the region (representing only a small proportion of the types of sites commonly found), it was determined that the potential destruction of sites within the YYC boundaries during future development would not significantly alter the remaining historical resources database in the area.

5.4 Paleontological Sites

In 2006, FMA was contacted to perform a palaeontological assessment, as palaeontological materials were observed adjacent to site EgPI-12 during its mitigation. FMA found several large sandstone bedrock blocks located approximately 500 m north of EgPI-12 and ranging in size from 1 to 3 metres thick. The blocks had been removed from their original depositional context, as bedrock was not found *in situ* in the area and surficial sediments were observed to be 13 m thick. The fossils found in the disturbed bedrock blocks are of low heritage value, so there were no palaeontological concerns at that time and no further palaeontological work was recommended. The report detailing the results of the assessment has been filed with the Royal Tyrrell Museum. This report is attached as Appendix C.

Statement of Qualifications and Limitations

The attached Report (the “Report”) has been prepared by AECOM Canada Ltd. (“Consultant”) for the benefit of the client (“Client”) in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the “Agreement”).

The information, data, recommendations and conclusions contained in the Report:

- are subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”)
- represent Consultant’s professional judgement in light of the Limitations and industry standards for the preparation of similar reports
- may be based on information provided to Consultant which has not been independently verified
- have not been updated since the date of issuance of the Report and their accuracy is limited to the time period and circumstances in which they were collected, processed, made or issued
- must be read as a whole and sections thereof should not be read out of such context
- were prepared for the specific purposes described in the Report and the Agreement
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time

Unless expressly stated to the contrary in the Report or the Agreement, Consultant:

- shall not be responsible for any events or circumstances that may have occurred since the date on which the Report was prepared or for any inaccuracies contained in information that was provided to Consultant
- agrees that the Report represents its professional judgement as described above for the specific purpose described in the Report and the Agreement, but Consultant makes no other representations with respect to the Report or any part thereof
- in the case of subsurface, environmental or geotechnical conditions, is not responsible for variability in such conditions geographically or over time

The Report is to be treated as confidential and may not be used or relied upon by third parties, except:

- as agreed by Consultant and Client
- as required by law
- for use by governmental reviewing agencies

Any use of this Report is subject to this Statement of Qualifications and Limitations. Any damages arising from improper use of the Report or parts thereof shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report.

Appendix A

**Fedirchuk McCullough &
Associates Ltd. 2001. Historical
Resources Impact Assessment
and Cumulative Effects
Assessment, Calgary
International Airport**

**HISTORICAL RESOURCES
IMPACT ASSESSMENT
and
CUMULATIVE EFFECTS
ASSESSMENT**

CALGARY INTERNATIONAL AIRPORT



FEDIRCHUK McCULLOUGH & ASSOCIATES LTD.

HERITAGE RESOURCES CONSULTANTS

**HISTORICAL RESOURCES
IMPACT ASSESSMENT**

and

CUMULATIVE EFFECTS ASSESSMENT

CALGARY INTERNATIONAL AIRPORT

**Prepared for
Scace Environmental Advisers Inc.
Calgary, Alberta**

**On Behalf of
Calgary Airport Authority
Calgary, Alberta**

**Prepared By
Fedirchuk McCullough & Associates Ltd.
200, 1719 Tenth Avenue S.W.
Calgary, Alberta**

March 2001



March 12, 2001

Scace Environmental Advisors Inc.
2416 Sandhurst Avenue S.W.
Calgary, Alberta
T3C 2M6

Attention: Dr. Robert Scace

Dear Dr. Scace:

I am pleased to submit to you this final report entitled *Historical Resources Impact Assessment and Cumulative Effects Assessment, Calgary International Airport*.

Should you have any questions regarding this project, please do not hesitate to contact me.

Yours truly,
**FEDIRCHUK McCULLOUGH &
ASSOCIATES LTD.**

Dan Meyer, Ph.D.
/wl

EXECUTIVE SUMMARY

On behalf of Scace Environmental Advisors Inc., agents for the Calgary Airport Authority, Fedirchuk McCullough & Associates Ltd. conducted a Historical Resources Impact Assessment (HRIA) of the Calgary International Airport, located in southern Alberta in the City of Calgary (Figure 1). The Calgary International Airport occupies 2052 hectares of land in northeast Calgary in Sections 4, 9, 16, and 21, Twp. 25, Rge. 29 West of the Fourth Meridian, Sections 1, 2, 11, 12, 13, and 14, Twp. 25, Rge. 1, and Section 36, Twp. 24, Rge. 1 West of the Fifth Meridian. The HRIA for this project is the result of the long-term development plans of the Calgary Airport Authority as outlined in the Calgary International Airport Master Plan. The Calgary Airport Authority uses the Canadian Environmental Assessment Act as a guide for its projects, and this legislation requires an HRIA prior to development. Only one previously recorded site was located within the boundaries of the airport, but several known sites are located just outside its boundary to the west along Nose Creek, a high potential area for archaeological sites.

A large portion of the Calgary International Airport land is currently developed, but approximately 800 hectares are available for future airport and commercial/industrial development. The Calgary Airport Authority's long-term development plans include the building of another runway and industrial parks in the mostly undeveloped area east of Barlow Trail in Sections 4, 9, 16, and 21, Twp. 25, Rge. 29 West of the Fourth Meridian. The HRIA was implemented to locate and record historical resources within the developed and undeveloped portions of the airport property, design a site-specific mitigation program to be implemented prior to construction, and complete a Cumulative Effects Assessment (CEA) of historical resources in the area. The Historical Resources

Impact Assessment was carried out under the provisions of the
Alberta Historical Resources Act

The record review conducted in 1998 indicated that one previously recorded site was located within the airport boundaries. This site, recorded in 1998, was a possible tipi ring, with no observed artifacts. This site, when recorded in 1998, was a tipi ring, with no observed artifacts.

The site was used for agricultural purposes under lease for twenty years thereafter and no site evidence remained when the site received an environmental assessment (CAA 2000; pers comm, T. Thompson, CAA, October 2000) and was prepared for development in 2000. Loss of the site contributed to a decision by the CAA to undertake this HRIA for the entire airport property.

Ground reconnaissance and shovel testing resulted in the discovery of one new precontact archaeological site, EgPI-11, and three new historic archaeological sites, EgPI-12, EgPI-13, and EgPm-304. EgPI-11 is an isolated artifact site with limited interpretive potential, and no further work is required in the context of future airport development. Historic site EgPm-304 is located mostly outside the airport boundary, and also is of limited interpretive potential, and it is recommended that no further work be required in the context of future development. Historic sites EgPI-12 and EgPI-13 have moderate interpretive potential, and it is recommended that further mitigation be required prior to development of the areas in which these two sites are located.

The results of a Cumulative Effects Assessment (CEA) of the region indicate that development in the CEA area has destroyed a number of known historical resource sites. However, many of the known sites in the area have not been destroyed, and the potential destruction of sites within the airport boundaries during future development will not significantly alter the remaining historical resources database in the area. The Calgary Airport Authority property holds few archaeological sites. Those present are not unique historical resources in the area, representing only a small proportion of the types of sites commonly found. The airport sites have for the most part already been removed or significantly disturbed, or are of low interpretive potential. The impact to specific sites within the airport development zone will be effectively mitigated by further study prior to development, in order that available information will be

also backwards

in Executive

Summary

P. N.

11+12 - historic

13 - isolated

find

13

13

11

recorded. Given the numerous archaeological sites that have not been affected by development in the Regional Study Area and the Local Study Area, the impact on the historical resources based on the currently proposed development will not significantly alter the historical resources database at either the Regional or Local levels, nor the conclusions archaeologists draw from these sites.

PROJECT PERSONNEL

SENIOR ARCHAEOLOGIST: Daniel A. Meyer, Ph.D.

ARCHAEOLOGISTS: Bob Steinhauser, B.A.
Barb Neal, B.A.
Wanda Lewis

REPORT AUTHOR: Daniel A. Meyer, Ph.D.

DRAFTING: Gord Eshpeter, B.Sc.

ARTIFACT ANALYSIS: Stacy Kozakavich, M.A.
Daniel A. Meyer, Ph.D.

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INTRODUCTION

On behalf of Scace Environmental Advisors Inc., agents for the Calgary Airport Authority, Fedirchuk McCullough & Associates Ltd. conducted a Historical Resources Impact Assessment (HRIA) of the Calgary International Airport, located in southern Alberta in the City of Calgary (Figure 1). The Calgary International Airport occupies 2052 hectares of land in northeast Calgary in Sections 4, 9, 16, and 21, Twp. 25, Rge. 29 West of the Fourth Meridian, Sections 1, 2, 11, 12, 13, and 14, Twp. 25, Rge. 1, and Section 36, Twp. 24, Rge. 1 West of the Fifth Meridian. The HRIA for this project is the result of the long-term development plans of the Calgary Airport Authority as outlined in the Calgary International Airport Master Plan. The Calgary Airport Authority uses the Canadian Environmental Assessment Act as a guide for its projects, and this legislation requires an HRIA prior to development. Only one previously recorded site was located within the boundaries of the airport, but several known sites are located just outside its boundary to the west along Nose Creek, a high potential area for archaeological sites.

A large portion of the Calgary International Airport land is currently developed, but approximately 800 hectares are available for future airport and commercial/industrial development. The Calgary Airport Authority's long-term development plans include the building of another runway and industrial parks in the mostly undeveloped area east of Barlow Trail in Sections 4, 9, 16, and 21, Twp. 25, Rge. 29 West of the Fourth Meridian. The HRIA was implemented to locate and record historical resources within the developed and undeveloped portions of the airport property, design a site-specific mitigation program to be implemented prior to construction, and complete a Cumulative Effects Assessment (CEA) of historical resources in the area. The Historical Resources Impact Assessment was carried out under the guidelines established under the *Alberta Historical Resources Act* (1980).

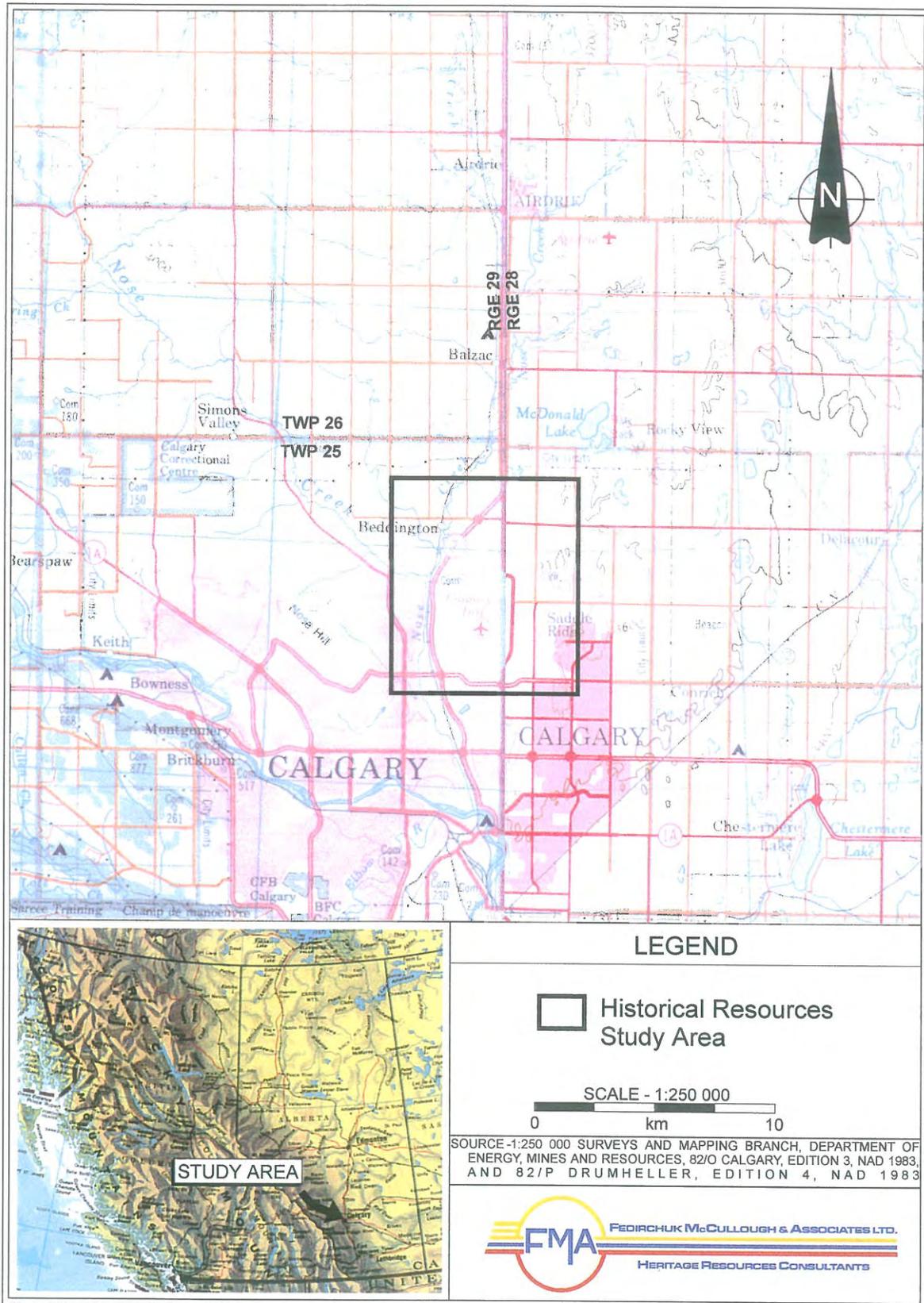


Figure 1 Location of study area



Plate 1 The northern end of the airport, showing developed areas, undeveloped areas, and those currently being developed.



Plate 2 View of typical cultivated terrain east of Barlow Trail.

OBJECTIVES

The primary objectives of the HRIA were to:

1. inventory historical resource sites within the proposed development zone;
2. evaluate the significance of the individual sites identified;
3. forecast the nature and magnitude of site specific impacts; and
4. design and implement an acceptable site specific mitigation program which would significantly eliminate adverse impacts to identified sites prior to construction.
5. undertake a Cumulative Effects Assessment (CEA) of the development zone

SCOPE OF WORK

The scope of work for the HRIA undertaken by Fedirchuk McCullough & Associates Ltd. consists of the following components:

1. **Record Review** - to identify previously recorded sites which could be affected by the proposed development project, and to determine the nature of the data base in the area.
2. **Ground Reconnaissance** - to relocate, in the field, historical resource sites which may have been previously recorded, as well as to identify and record any new sites within the development zone. Site discovery will be based on surface inspection of exposures and subsurface testing using a conventional shovel testing program of potential site areas lacking suitable exposures. Deep testing, using a backhoe or auger, may be undertaken in localities of high site potential associated with good depositional characteristics.
3. **Site Evaluation** - to evaluate the nature of the existing resource data base, the quantity and quality of observable remains (e.g. site condition, content, uniqueness, and complexity) and the potential of the site to contribute to public enjoyment and education. Sites are

evaluated by inspection of exposures, or by a standard shovel testing program. Additional controlled assessment may be conducted when a site is perceived to contain potentially significant cultural material. If such potentially significant sites concealed by sediments are encountered, the need for further evaluation is satisfied either through an extensive systematic subsurface testing program, a controlled excavation program, or a backhoe testing program.

4. **Impact Assessment** - to delineate the magnitude of forecasted impacts to the individual identified historical resource sites, as well as the local and regional data base, and to recommend site specific mitigative measures commensurate with the assigned value of the site.
5. **Cumulative Effects Assessment** - to assess the long-term changes occurring to historical resources in the project area as a result of this project in combination with the effect from other developments in the area. Although the effects from any one development may not be significant, the cumulative effects from numerous projects may significantly alter the regional historical resources database.

ENVIRONMENTAL SETTING

INTRODUCTION

Environment has always provided some of the parameters within which human cultures may develop, by providing both opportunities and limitations to their long-term change. As a result, elements of the regional environment are important considerations in the understanding of cultural development, as they influence not only the types of activities that can be conducted, but the ways in which they can be accomplished. In the archaeological record, testimony to this pattern is witnessed in the type and location of archaeological sites in specific environments. Human populations are not uniformly distributed across the landscape, but are clustered in suitable habitats. In Alberta, archaeological sites are found associated with a specific set of landforms, including valley edges, knolls, rivers, lakes, and sloughs that direct travel, bias routes of communication, and enhance or restrict resource procurement and occupation. Due to this close relationship of human settlement and the environment, a brief overview of the regional and local environments is presented in order to provide a context for the archaeological interpretation of the current study.

REGIONAL ENVIRONMENT

The Calgary International Airport lies within the Foothills Fescue Subregion of the Grassland Natural Region of Alberta (Figure 2). Soils of this region are mainly black chernozemic soils derived from clayey lacustrine deposits and glacial till that overlay sandstone and shale. The topography is commonly described as undulating

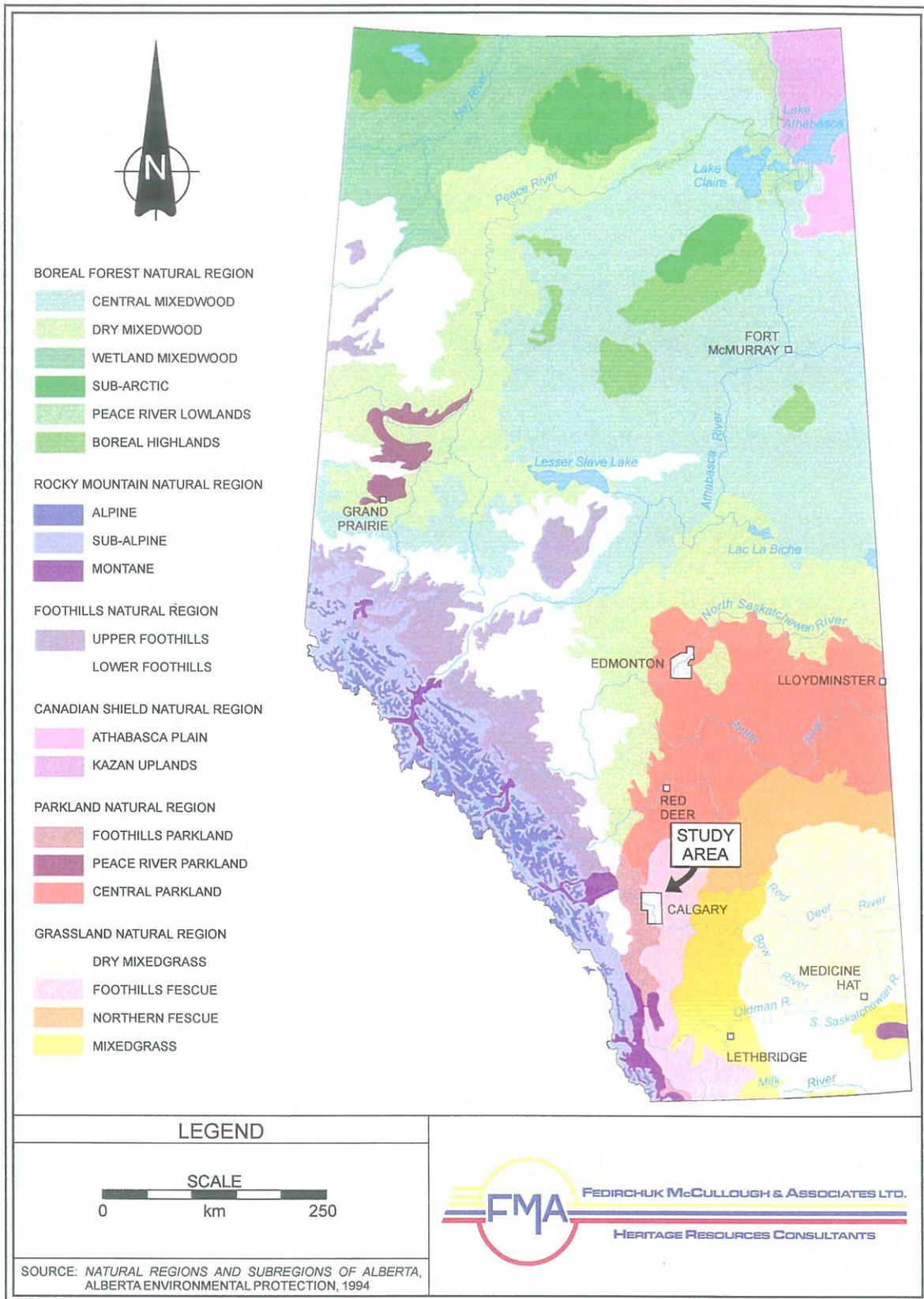


Figure 2 Natural Regions and Subregions of Alberta (Alberta Environmental Protection 1994)

to rolling terrain featuring intermittent sloughs and ponds. Valleys formed during deglaciation contain many of the watercourses within the region. Areas of glacial lake sediments, sand dune fields, outwash plains, and badlands are found in localized areas. Natural vegetation is dominated by rough fescue species of grasses with isolated shrub communities of saskatoon, silverberry, snowberry, and rose. Not surprisingly, agricultural practices have largely disturbed most of the native vegetation in the region.

The Foothills Fescue Subregion is located along the flanks of the Rocky Mountain foothills and represents a transitional zone between grassland and Cordilleran environments (Strong 1992). Vegetation in the area is dominated by rough fescue (*Fescue scabrella*) and Parry oat grass (*Danthonia parryi*) growing in shallow black chernozemic soils. The climatic regime of the area is classified as Prairie, and is marked by cool summers and mild warm winters that are moderated by frequent chinook winds (Alberta Environmental Protection 1994). Greater proximity to the Rocky Mountains, however, results in greater amounts of precipitation than surrounding areas (Strong 1992).

The subhumid climatic conditions created by the overlap of Cordilleran and grassland climates results in the development of graminoid vegetation. In addition to the rough fescue and Parry oat grass that is present, June grass (*Koeleria macrantha*), everlastings (*Antennaria spp.*), pasture sagewort (*Artemisia frigida*), common yarrow (*Achillea millefolium*), and northern bedstraw (*Galium boreale*) are also common. Shrub communities, which occupy less than five percent of the Subregion, are usually found in areas of greater moisture, including north facing slopes, ravines, and coulees. Drier areas, such as south facing slopes or locations with coarse textured glacio-fluvial or aeolian deposits, promote the development of xerophytic plant communities (Strong 1992).

Much of the natural vegetation of the Foothills Fescue Subregion has been removed through agricultural practices and the diversity of wildlife is lower than in the surrounding grasslands subregions (Alberta Environmental Protection 1994). However, small pockets of native vegetation with a variety of wildlife are found in the riparian communities in stream and river valleys on

alluvial terraces within the Foothills Fescue Subregion (Strong 1992). Wildlife characteristic of these areas may include the white-tailed deer (*Odocoileus hemionus*), coyote (*Canis latrans*), prairie falcon (*Falco mexicanus*), marbled godwit (*Limosa fedoa*), horned lark (*Eremophila alpestris*), pronghorn, coyote, rabbit, ground squirrel, sage grouse, and migratory waterfowl such as ducks (Strong 1992). Extirpated species include bison, wolf, and plains grizzly.

PROJECT ENVIRONMENT

The Calgary Airport lies east of Nose Creek in level to undulating agricultural land with a number of large sloughs, but no permanent watercourses, and no significant ephemeral drainages. The western end of the airport occupies the escarpment overlooking the Nose Creek valley, but the airport does not extend onto the creek's floodplain. A number of developments, including Deerfoot Trail (Highway 2) lie between the airport and Nose Creek.

The majority of the Calgary International Airport landholdings have already been developed. In addition to the airport terminal and runways, the southern end of airport property has numerous industrial developments, businesses, and general aviation facilities including hangars and tarmacs. The majority of undeveloped airport property lies east of Barlow Trail and west of 36 Street N.E. As with almost all airport property, most of this land has been previously or is actively cultivated, and an old subdivision occupies the land in the SE 1/4 Sec. 16, Twp. 25, Rge. 29 W4M. Most of these modern buildings have been gradually torn down and carted away.

A large slough occupies a major portion of the NE 1/4 Sec. 9, Twp. 25, Rge. 29 W4M. Although most of this section has been previously cultivated, the land in the immediate vicinity of the slough does not appear to have been cultivated, although a rock pile at its southern end, in a cultivated area, does indicate that stones may have been collected from the surface of this area. A local resident has indicated that this slough used to be significantly smaller, but has grown due to greater runoff from new subdivisions to the east and

north. In addition, a small section of land just east of Barlow Trail and north of McKnight Boulevard appears to have been left uncultivated. The treed area in Section 36, Twp. 25, Rge. 29 W4M has been previously cultivated, and the trees planted relatively recently.



Plate 3 View south of large slough in NE-9-25-29-W4M.

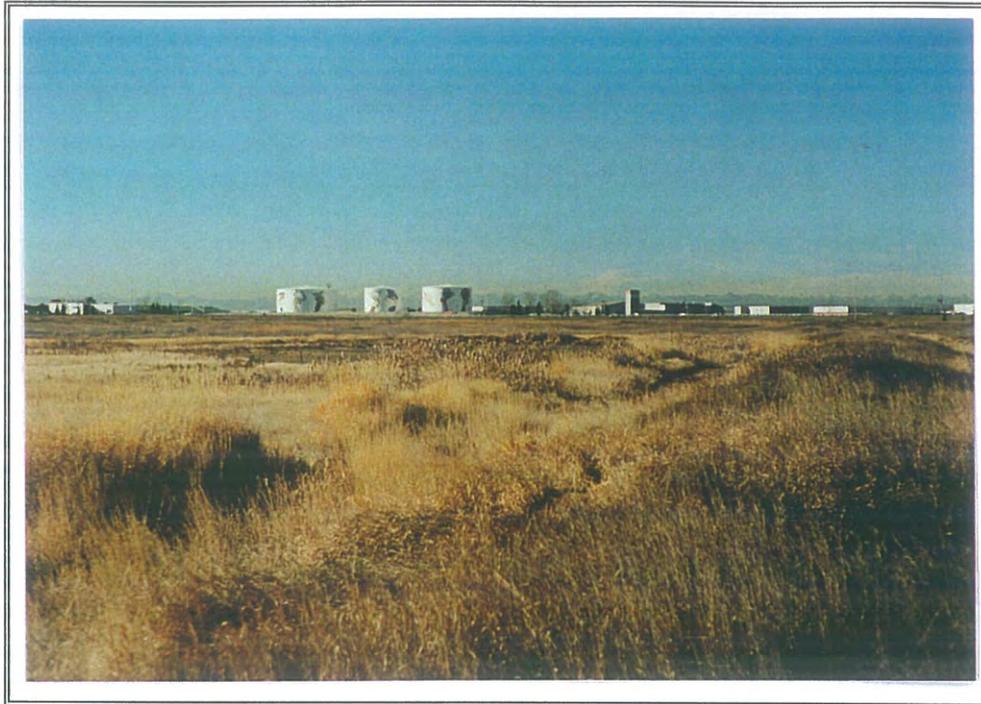


Plate 4 View of uncultivated area east of Barlow Trail and north of McKnight Boulevard.



Plate 5 View south of escarpment on east side of Nose Creek on the western edge of the Calgary International Airport.



Plate 6 View west of the recent developments on the western edge of the airport overlooking Nose Creek and Deerfoot Trail.



Plate 7 View north of the treed area in 36-25-29-W4M. Note the swaths through the trees where pipelines and phone lines have been placed.

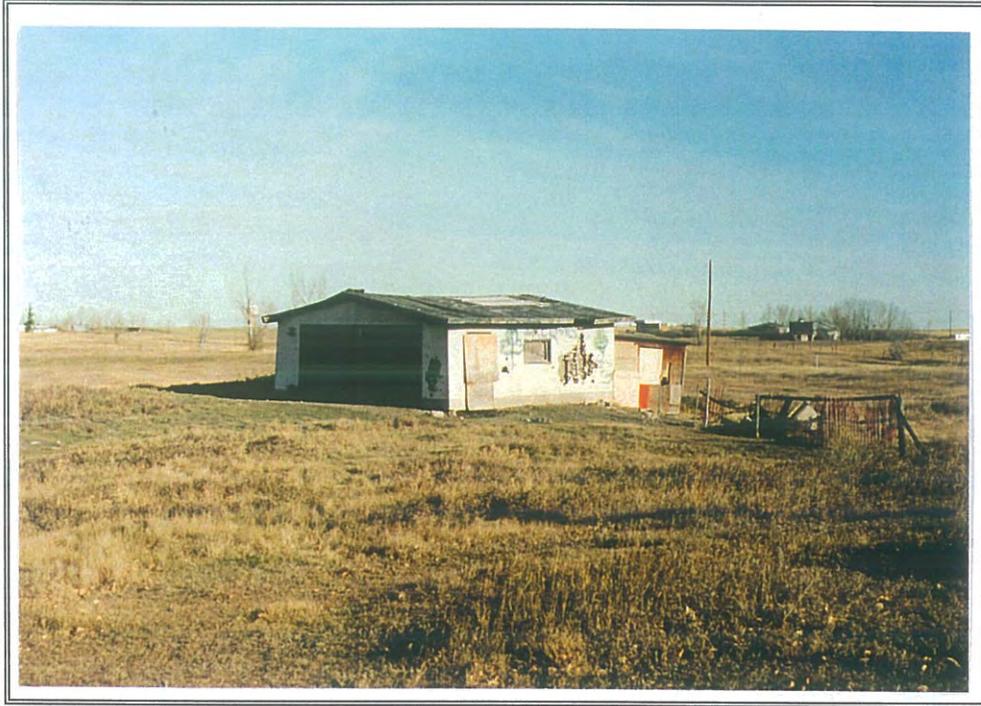


Plate 8 A structure typical of those remaining in the old subdivision in SE-16-25-29-W4M.

HISTORICAL RESOURCES

DEFINITION

In Alberta, historical resources are protected under the *Alberta Historical Resources Act* (1980), and are defined as precontact, historic, and palaeontological sites and their contents. Cultural landscapes and traditional use sites may also be associated with historical resources. Precontact sites are comprised of artifacts, features, and residues of native origin. They predate the arrival of Europeans and are typically characterized by modified bone and stone artifacts, as well as stone features or structures. Historic sites are characterized by structures, features, and objects of European influence. Buildings and building remains represent the most prominent type of historic sites. Palaeontological sites are areas where fossils of ancient animals or plants have been preserved. Palaeontological sites include only those sites which contain fossils of multicellular invertebrates, vertebrates, and plants. Traditional use sites are identified in consultation with members of the First Nations, and may comprise camping or hunting locales, plant collection locations, or areas related to matters of a spiritual nature.

POTENTIAL IMPACTS

Due to the fact that precontact archaeological, historical, palaeontological, and traditional land use sites represent discrete episodes of past activities, they are non-renewable and, therefore, are susceptible to alteration or removal by modern industrial development. Precontact and historic archaeological resources are comprised of residues of past cultures or societies. Although the cultural entities responsible for deposition of the archaeological material are unavailable for observation, the preserved

context and associations in which the remains functioned can reveal many clues about past human behavior, adaptations, and relationships to the natural world. The key to the interpretation of these resources is in their pattern of cultural deposition, which is extremely fragile, ephemeral, and the product of unique processes and conditions of preservation. Consequently, once they are disturbed, they cannot be replaced, re-created, or restored. Due to the nature of their origin and preservation, archaeological resources are finite in quantity. As a result, archaeological resources are increasingly susceptible to destruction and depletion through natural and cultural disturbances.

Palaeontological resources are similar to archaeological resources in that they represent the remains of living organisms characteristic of extinct ecosystems. These remains and their unique contexts provide information not only about the individual organisms, but also about the nature of past environmental conditions, species evolution, and behavior patterns. Similar to the state of archaeological resources, palaeontological remains are finite in quantity, and susceptible to destruction and depletion as a result of disturbances, both natural and cultural.

MITIGATIVE OPTIONS

Adverse primary impacts to historical resource sites, identified prior to the construction stage of development, can be significantly reduced or eliminated by avoidance or adequate study. Site avoidance can be achieved through relocation of the proposed project, or by restriction of the construction within the development zone. Adequate study of archaeological sites generally involves scientific investigations that are designed to systematically explore and reconstruct the activities that are represented at the site. These investigations may involve the systematic collection of surface sites, detailed mapping, photographic documentation of sites, or the excavation of buried sites. In cases where the interpretive potential of a set of archaeological resources is considered to be low, it may be deemed that photographic documentation, recording, and collection of surface specimens are sufficient mitigative measures. In cases where the archaeological interpretive potential of a set of historical resources is identified as high,

measures, such as controlled excavation, may be necessary. Similarly, adequate study of palaeontological sites may include collection and excavation of specimens as a means of providing information on past species and habitats.

ARCHAEOLOGICAL OVERVIEW

The study area lies within the northwestern plains cultural area (Figure 3), which is characterized by cultural development focusing on the exploitation of bison. The cultural area extends from the Rocky Mountains on the west, to the mixed grass prairie on the east and the parkland on the north. It includes the southern portions of Alberta and Saskatchewan, the extreme southwestern corner of Manitoba, the eastern portion of Montana, and the northern portion of Wyoming.

The earliest well documented evidence for human occupations in Alberta dates from about 10,500 years before present (B.P.). Evidence prior to this time, although recognized potentially as a Pre-projectile Point Horizon, is inconclusive, and provides little evidence for the economic adaptations or technological innovations that may have existed at that time. Evidence for this period may have been obliterated or obscured by the major glacial advances and the advance-retreat cycles of the two major ice masses (a Cordilleran glacier originating in the west and a Laurentide glacier originating in the east) that occupied much of Alberta. Post-dating 10,500 years B.P., precontact diagnostic artifacts indicative of human occupation are found to persist through to the period of historic culture contact with Euro-Canadians, in the late A.D. 1800s. To organize this span of human existence, the precontact past of Alberta has been divided into three distinct periods, each of which is defined on the basis of different technological adaptations to the natural environment of the plains. These periods include the Early (11,500 to 7,500 years B.P.), Middle (7,500 to 1,750 years B.P.) and Late (1,750 to 225 years B.P.) Periods. The Late Period is followed by a short Protohistoric Period, during which historic trade goods were introduced into the archaeological record, and the Historic Period, when large scale Euro-Canadian settlement changed the nature of indigenous life on the plains.

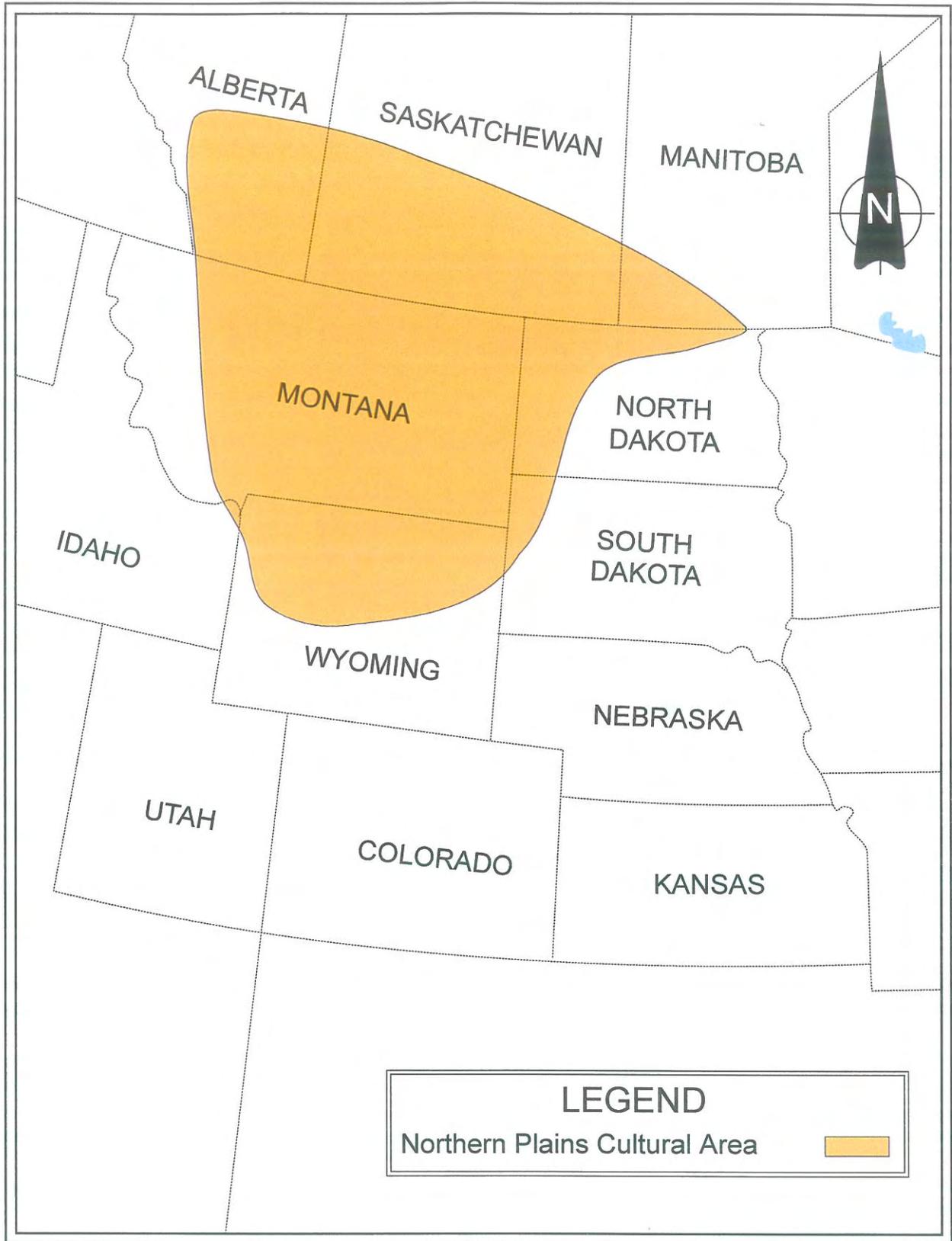


Figure 3 Northwest Plains culture area

The Early precontact period is represented in Alberta by the occurrence of large fluted lanceolate points belonging to the Clovis Complex. These points, which would have been used on a heavy stabbing spear, are interpreted as representing generalized hunters who occupied the fringes of pro-glacial lakes along the southern edge of retreating ice sheets. As the lakes drained during the post-glacial period, the former lake beds became available to open tundra-like pioneering terrestrial plant communities that supported now extinct megafaunal species such as mammoth, horse, and giant bison (Churcher and Wilson 1979, St. Onge 1972). These animals provided the basis for the subsistence of early people on the northern plains (Reeves 1978). Although few Clovis sites have been excavated in Alberta, early projectile points exhibiting a great deal of regional variation have been found in a number of surface localities throughout the province (Vickers 1986:30, 49).

Following the Clovis Complex on the northern plains, between 10,500 and 9,500 years B.P., fluctuation in subsistence lifestyles is apparent in the archaeological record. A shift from the generalized hunting characteristic of the Clovis period to more specialized hunting is evident along the forest edge and in parkland areas, represented by the presence of Agate Basin occupations. This adaptation was quickly replaced by the even more specialized bison hunting groups represented by the Alberta-Cody Complex occupations (Reeves 1978). Increasing aridity during the Altithermal period, however, may have made the extremely specialized subsistence practices of the Alberta-Cody Complex peoples untenable, precipitating a reversal in subsistence focus back toward the more generalized hunting practices of the Agate Basin-related groups at the close of the Early Period (Reeves 1978).

By the onset of the Middle Period, cultural adaptation focusing on the exploitation of bison was well established (Vickers 1986). The Middle Period is characterized by the appearance of side-notched projectile points, interpreted as dart points, used to tip light spears that would have been thrown with the aid of a throwing board, or *atlatl*. At the beginning of this period the archaeological record is characterized by a profusion of projectile point styles which are collectively referred to as the Mummy Cave Complex on the northern plains.

By 5,000 years B.P., the Mummy Cave Complex was succeeded by two major cultural entities. The first, the McKean Complex, has been interpreted as intrusive to the northern plains, perhaps originating in the Great Basin of the Rocky Mountains of the United States (Brumley 1975). The second is the Oxbow Complex, which is interpreted as perhaps originating out of the Mummy Cave Complex, with influences from the McKean Complex (Vickers 1986). In both complexes, a number of the technological changes are evident in the archaeological record. Most notable among these is the first appearance of stone circles (tipi rings) and medicine wheels, and evidence for communal bison hunting.

At the close of the Middle Period, a perpetuation of the previously established cultural patterns is evident. These are manifest in the occurrence of the Pelican Lake and Besant Phases, interpreted as adaptations arising out of the earlier cultural complexes (Vickers 1986). Population groups employing the Pelican Lake projectile point style persisted on the plains until about 2000 years B.P., while the Besant styles continued into the beginning of the Late Period, approximately 1,750 years B.P.

The Late Period on the northern plains opened with a florescence of the Besant Phase cultures. At the beginning of the Late Period a shift in technology occurred with gradual abandonment of the *dart* points and *atlatl* and increased use of small side-notched or triangular projectile points associated with the bow and arrow technology. These changes coincided with the sophistication of communal bison hunting strategies, expressed in the use of jumps and surrounds, as well as the first evidence for the use of pottery on the plains. These changes in technology are reflected archaeologically in the Avonlea Phase, interpreted as a cultural development that sprang from the Pelican Lake Phase, combined with the admixture of bow and arrow technology from the interior of British Columbia and ceramic technology from eastern Saskatchewan and Manitoba plains (Reeves 1983, Adams 1977, Byrne 1973). The end of the Late Period on the northern plains is characterized by a proliferation of side-notched projectile points.

The short Protohistoric Period on the plains is characterized by the persistence of Late Period technologies, with the addition of innovations resulting from small-scale, indirect contact with European culture. Among the most distinctive additions to the indigenous native culture were the acquisition of the horse and the introduction of metal and other European trade goods. Traditionally identified as the epitome of 'Plains Indian' culture, much of the evidence used to interpret this period comes from eyewitness accounts by travelers and historians, rather than from the archaeological record.

The Historic Period in Alberta began officially with the arrival of the first force of North West Mounted Police to southern Alberta, and their establishment of a permanent headquarters at Fort Macleod. Although infiltration of the province by European explorers and whiskey traders had occurred prior to this period, A.D. 1874 marked the opening of the west to large scale non-native settlement. As a result, the traditional ways of life that had existed on the plains were dramatically changed through the introduction of metal tool and arms technologies, improved transportation and communication, the near extinction of the bison, and the establishment of Treaties 6, 7, and 9, and the Indian Reservation system.

PALAEONTOLOGICAL RESOURCES

The near surface bedrock in the study region consists of a series of formations of the Mesozoic era (ca. 225 - 70 million years ago). The sediments were deposited during alternate uplifting of the land and inflooding of ocean waters caused by tectonic forces. They contain a rich dinosaurian fauna, ammonites, fishes, marine reptiles, oysters, clams, and snails, as well as the remains of the lush flora which once thrived. Such palaeontological remains are most likely to be found in bedrock exposures or associated talus in deeply incised river valleys.

The bedrock is overlain by unconsolidated deposits of Quaternary age which may contain large mammalian fauna. During warm interludes of the Pleistocene and early Holocene, Alberta supported a rich and varied fauna, including such large forms as mammoth, mastodon, ground sloth, musk oxen,

caribou, and bison. Bones of these animals are most frequently found in old river gravels and sands where eddies have sometimes concentrated them in rich fossiliferous pockets. More often, the bones are found scattered randomly through the sands and gravels. Fossiliferous remains occur in terraces or floodplain deposits left behind as rivers became entrenched. There is a high probability that such remains will be encountered where major modern rich valleys cross or reincise buried preglacial river valleys (Churcher and Wilson 1979).

METHODOLOGY

RECORD REVIEW

The record review consisted of a search of the Archaeological Site Inventory Data records maintained by the Historic Sites Service, Cultural Facilities and Historical Resources Division, Alberta Community Development.

GROUND RECONNAISSANCE

The ground reconnaissance consisted of a pedestrian traverse and intensive visual examination of the proposed right-of-way. All fortuitous exposures such as plowed fields, deflated areas, rodent disturbances, cattle trails, and road cuts were examined for evidence of cultural material. Visual inspection of these areas was considered adequate for assessing the presence of near surface cultural remains. Excavation of shovel tests (approximately 40x40 centimeters) was conducted in areas of limited exposure or in areas deemed to have potential for buried cultural deposits. The depth of each shovel test varied according to local soil conditions.

At all identified sites, both previously recorded and newly discovered, a shovel testing program was implemented to determine whether additional buried cultural material was present. The shovel testing program generally consisted of at least four 40x40 centimeter tests to determine the presence, nature and depth of cultural materials. A representative sample of cultural material was collected from each identified site where cultural material was observed. These items were bagged as distinct provenience units.

SITE DESIGNATION

Archaeological sites are referred to by a Borden Number that consists of a four letter symbol accompanied by a number (*i.e.* FaPq 11): This uniform site designation scheme for archaeological sites in Canada was developed by Charles Borden (1954). Within this system, the upper case letters (Figure 3) represent major blocks 2° by 4° blocks in size (*i.e.* F = 52° to 54° latitude, P = 112° to 116° longitude) and the lower case letters denote 10' units within the major block (*i.e.* a = 0' to 10' latitude; q = 40' to 50' longitude). The numbers refer to specific sites within the units and are assigned by the Provincial Museum of Alberta, Cultural Facilities and Historical Resources Division.

SITE DOCUMENTATION

Sites encountered during the ground reconnaissance are plotted on 1:50,000 National Topographic Map Series map sheets and the relationship of each site to the proposed development zone is denoted. Site locales are then recorded to the nearest one hundred meters using the Universal Transverse Mercator (UTM) Grid Reference and to the nearest quarter of a quarter section. The condition of each site and site characteristics are documented and include apparent site integrity, estimated site dimensions, content, setting, and complexity. Each site is photographically documented using a 35 mm camera.

SITE CLASSIFICATION

Sites identified are classified on the basis of their primary physical attributes and/or predicted primary function. Precontact and archaeological historic sites identified in Alberta are classified according to site types (Table 1) identified by the Provincial Museum of Alberta (Archaeological Inventory Site Data Form Guide).

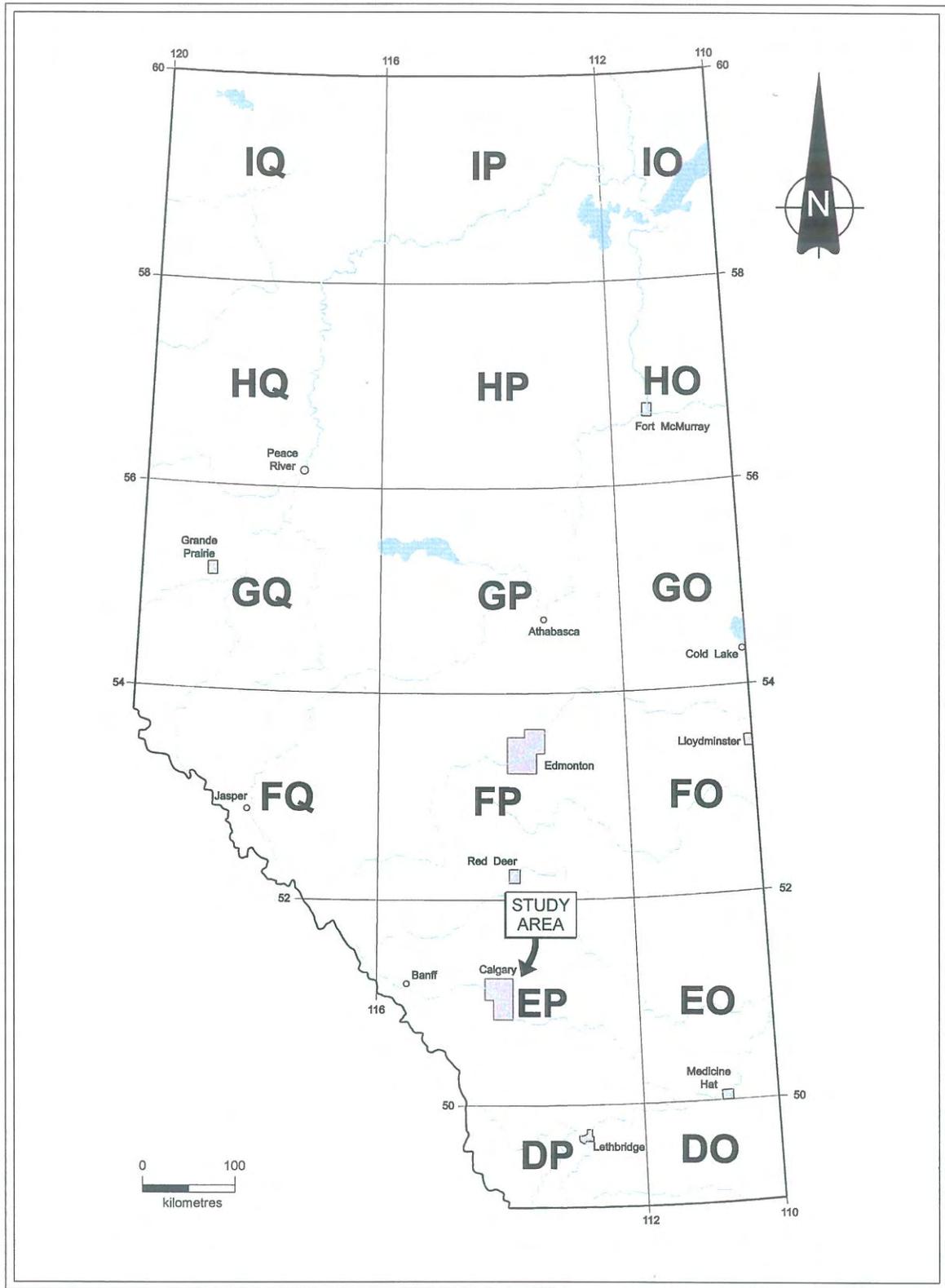


Figure 4 Alberta Borden Blocks

SITE EVALUATION

Once discovered, the relative significance of a historical resource within a development zone must be identified in order to understand the ways in which it will affect the final outcome of the development and the mitigative methods that will be used to solve or minimize any conflicts it may have with the development. Pre-impact significance of a site may be evaluated at a number of levels, including the scientific, public, and ethnic.

Scientific significance consists of the potential of a site to enhance current scientific understanding of a site and how it fits into known patterns. Depending on the nature of the resource, scientific significance can be evaluated in terms of precontact, historic, or palaeontological concerns. For precontact and historic sites, factors associated with the determination of relative archaeological interpretive value include:

- < the number of other known archaeological sites identified within the local and regional landscape;
- < the type of site and its uniqueness, relative to other sites in the local and regional areas;
- < the proximity of the site to landforms or water sources identified as favorable for human occupation or use, based on analogous patterns identified in the archaeological record for the local and regional areas;
- < the archaeological richness of the site, based on testing, relative to the site specific, local and regional patterns (including the potential to yield diagnostic archaeological materials);
- < the internal integrity of the site, in terms of disturbances via natural or cultural means, which will affect its overall interpretive value; and
- < the nature of the anticipated impacts to the site, including the type, duration and extent of the impact, as well as the possibility for the avoidance of site impacts

Public or social significance of historical resource sites is evaluated from the perspective of their potential to contribute to public understanding of appreciation of past human lifestyles and their potential for development as

Table 1. Provincial Museum of Alberta Defined Site Types

PROVINCIAL MUSEUM OF ALBERTA - DEFINED PREHISTORIC SITE TYPES

Isolated Find - consists of one item only.

Scatter - a locale in which archaeological specimens are located on the ground surface with no apparent spatial patterning nor any evidence of subsurface occurrences.

Campsite - contains evidence of a fireplace or hearth (e.g. firebroken rock, ash) and at least one other culturally modified material such as lithics, faunal remains, ceramics, and/or structural remains.

Stone Feature - any arrangement or formation of stone. Seven categories of stone features have been defined: stone circles, cairns, medicine wheels, stone lines, drive lanes, effigies, and other.

Stone circles are comprised of any ring or circular formation of rocks. This category refers to all sizes of stone rings constructed of various sizes and kinds of rocks (i.e. flat slabs, boulders, cobbles). Includes rings and tipi rings.

Cairns are stones intentionally piled by humans. This category refers to all sizes of stone piles constructed of various sizes and kinds of rocks (i.e. flat slabs, boulders, cobbles).

Medicine Wheels are primarily constructed of unmodified natural stone, with the possibility of some earth intentionally incorporated in the construction of prominent central cairns. All medicine wheels consist of a generalized and radially symmetrical arrangement of at least two of the following components: a) a prominent, centrally located cairn of varying size; b) usually one but sometimes several concentric rings of generally circular shape; c) multiple (two or more) lines radiating outward from a central origin, central cairn, or margins of a stone ring. Includes ceremonial rings.

Stone Line is a line or linear formation of rocks. Refers to all sizes of stone/cairn lines constructed of various sizes and kinds of rocks, i.e. flat slab, boulders, cobbles. Does not include drive lanes or drive lines.

Drive Lanes are single or multi-rock or cairn alignments used to direct animals towards a trap, jump or other mass kill.

Effigies are rock arrangements in the general shape of an animal or human.

Other stone features consist of arcs, partial circles, marker lanes, rock lined depressions, vision quest features, and other stone feature types not described above.

CONTINUED

DEFINED PREHISTORIC SITE TYPES

Killsite - an area where animals were killed and butchered. Killsites may vary from the remains of a single animal to a massive deposit of bone and associated tools. Site categories included in this site type consist of jumps, processing areas, traps, pounds, and box canyon traps.

Workshop - an area where lithic reduction has occurred with no other indications of cultural activity or habitations. Includes flaking areas, chipping stations.

Quarry - a site where lithic raw material has been mined or extracted, for example an outcrop or glacial till or alluvial source location.

Rock Art - includes petroglyphs and pictographs.

Petroglyphs are pictures, symbols, or other rock art work pecked, carved, etched, incised, ground or rubbed into natural rock surfaces. Includes ribstones, petroglyphs, carvings on rock.

Pictographs are painted designs on natural rock surfaces. Red ochre and charcoal are the most commonly used pigments. Natural, figurative, and abstract motifs may be presented.

Human Burial - any human interment, including crevice burials, i.e. flexed, extended, single, multiple, primary, secondary, crib, scaffold, grave, cemetery.

Ceremonial - an area where special features exist or set of acts or special ceremonies were conducted (e.g. medicine wheels, sundance lodges).

Other - site types not described above.

PROVINCIAL MUSEUM OF ALBERTA - DEFINED HISTORIC SITE TYPES

Homestead - remains of farm buildings, such as foundations, depressions, dumps.

Trading post - evidence of a complex of historic buildings used in exchanging goods during the historic period.

Industrial - remains of industry or manufacturers. May include historic period mines and quarries.

Other - site types not described above.

interpretive or tourist facilities. Current use or visitation by the public, as well as a public concern expressed at community consultation meetings are also considered in ascribing public significance to a site.

Ethnic significance is based either on the perceived value of a site to a particular ethnic group or on expressed importance to a particular group. Traditional land use sites are evaluated primarily from the perspective of ethnic significance.

Through an assessment of these combined factors, a determination of the mitigative actions necessary for the treatment of a historical resource site relative to a development can be determined. Such mitigative actions may vary from avoidance of impacts to a site area to mitigative archaeological excavation. The actions will vary depending on the nature of the site, the area it covers, and the impacts to which it will be subject.

FIELD EVALUATION

The nature of evaluation completed at any specific site is partially contingent on the type of the site identified. At surficially exposed sites, a subsurface testing program consisting of at least four shovel tests (each approximately 40x40 centimeters in size and exceeding the depth of the plow zone, if present) is implemented to determine whether undisturbed cultural deposits occur. Cultural specimens are collected from the surface if they are temporally diagnostic, finished tools, or are representative of the observed cultural materials. Artifacts encountered in shovel tests are collected. The locations of the shovel tests are mapped relative to the site and site features.

Sites with remains in buried contexts generally require a more intensive evaluation program in order to define site parameters. Generally, a larger number of shovel tests are excavated to obtain the required data. In addition, deep testing either by shovel or by backhoe may also be implemented to adequately evaluate site potential. The specific program is contingent on the perceived nature of the site.

Site significance is evaluated on the basis of the results of the field program as well as the regional archaeological context. Generally, relative site significance is based on the data obtained to date. Factors considered include site type, size, complexity, presence or absence of subsurface features, and number of artifacts observed and/or recovered. The significance of a specific site is deemed to be low if substantial disturbance has occurred, few artifacts are recovered from undisturbed subsurface provenience, if the surficial artifacts observed or recovered lack finished tools, or if temporally diagnostic (including radiometrically sufficient samples of bone and/or charcoal) or exotic lithic material types are lacking. However, sites possessing large quantities of identifiable bone (particularly those exhibiting some form of processing), cultural stratification, or a large number of stone features (particularly if they contain rare or unusual features) are classified as having high archaeological interpretive potential.

FORMULATION OF RECOMMENDATIONS

Site specific recommendations are formulated primarily on the basis of the level of available information, data collected and perceived site significance within the context of the predicted impact. Because of the non-renewable nature of historical resources and the irreversible nature of damage to their contents and contexts, avoidance is recommended as the preferred option at sites of moderate to high archaeological significance. Avoidance can be achieved by the relocation of the proposed project or by restriction of the construction zone within the project area. Sites of limited scientific value and ethnic significance (for example, isolated finds) are generally recommended for no further study and are not considered for avoidance mitigation. The data collected at the Historical Resources Impact Assessment stage effectively reduces or eliminates impact from the proposed development. Further study is recommended at sites with moderate to high archaeological interpretive potential that cannot be avoided, and at which the data collected during the Historical Resources Impact Assessment is considered to be insufficient to mitigate effects from the proposed development.

In general, recommendations for further work are made if sites are to be destroyed by the proposed development and if the site contents indicate that it potentially holds substantive information concerning temporal and cultural associations, resource exploitation, and regional land use strategies. Similarly, further study is recommended at sites potentially holding information regarding rare and unique aspects of aboriginal cultures.

Adequate additional study generally involves scientific investigations that are designed to systematically explore and reconstruct the activities which were carried out at the sites. Investigations usually involve excavation of buried sites, controlled collection of surface sites, detailed mapping, and photographic documentation. At sites containing surficial features (for example, stone circles or cairns) individual feature and site mapping are consistently recommended regardless of whether or not additional subsurface mitigation is recommended. These mitigative measures are recommended as a means of providing a permanent record of the individual features and the range of variability within and between sites.

RESULTS

RECORD REVIEW

The record review conducted for the Calgary Airport Authority property indicated that it lies within two Borden Block zones: EgPm and EgPl. One previously recorded site, EgPm-30, is located within the airport boundaries. This site, recorded in 1969, consisted of two stone cairns and one possible tipi ring, with no observed artifacts and an unknown cultural affiliation. This site, when recorded in 1969, consisted of two stone cairns and one possible tipi ring, with no observed artifacts and an unknown cultural affiliation. The site was used for agricultural purposes under lease for twenty years thereafter and no site evidence remained when the site received an environmental assessment (CAA 2000; pers comm, T. Thompson, CAA, October 2000) and was prepared for development in 2000. Loss of the site contributed to a decision by the CAA to undertake this HRIA for the entire airport property.

GROUND RECONNAISSANCE

A Historical Resources Impact Assessment was undertaken by a crew under the direction of Dan Meyer, Ph.D. of Fedirchuk McCullough & Associates Ltd. The study area was examined through pedestrian traverse and intensive visual surface examination, supplemented by shovel testing in areas of limited visibility or high archaeological potential. Where possible, existing natural or cultural exposures, such as cultivated fields, rodent burrows, road beds, cattle trails, and other disturbances were used to identify the nature of subsurface deposits. The level of disturbance in the project area was found to be quite high, many areas having been cultivated for years, or heavily impacted by housing or airport construction. Excavated sediments were sorted for the presence of existing cultural materials, and test pit walls were examined for the presence of intact buried cultural

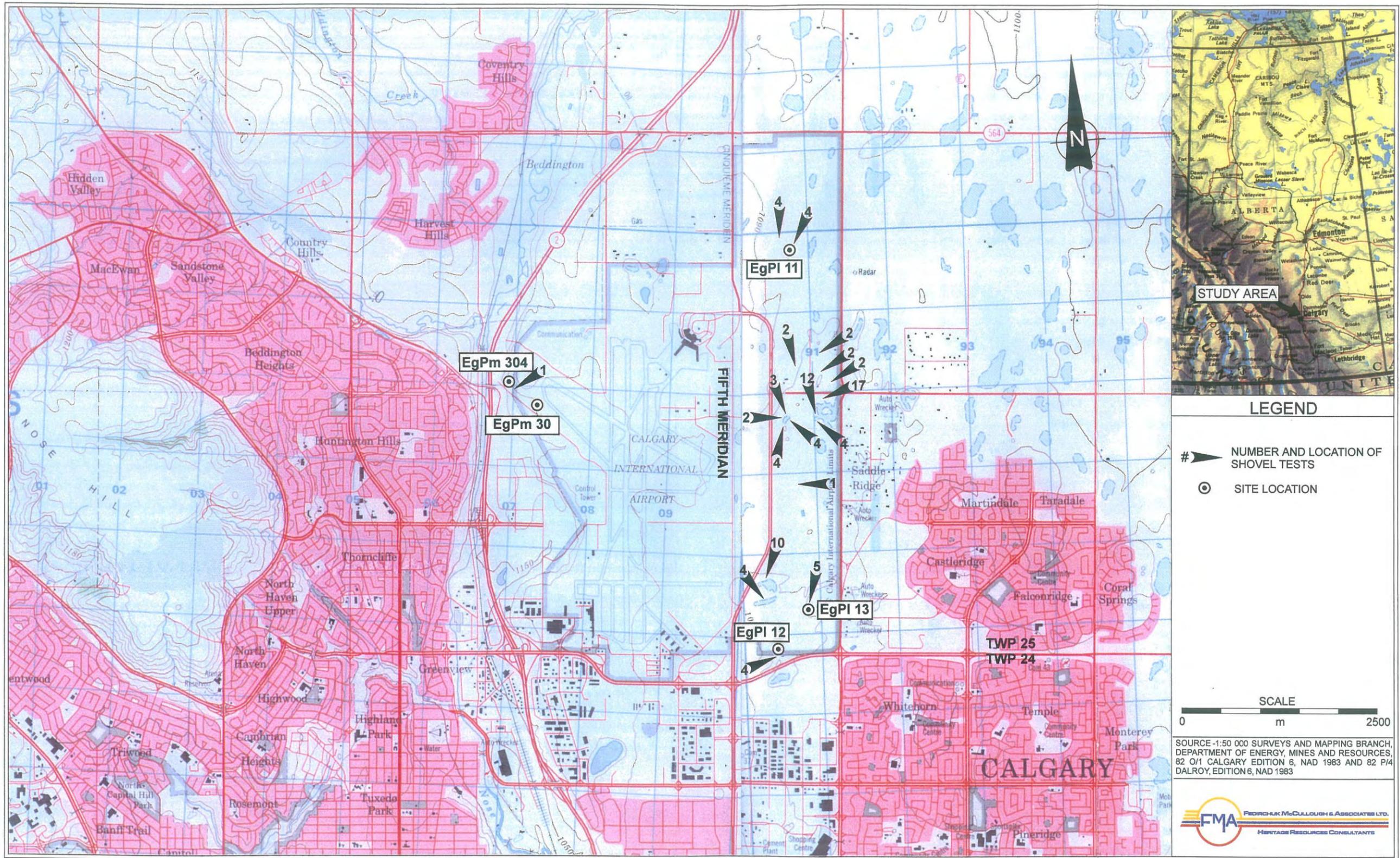


Figure 5: Reconnaissance strategy and sites identified

Table 5: Recorded Sites in the Local Study Area

Borden Number	Site Type	Features	Condition
EgPI-6	isolated find		disturbed
EgPI-7	scatter		disturbed
EgPI-8	campsite		disturbed
EgPI-9	lithic scatter		disturbed
EgPI-10	isolated find		disturbed
EgPI-11	farm		intact
EgPI-12	homestead		intact
EgPI-13	isolated find		intact
EgPm-1	campsite		unknown
EgPm-6	campsite		disturbed
EgPm-12	stone feature	stone pile, stone line	intact
EgPm-13	palaeontological	bone	disturbed
EgPm-17	stone feature	stone circle	disturbed
EgPm-18	campsite		intact
EgPm-19	stone feature	stone circle, cairn	unknown
EgPm-22	killsite		disturbed
EgPm-23	killsite		unknown
EgPm-24	killsite		intact
EgPm-25	killsite		intact
EgPm-26	killsite		unknown
EgPm-27	palaeontological	bone	intact
EgPm-28	stone feature	stone circle	intact
EgPm-29	campsite		disturbed
EgPm-30	stone feature	stone circle, cairn	disturbed
EgPm-31	palaeontological	bison bone	intact
EgPm-32	stone feature	cairn	unknown
EgPm-41	campsite, stone feature	stone circle, cairn, alignment, fire-cracked rock cluster	intact
EgPm-43	stone feature	cairn	intact
EgPm-58	campsite		disturbed
EgPm-91	stone feature	stone circle	disturbed
EgPm-94	no information		unknown
EgPm-120	killsite		intact
EgPm-121	isolated find		intact
EgPm-190	palaeoenvironmental	erratic	intact
EgPm-197	campsite, stone feature	cabin, foundation, stone feature	disturbed
EgPm-201	isolated find		disturbed
EgPm-211	scatter		disturbed
EgPm-212	lithic scatter		disturbed
EgPm-213	isolated find		disturbed
EgPm-214	isolated find		disturbed

Table 5: Recorded Sites in the Local Study Area cont'd

Borden Number	Site Type	Features	Condition
EgPm-215	bone scatter		disturbed
EgPm-216	isolated find		disturbed
EgPm-217	isolated find		disturbed
EgPm-218	isolated find		disturbed
EgPm-219	stone feature	stone circle	disturbed
EgPm-220	stone feature	stone circle	intact
EgPm-221	stone feature	stone circle	intact
EgPm-222	stone feature	stone circle	intact
EgPm-223	stone feature	stone cluster	intact
EgPm-224	stone feature	stone cluster	intact
EgPm-225	lithic scatter		intact
EgPm-226	campsite		intact
EgPm-227	isolated find		intact
EgPm-228	stone feature	stone cluster	intact
EgPm-229	lithic scatter		disturbed
EgPm-230	lithic scatter		disturbed
EgPm-231	lithic scatter		disturbed
EgPm-232	isolated find		disturbed
EgPm-233	lithic scatter		disturbed
EgPm-238	palaeontological		intact
EgPm-260	stone feature	stone circle, cairns	disturbed
EgPm-261	campsite		disturbed
EgPm-262	scatter (historic)		disturbed
EgPm-271	campsite, stone feature	stone circle, foundation	disturbed
EgPm-272	campsite, stone feature	stone circle	intact
EgPm-298	campsite		intact
EgPm-304	industrial		intact
EhPI-11	scatter, campsite		intact
EhPI-12	scatter		intact
EhPm-4	palaeoenvironmental	erratic	unknown
EhPm-5	campsite		unknown
EhPm-6	palaeoenvironmental	palaeosol (ash)	unknown
EhPm-7	stone feature	stone circle	unknown
EhPm-8	campsite		unknown
EhPm-9	campsite		unknown
EhPm-10	stone feature	stone circle, cairn	unknown
EhPm-12	killsite		unknown
EhPm-32	campsite		disturbed
EhPm-47	campsite		intact
EhPm-51	stone feature	cairn	intact
EhPm-52	isolated find		intact

Table 6: Conditions of Each Type of Site in the Local Study Area

Site Type	Number in Local Area	Number Intact	Number Disturbed	Number of Unknown Condition
isolated find	13	4	9	0
artifact scatter/workshop	12	3	9	0
killsite	7	3	1	3
campsite	19	7	8	4
stone feature	23	12	7	4
historic	5	3	2	0
palaeontological	7	4	1	2

from the database in plowed areas, but campsite remains would have been observed had they been present in the area.

PREDICTED EFFECTS OF DEVELOPMENT ON HISTORICAL RESOURCES

As with the Regional Study Area, the sites located within potential future development zones of the Calgary International Airport represent only a small proportion of the sites in the Local Study Area. As many of the sites were originally recorded in the context of Historical Resources Impact Assessments for development, it is reasonable to find that many of these sites have already been mitigated and destroyed during construction (Table 6), with a total of 34 (42%) known to have been mitigated and destroyed. However, many of the sites in the Local Study Area were recorded as part of academic research projects associated with the University of Calgary. Therefore, a substantial proportion of the sites are located in areas that have not been developed. Based upon available information, a total of 33 (41%) sites in the local area have not been disturbed by development. However, 14 (17%) of the sites in the local area may have been disturbed by developments not requiring an HRIA, and their condition is listed as unknown pending field verification.

From the results presented in Table 6 it is clear that although the cumulative effects of development in the local area have destroyed a number of known sites, a substantial proportion of each type of site has not been disturbed by development. The proposed future development of Calgary Airport Authority lands will not significantly add to the impact of development on the Local Study Area's historical resources. There are many known archaeological sites in the local area, only three of which are located on airport lands. The destruction of these three sites would result in a loss of only 8% of the sites known to be intact in the local study area. Future expansion of the Calgary International Airport may impact two of the three known historic archaeological sites in the Local Study Area. However, these two sites have already been impacted seriously by previous cultivation and other activity in the area. Further recording of the sites will effectively mitigate impact by airport expansion through the collection of information. In addition,

the development is located near the edge of Calgary in an area largely undeveloped. Viewed in this context, the significance of the effects of this development on historical resources in the Local Study Area are seen to be minimal.

SUMMARY OF CUMULATIVE EFFECTS

A total of 317 precontact and historic-archaeological sites are known from the Regional Study Area around the Calgary International Airport. Within a more restricted Local Study Area around the airport, consisting of similar terrain in the vicinity of Nose Creek, a total of 81 archaeological sites are known. The majority of these sites were recorded in the context of development activities, but a significant proportion of them were recorded during research surveys of the area. At both the Regional and Local levels, the majority of known sites are precontact isolated finds, artifact scatters, campsites, killsites, and stone feature sites, as well as several historic sites and palaeontological finds known. Sites recorded wholly or partially within the Calgary Airport Authority's boundaries represent three of these categories and include an isolated find, three historic sites, and one stone feature site that was previously recorded and destroyed by development.

The 81 sites in the Local Study Area occur in roughly the same proportion of types as at the Regional level, with precontact stone feature sites and campsites representing the greatest numbers of sites. Given that the majority of sites were recorded during Historical Resources Impact Assessments for development, it has been found that 42% of the known sites in the Local Study Area have been removed by previous development. A total of 41% of the sites are believed to be intact, and another 17% are in an unknown condition. The currently proposed development will result in impact on three additional sites, bringing the overall total of known sites in the area disturbed by developments to 37 (46%). As such, the impact of the sites identified within the currently proposed development area will result in a negligible change in the database of sites in the Local Study Area.

The results of a Cumulative Effects Assessment of the region indicate that development in the area has destroyed a number of known historical

resource sites. However, many of the known sites in the area have not been destroyed, and the potential destruction of sites within the airport boundaries during future development will not significantly alter the remaining historical resources database in the area. The Calgary Airport Authority property holds few archaeological sites. Those present are not unique historical resources in the area, representing only a small proportion of the types of sites commonly found. The airport sites have for the most part already been removed or significantly disturbed, or are of low interpretive potential. The impact to specific sites within the airport development zone will be effectively mitigated by further study prior to development, in order that available information will be recorded. Given the numerous archaeological sites that have not been affected by development in the Regional Study Area and the Local Study Area, the impact on the historical resources based on the currently proposed development will not significantly alter the historical resources database at either the Regional or Local levels, nor the conclusions archaeologists draw from these sites.

SUMMARY AND RECOMMENDATIONS

On behalf of Scace Environmental Advisors Inc., agents for the Calgary Airport Authority, Fedirchuk McCullough & Associates Ltd. conducted a Historical Resources Impact Assessment (HRIA) of the Calgary International Airport, located in southern Alberta in the City of Calgary (Figure 1). The Calgary International Airport occupies 2052 hectares of land in northeast Calgary in Sections 4, 9, 16, and 21, Twp. 25, Rge. 29 West of the Fourth Meridian, Sections 1, 2, 11, 12, 13, and 14, Twp. 25, Rge. 1, and Section 36, Twp. 24, Rge. 1 West of the Fifth Meridian. The HRIA for this project is the result of the long-term development plans of the Calgary Airport Authority as outlined in the Calgary International Airport Master Plan. The Calgary Airport Authority uses the Canadian Environmental Assessment Act as a guide for its projects, and this legislation requires an HRIA prior to development. Only one previously recorded site was located within the boundaries of the airport, but several known sites are located just outside its boundary to the west along Nose Creek, a high potential area for archaeological sites.

A large portion of the Calgary International Airport land is currently developed, but approximately 800 hectares are available for future airport and industrial development. The Calgary Airport Authority's long-term development plans include the building of another runway and industrial parks in the mostly undeveloped area east of Barlow Trail in Sections 4, 9, 16, and 21, Twp. 25, Rge. 29 West of the Fourth Meridian. The HRIA was implemented to locate and record historical resources within the developed and undeveloped portions of the airport property, design a site-specific mitigation program to be implemented prior to construction, and complete a Cumulative Effects Assessment (CEA) of historical resources in the area.

The Historical Resource guidelines established

The record review indicated that one precontact airport boundaries. The cairns and one possible cultural affiliation. The

twenty years thereafter and no site evidence remained when an environmental assessment (CAA 2000; personal communication, T. Thompson, CAA, October 2000). Loss of the site contributed to a decision by the CAA to undertake this HRIA for the entire property. No other historical resource sites had been previously recorded within airport boundaries.

Ground reconnaissance and shovel testing resulted in the discovery of one new precontact archaeological site, EgPI-11, and three new historic archaeological sites, EgPI-12, EgPI-13, and EgPm-304. EgPI-11 is an isolated artifact site with limited interpretive potential, and no further work is required in the context of future airport development. Historic site EgPm-304 is located mostly outside the airport boundary, and also is of limited interpretive potential, and it is recommended that no further work be required in the context of future development. Historic sites EgPI-12 and EgPI-13 have moderate interpretive potential, and it is recommended that further research be required prior to development of the areas in which these sites are located. Minimally, EgPI-12 should be mapped, architectural details of the sandstone foundation recorded, artifacts collected from the plowed areas outside of the foundation, and surviving members of the family be interviewed in the course of further archival research. EgPI-13 should be mapped, the possible dwelling area cleared and recorded, and excavations initiated if undisturbed remains associated with the house are encountered.

The results of a Cumulative Effects Assessment of the region indicate that development in the area has destroyed a number of known historical resource sites. However, many of the known sites in the area have not been destroyed, and the potential destruction of sites within the airport boundaries during future development will not significantly alter the remaining historical

EgPI-11 is an inter-
form w/ numerous buildings
inter in Table 5.
EgPI-13 is the isolated
kind.
EgPI-12 is homestead.
Typos - pg. 70
EgPI-11 should be
13, EgPI 13
Should be 11.

resources database in the area. The Calgary Airport Authority property holds few archaeological sites. Those present are not unique historical resources in the area, representing only a small proportion of the types of sites commonly found. The airport sites have for the most part already been removed or significantly disturbed, or are of low interpretive potential. The impact to specific sites within the airport development zone will be effectively mitigated by further study prior to development, in order that available information will be recorded. Given the numerous archaeological sites that have not been affected by development in the Regional Study Area and the Local Study Area, the impact on the historical resources based on the currently proposed development will not significantly alter the historical resources database at either the Regional or Local levels, nor the conclusions archaeologists draw from these sites.

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Archaeological Survey
Provincial Museum of Alberta

Borden No. EgPl-11

Permit No.

ARCHAEOLOGICAL SITE INVENTORY DATA

Return to: Archaeological Inventory and Permit Coordinator
Archaeological Survey, 8820 - 112 St.
Edmonton, Alberta T6G 2P8

Update/Revisit Date:

1. Site Name
2. Field No.
3. Elevation 1098 m
4. N.T.S. 1:50,000 Map No. & Name 82.P/4.Dalroy
5. U.T.M. Grid Zone 12UTM Easting 908.28 Northing 695.13
6. Legal Description: LSD 2 Section 21 Township 25 Range 29 W of 4 M
7. Land Owner [X] Government of Canada [] Government of Alberta [] Municipal Government [] Freehold
Land Owner Name/Address Calgary Airport Authority

8. Access (refer to highway, road number, trail, cardinal directions, landmarks, nearest settlement, distances)

Take 112 Ave east of Barlow Trail, then turn right on the two track that heads south immediately east of the small industrial complex. Follow the two-track south, then west around the woodlot, continue south until hitting the gravel road. Follow the gravel road east around the south end of the woodlot, then north, then east on the margin of the cultivated field, then south until it passes through the site

9. Site Environment/Setting (describe in terms of drainage, slope, aspect, vegetation, soil type, landforms)

The site is located on a high spot with surrounding cultivated fields, with brush and a woodlot to the west and northwest. The site has an open aspect, and the soil is a dark brown loam. Vegetation consists of cultivated fields, brush, and poplar

10. Site Class [] prehistoric [] indigenous historic [X] historic [] contemporary [] undetermined
11. Sub Type [] surface [X] subsurface [] underwater [] stratified [] undetermined
[] single component [] multi component [X] undetermined
components

12. Site Type [] isolated find [] quarry [] ranch [] school [] scatter (<10) [] rock art [] dwelling [] urban [] scatter (>10) [] burial [] trading post [] ceremonial/religious [] campsite [] palaeoenvironmental [] police post [] industrial [] stone feature [] settlement [] mine [] transportation [] killsite [] homestead [] trail [] Other... [] workshop [X] farm [] mission

13. Features (frequencies if possible)
stone circle medicine wheel pit 4 structure Other Features:
cairn effigy mound 1 foundation
stone arc pictograph depression 1 cellar
stone line petroglyph cabin 1 dump
drive lane hearth house fence

14. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

The remains on this site consist of one concrete foundation, one collapsed outbuilding, the possible remains of a dwelling, a double-seater outhouse, and two other outbuildings in the field approximately 300 m southeast. The concrete foundation is likely that of a barn, measuring 22' 6" (6.85 m) E-W by 40' (12.2 m) N-S, and one foot wide. Metal pegs and wood are still attached to the top of the foundation. Two concrete pillars with sawed off beams lie in the interior, suggesting the superstructure was removed. The wooden outbuilding is collapsed, but seems to have measured 15' (4.57 m) by 14' (4.25 m). The walls are made of milled lumber, with a wooden shingle roof. The remains of a possible dwelling lie furthest west. No foundation is visible, but at the western end there appears to be a cellar hole, and some large rocks that may have been part of a foundation. The wood in this area is more weathered and older than at the eastern end. It appears as if another building, perhaps the barn, was bulldozed and the wood piled on top of the house remains. Northwest of the possible dwelling lies a collapsed double-seater outhouse, measuring 4' (1.22 m) by 4' 6" , with a tin roof. 300 m southwest of this complex are two collapsed outbuildings, each approximately 4.2 m by 5.6 m. These structures have no foundations, but do have wooden floors

15. Materials observed /collected (frequencies if possible)

observed / collected	observed / collected	observed / collected
..... projectile points	x..... faunal remains	..... shell
..... lithic tools	..... human remains	x..... metal
..... lithic debitage	..... floral remains	x..... .5..... glass
..... bone tools	..... tephra	..... other, specify
x..... ceramics	..... soil samples	.....
..... fire cracked rock	..... macrofossils	.....
..... charcoal	x..... wood	

16. Collection Remarks (formed tools, raw materials,)

The area around the barn has been plowed, and plate glass and one ceramic sherd were noted in the area. Test pit 1 yielded a perfume bottle approximately 10-15 cmbs, and coal or charcoal up to approximately 20 cmbs. Test pit 3 yielded four glass fragments below surface. Two of the glass fragments are plain plate glass, but the other two appear to be lamp chimney glass. Northwest of the barn foundation is a historic dump with numerous cans, bottles, and faunal remains. Other modern garbage is found on the site.

17. Collection Repository Provincial Museum of Alberta, Archaeological Survey Private collection Other...

Dispositions File No.

18. Photo/Images yes no Repository Fedirchuk.McCullough.& Associates.Ltd.,.Calgary,.AB.....

19. Culture Early Prehistoric Late Prehistoric Historic Other.....
 Middle Prehistoric Fur Trade/Contact Undetermined

Cultural Affiliation (Complexes, phases, traditions, projectile point types, ethnographic & ethnic groups)

Euro-Canadian

20. Calendar Date (A.D./B.C.)

21. Radiocarbon Dates

Borden No. EgPI-11

Permit No.

22. Estimated Dimensions N-S 5.0 m, E-W 10.0 m, Depth 0.50 m

23. Means of Estimating Dimensions [x] surface inspection [] Other... 4 No. of shovel tests
[] erosion exposure No. of backhoe tests

24. Estimated Portion Intact 6.0 %

25. Disturbance Factors (natural, human, current, potential)

Will current development impact site [] yes [] no [x] unknown

Type of Disturbance

- [x] agriculture [] gravel/sand pit [] forestry [] industrial area
[] pipeline [] residential area [] transmission line [x] vandalism
[] wellsite [] coal mine [] reservoir [] erosion
[x] road/highway [] oil sands [] recreation area [] Other...

Disturbance Factors Remarks

Parts of the site have been cultivated, and roads run through the site. Plenty of modern garbage has been dumped at this site.

26. Researcher/Permit Holder Dan Meyer Date (Y/M/D) 00/10/21

27. Observed by Dan Meyer Date (Y/M/D) 00/10/21

28. Surface collected by Date (Y/M/D)

29. Tested/assessed by Dan Meyer Date (Y/M/D) 00/10/21

30. Excavated/mitigated by Date (Y/M/D)

31. Form completed by Dan Meyer Date (Y/M/D) 00/11/30

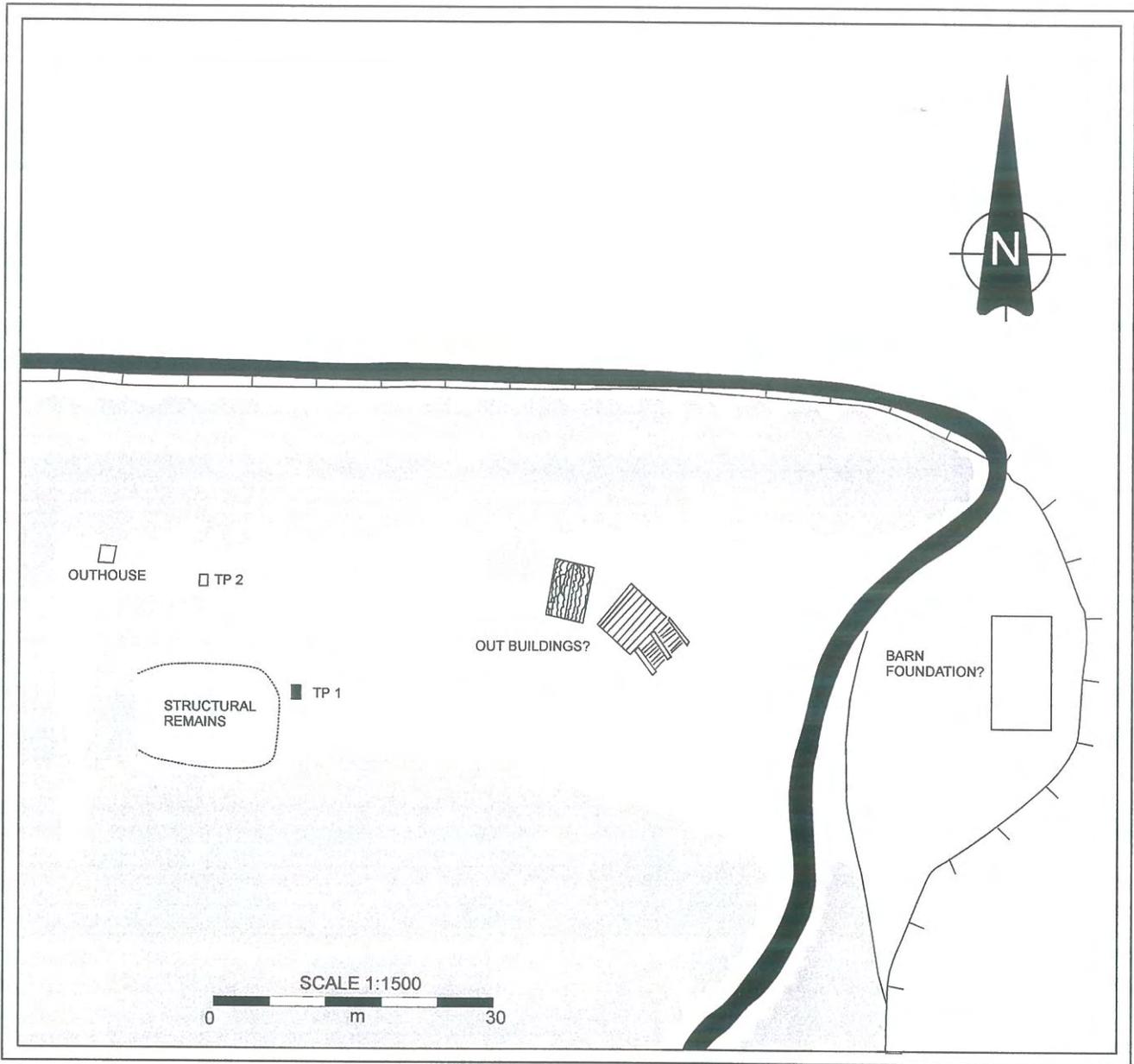
32. Project name/Report Title Historical Resources Impact Assessment, Calgary Airport Authority, Calgary Airport

33. Site Significance/Recommendations [] no additional investigation required (justify):
[] additional investigation required (specify):

[Empty box for site significance recommendations]

34. Additional Remarks

[Empty box for additional remarks]



N.T.S. 1:50,000 MAP INSET MAP NO.: 82 P/4

LEGEND



PIPELINE RIGHT-OF-WAY	ROAD
WORKSPACE	TRAIL
SITE AREA	FENCE
SITE LOCATION	BREAK IN SLOPE
STONE CIRCLE	DRAINAGE
CAIRN	SEASONAL DRAINAGE
POSITIVE TEST PIT	WATER BODY
NEGATIVE TEST PIT	SEASONAL WATER BODY
ARTIFACT SCATTER	TREED AREA
ARTIFACT FIND	DISTURBED AREA





Archaeological Survey
Provincial Museum of Alberta

Borden No. EgPI-12

Permit No.

ARCHAEOLOGICAL SITE INVENTORY DATA

Return to: Archaeological Inventory and Permit Coordinator
Archaeological Survey, 8820 - 112 St.
Edmonton, Alberta T6G 2P8

Update/Revisit Date:

1. Site Name Hooper Homestead 2. Field No.
3. Elevation 1090.m 4. N.T.S. 1:50,000 Map No. & Name 82.P/4.Dalroy
5. U.T.M. Grid Zone 12UTM Easting 905.56 Northing 647.95
6. Legal Description: LSD 2 Section 4 Township 25 Range 29 W of 4 M
7. Land Owner [X] Government of Canada [] Government of Alberta [] Municipal Government [] Freehold
Land Owner Name/Address Calgary Airport Authority

8. Access (refer to highway, road number, trail, cardinal directions, landmarks, nearest settlement, distances)

Proceed west on McKnight Boulevard to 36th Street N.E., then proceed north on 36th Street approximately 100 meters. Take the first dirt road on your left into the cultivated field. Continue southwest on this two track, which will turn north just before going through the fence on the west. The site is located on the small rise just north of here.

9. Site Environment/Setting (describe in terms of drainage, slope, aspect, vegetation, soil type, landforms)

The site is located on a low rise or small knoll in otherwise flat to undulating terrain. The field has been previously cultivated and has a mixture of domestic and wild grasses. The vegetation is sparse. The site has an open aspect.

10. Site Class [] prehistoric [] indigenous historic [X] historic [] contemporary [] undetermined
11. Sub Type [] surface [X] subsurface [] underwater [] stratified [] undetermined [X] single component [] multi component [] undetermined # components

12. Site Type [] isolated find [] quarry [] ranch [] school [] scatter (<10) [] rock art [] dwelling [] urban [] scatter (>10) [] burial [] trading post [] ceremonial/religious [] campsite [] palaeoenvironmental [] police post [] industrial [] stone feature [] settlement [] mine [] transportation [] killsite [X] homestead [] trail [] Other... [] workshop [] farm [] mission

13. Features (frequencies if possible) stone circle medicine wheel pit structure
cairn effigy mound foundation
stone arc pictograph depression cellar
stone line petroglyph cabin dump
drive lane hearth house fence
Other Features:

14. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

The site consists of one old sandstone house foundation surrounding a cellar pit. A wooden structure appears to have collapsed into or perhaps been dumped into the cellar hole. The foundation is built of shaped sandstone blocks up to 45 cm wide, and buried up to 20 cm or farther. The foundation measures 25 feet (7.6m) E-W by 21 feet (6.4m) N-S. The wooden remains inside the cellar hole are comprised of milled lumber with modern nails, and the remains of an old mattress are visible. The disposition of the lumber inside the cellar hole indicates that some or most of this may have been dumped here from elsewhere. A pile of cobbles and some concrete at the north end of the foundation may be more dumped material, or may indicate an appendage at this end of the structure. The tall vegetation here makes a determination difficult. Historic artifacts are visible in all directions from the foundation. The artifacts recovered indicate that this structure was most likely a house.

15. Materials observed /collected (frequencies if possible)

observed / collected	observed / collected	observed / collected
..... projectile points	..... faunal remains	..... shell
..... lithic tools	..... human remains	x..... metal
..... lithic debitage	..... floral remains	x..... glass
..... bone tools	..... tephra	..... other, specify
x..... 5..... ceramics	..... soil samples	.....
..... fire cracked rock	..... macrofossils	.....
..... charcoal	..... wood	

16. Collection Remarks (formed tools, raw materials,)

Historic ceramics and glass are spread over a relatively large area, extending 35 m to the south of the foundation, 25 m to the north, 30 m west, and 25 m to the east. Collected sherds include a white earthenware plate base fragment with a partial stamped maker's mark, three pieces of white earthenware with blue or green underglaze transfer designs, and one piece of porcelain with handpainted green designs and possibly a brown overglaze transfer.

17. Collection Repository Provincial Museum of Alberta, Archaeological Survey Private collection Other...

Dispositions File No.

18. Photo/Images yes no Repository Fedirchuk, McCullough & Associates Ltd., Calgary, AB.....

19. Culture Early Prehistoric Late Prehistoric Historic Other.....
 Middle Prehistoric Fur Trade/Contact Undetermined

Cultural Affiliation (Complexes, phases, traditions, projectile point types, ethnographic & ethnic groups)

Euro-Canadian

20. Calendar Date (A.D./B.C.) AD 1905.....

21. Radiocarbon Dates

Borden No. EgPI-12

Permit No.

22. Estimated Dimensions N-S 7.0 m, E-W 6.5 m, Depth 1.0 m

23. Means of Estimating Dimensions [x] surface inspection [] Other... 4 No. of shovel tests
[] erosion exposure No. of backhoe tests

24. Estimated Portion Intact 5.0 %

25. Disturbance Factors (natural, human, current, potential)

Will current development impact site [] yes [] no [x] unknown

Type of Disturbance

- [x] agriculture [] gravel/sand pit [] forestry [] industrial area
[] pipeline [] residential area [] transmission line [x] vandalism
[] wellsite [] coal mine [] reservoir [] erosion
[x] road/highway [] oil sands [] recreation area [] Other...

Disturbance Factors Remarks

The area around the foundation has been plowed, and has caused significant disturbance to any buried materials surrounding the structure. The foundation itself is unaffected by plowing. A dirt two-track runs through the site. A pile of cobbles and one foundation stone indicate that the many people who recreate in this area have impacted the site.

26. Researcher/Permit Holder Dan Meyer Date (Y/M/D) 00/10/21

27. Observed by Dan Meyer Date (Y/M/D) 00/10/21

28. Surface collected by Dan Meyer Date (Y/M/D) 00/10/21

29. Tested/assessed by Dan Meyer Date (Y/M/D) 00/10/21

30. Excavated/mitigated by Date (Y/M/D)

31. Form completed by Dan Meyer Date (Y/M/D) 00/11/30

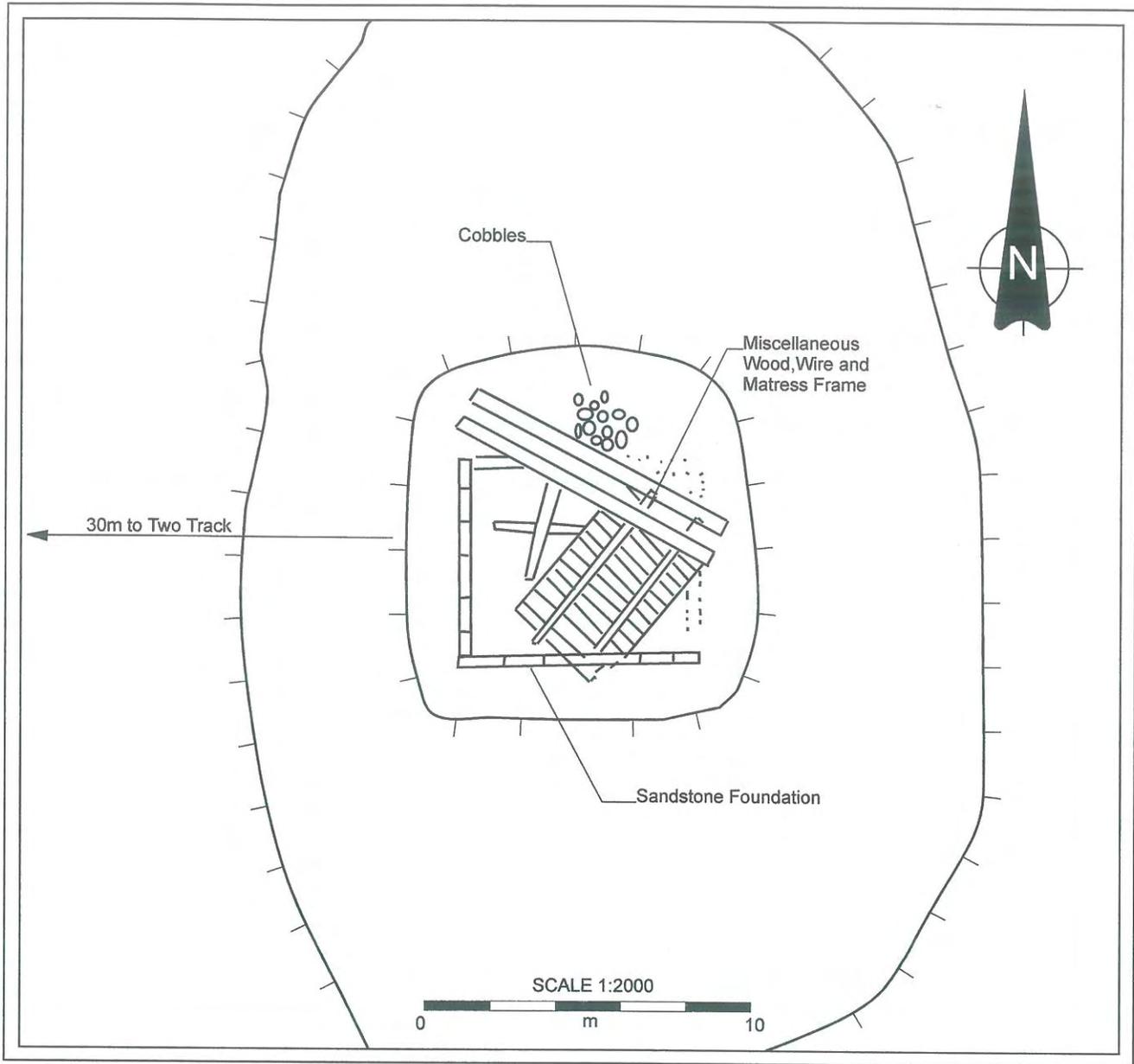
32. Project name/Report Title Historical Resources Impact Assessment, Calgary Airport Authority, Calgary Airport

33. Site Significance/Recommendations [] no additional investigation required (justify):
[x] additional investigation required (specify):

This site represents one of the older houses still remaining in the Calgary area, dating to the first decade of the 20th century. Although some subsurface remains have been disturbed by plowing around the foundation, the foundation itself is still intact, as are any remains in the cellar hole. It is recommended that a mitigation program be implemented prior to any disturbance. This mitigation program should minimally include a collection of any visible artifacts, and a detailed architectural study of the foundation, including clearing and excavation if necessary.

34. Additional Remarks

[Empty box for additional remarks]



N.T.S. 1:50,000 MAP INSET MAP NO.: 82 P/4

LEGEND



PIPELINE RIGHT-OF-WAY	ROAD
WORKSPACE	TRAIL
SITE AREA	FENCE
SITE LOCATION	BREAK IN SLOPE
STONE CIRCLE	DRAINAGE
CAIRN	SEASONAL DRAINAGE
POSITIVE SHOVEL TEST	WATER BODY
NEGATIVE SHOVEL TEST	SEASONAL WATER BODY
ARTIFACT SCATTER	TREED AREA
ARTIFACT FIND	DISTURBED AREA



Archaeological Survey
Provincial Museum of Alberta

Borden No. EgPI-13.....

Permit No.

ARCHAEOLOGICAL SITE INVENTORY DATA

Return to: Archaeological Inventory and Permit Coordinator
Archaeological Survey, 8820 - 112 St.
Edmonton, Alberta T6G 2P8

Update/Revisit Date:

1. Site Name 2. Field No.
3. Elevation 1090 m 4. N.T.S. 1:50,000 Map No. & Name 82.P/4.Dalroy
5. U.T.M. Grid Zone 12UTM Easting 909.30 Northing 652.63 [X] NAD27 [] NAD83
GPS [X] yes [] no
6. Legal Description: LSD 8 Section 4 Township 25 Range 29 W of 4 M
7. Land Owner [X] Government of Canada [] Government of Alberta [] Municipal Government [] Freehold
Land Owner Name/Address Calgary Airport Authority.....

8. Access (refer to highway, road number, trail, cardinal directions, landmarks, nearest settlement, distances)

Proceed west on McKnight Boulevard to 36th Street N.E., then proceed north on 36th Street approximately 100 meters. Take the first dirt road on your left into the cultivated field. Continue northwest on this two track, which will then proceed west paralleling an ephemeral drainage. About midway between 36th Street and the fence at the western end of the field, proceed 40 m north of the two-track to the edge of the drainage

9. Site Environment/Setting (describe in terms of drainage, slope, aspect, vegetation, soil type, landforms)

The site is located on the edge of a shallow, low, dry, ephemeral drainage in otherwise flat cultivated terrain. The sparse vegetation consists of a mixture of domestic and wild grasses. Soil consists of a dark brown loam topsoil to approximately 15 cmbs, then a tan clay loam. The site has an open aspect.

10. Site Class [X] prehistoric [] indigenous historic [] historic [] contemporary [] undetermined
11. Sub Type [X] surface [] subsurface [] underwater [] stratified [] undetermined
[] single component [] multi component [] undetermined
..... # components

12. Site Type [X] isolated find [] quarry [] ranch [] school
[] scatter (<10) [] rock art [] dwelling [] urban
[] scatter (>10) [] burial [] trading post [] ceremonial/religious
[] campsite [] palaeoenvironmental [] police post [] industrial
[] stone feature [] settlement [] mine [] transportation
[] killsite [] homestead [] trail [] Other...
[] workshop [] farm [] mission

13. Features (frequencies if possible)
..... stone circle medicine wheel pit structure Other Features:
..... cairn effigy mound foundation
..... stone arc pictograph depression cellar
..... stone line petroglyph cabin dump
..... drive lane hearth house fence

14. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

The site consists of a single, isolated, non-diagnostic lithic artifact.

15. Materials observed /collected (frequencies if possible)

observed / collected	observed / collected	observed / collected
..... .. projectile points	..... .. faunal remains	..... .. shell
..... .. lithic tools	..... .. human remains	..... .. metal
.1..... .1..... lithic debitage	..... .. floral remains	..... .. glass
..... .. bone tools	..... .. tephra	..... .. other, specify
..... .. ceramics	..... .. soil samples	..... ..
..... .. fire cracked rock	..... .. macrofossils	..... ..
..... .. charcoal	..... .. wood	

16. Collection Remarks (formed tools, raw materials,)

1 dark grey silicified siltstone secondary flake

17. Collection Repository Provincial Museum of Alberta, Archaeological Survey Private collection Other...

Dispositions File No.

18. Photo/Images yes no Repository Fedirchuk McCullough & Associates Ltd., Calgary, AB.....

19. Culture Early Prehistoric Late Prehistoric Historic Other.....
 Middle Prehistoric Fur Trade/Contact Undetermined

Cultural Affiliation (Complexes, phases, traditions, projectile point types, ethnographic & ethnic groups)

unknown

20. Calendar Date (A.D./B.C.)

21. Radiocarbon Dates None.....

Borden No. EgPI-13.....

Permit No.

22. Estimated Dimensions N-S 5..... m, E-W5..... m, Depth 0.00..... m

23. Means of Estimating Dimensions surface inspection Other... 5..... No. of shovel tests
 erosion exposure No. of backhoe tests

24. Estimated Portion Intact 90..... %

25. Disturbance Factors (natural, human, current, potential)

Will current development impact site yes no unknown

Type of Disturbance

- agriculture gravel/sand pit forestry industrial area
- pipeline residential area transmission line vandalism
- wellsite coal mine reservoir erosion
- road/highway oil sands recreation area Other...

Disturbance Factors Remarks

The site lies within a previously cultivated field

26. Researcher/Permit Holder Dan Meyer..... Date (Y/M/D) 00/10/20.....

27. Observed by Dan Meyer..... Date (Y/M/D) 00/10/20.....

28. Surface collected by Dan Meyer..... Date (Y/M/D) 00/10/20.....

29. Tested/assessed by Dan Meyer..... Date (Y/M/D) 00/10/20.....

30. Excavated/mitigated by Date (Y/M/D).....

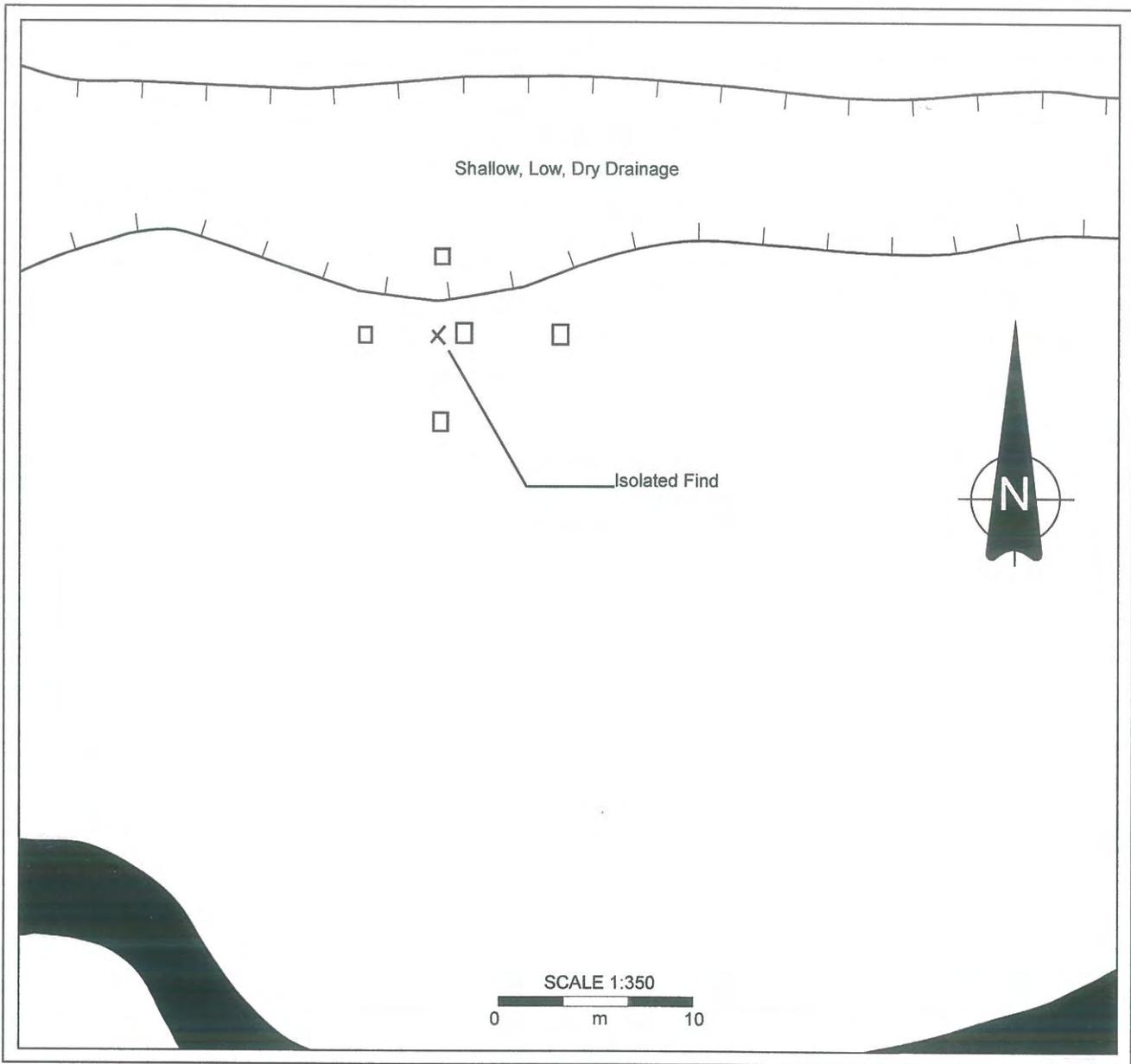
31. Form completed by Dan Meyer..... Date (Y/M/D) 00/11/30.....

32. Project name/Report Title

33. Site Significance/Recommendations no additional investigation required (justify):
 additional investigation required (specify):

This site consists of a single, non-diagnostic artifact, and therefore has limited interpretive potential

34. Additional Remarks



N.T.S. 1:50,000 MAP INSET MAP NO.: 82 P/4

LEGEND



	PIPELINE RIGHT-OF-WAY		ROAD
	WORKSPACE		TRAIL
	SITE AREA		FENCE
	SITE LOCATION		BREAK IN SLOPE
	STONE CIRCLE		DRAINAGE
	CAIRN		SEASONAL DRAINAGE
	POSITIVE SHOVEL TEST		WATER BODY
	NEGATIVE SHOVEL TEST		SEASONAL WATER BODY
	ARTIFACT SCATTER		TREED AREA
	ARTIFACT FIND		DISTURBED AREA

ARCHAEOLOGICAL SITE INVENTORY DATA

Return to: Archaeological Inventory and Permit Coordinator
Archaeological Survey, 8820 - 112 St.
Edmonton, Alberta T6G 2P8

Update/Revisit Date:

1. Site Name 2. Field No.
3. Elevation ..1065 m..... 4. N.T.S. 1:50,000 Map No. & Name 82.O/1.Calgary.....
5. U.T.M. Grid Zone 11UQG..... Easting 069.78 Northing 678.05 NAD27 NAD83
GPS yes no
6. Legal Description: LSD 4..... Section 14..... Township 25..... Range 1..... W of 5..... M
7. Land Owner Government of Canada Government of Alberta Municipal Government Freehold
Land Owner Name/Address City of Calgary.....

8. Access (refer to highway, road number, trail, cardinal directions, landmarks, nearest settlement, distances)

From 17th Street NE, proceed up the paved road towards the airport control tower and the airport gate. Once inside the airport fence, proceed north and northwest on the paved road until near the road end. The site is located on the terrace edge, just on the west side of the fence cordoning off the air side of the airport.

9. Site Environment/Setting (describe in terms of drainage, slope, aspect, vegetation, soil type, landforms)

The site is located on the edge of the terrace overlooking Deerfoot trail and Nose Creek to the west. The site is on a flat area, but slopes precipitously to the west. The site has a western aspect, and vegetation consists of a mixture of wild and domestic grasses.

10. Site Class prehistoric indigenous historic historic contemporary undetermined
11. Sub Type surface subsurface underwater stratified undetermined single component multi component undetermined
..... # components

12. Site Type isolated find quarry ranch school
 scatter (<10) rock art dwelling urban
 scatter (>10) burial trading post ceremonial/religious
 campsite palaeoenvironmental police post industrial
 stone feature settlement mine transportation
 killsite homestead trail Other...
 workshop farm mission

13. Features (frequencies if possible) stone circle medicine wheel pit structure Other Features:
..... cairn effigy mound foundation
..... stone arc pictograph depression cellar
..... stone line petroglyph cabin dump
..... drive lane hearth house fence

14. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

This site consists of a large concrete foundation 75 m N-S by 34 m E-W occupying the area between the airport fence and the very edge of the escarpment. The foundation is a large concrete pad with molded channels and a walkway layed out longitudinally. Lichens cover the concrete. There is some milled lumber present, as well a numerous nails a much wire. This building was likely a large barn or perhaps an abatoire. These remains likely date somewhere in the 1920s, 30s, or 40s.

15. Materials observed /collected (frequencies if possible)

observed / collected	observed / collected	observed / collected
..... projectile points	..... faunal remains	..... shell
..... lithic tools	..... human remains	x..... metal
..... lithic debitage	..... floral remains	..... glass
..... bone tools	..... tephra	..... other, specify
..... ceramics	..... soil samples	.....
..... fire cracked rock	..... macrofossils	.....
..... charcoal	x..... wood	

16. Collection Remarks (formed tools, raw materials,)

Numerous bits of milled lumber, nails, wire, and miscellaneous metal pieces litter the site.

17. Collection Repository Provincial Museum of Alberta, Archaeological Survey Private collection Other...

Dispositions File No.

18. Photo/Images yes no Repository Fedirchuk McCullough & Associates Ltd., Calgary, AB.....

19. Culture Early Prehistoric Late Prehistoric Historic Other...
 Middle Prehistoric Fur Trade/Contact Undetermined

Cultural Affiliation (Complexes, phases, traditions, projectile point types, ethnographic & ethnic groups)

Euro-Canadian

20. Calendar Date (A.D./B.C.)

21. Radiocarbon Dates None.....

Borden No. EgPm-304.....

Permit No.

22. Estimated Dimensions N-S 7.5..... m, E-W3.5..... m, Depth 0.05..... m

23. Means of Estimating Dimensions surface inspection Other... No. of shovel tests
 erosion exposure No. of backhoe tests

24. Estimated Portion Intact 5.0..... %

25. Disturbance Factors (natural, human, current, potential)

Will current development impact site yes no unknown

Type of Disturbance

- agriculture gravel/sand pit forestry industrial area
- pipeline residential area transmission line vandalism
- wellsite coal mine reservoir erosion
- road/highway oil sands recreation area Other...

Disturbance Factors Remarks

The area around the foundation has been previously cultivated. In addition, a small portion of the site may extend east of the fence, indicating that the fence may have impacted the site. This site lies almost entirely outside of the airport boundary. Its position near the runways of the airport make it unlikely that the area will be developed.

26. Researcher/Permit Holder Dan Meyer..... Date (Y/M/D) 00/10/23.....

27. Observed by Bob Steinhauser..... Date (Y/M/D) 00/10/23.....

28. Surface collected by Date (Y/M/D).....

29. Tested/assessed by Bob Steinhauser..... Date (Y/M/D) 00/10/23.....

30. Excavated/mitigated by Date (Y/M/D).....

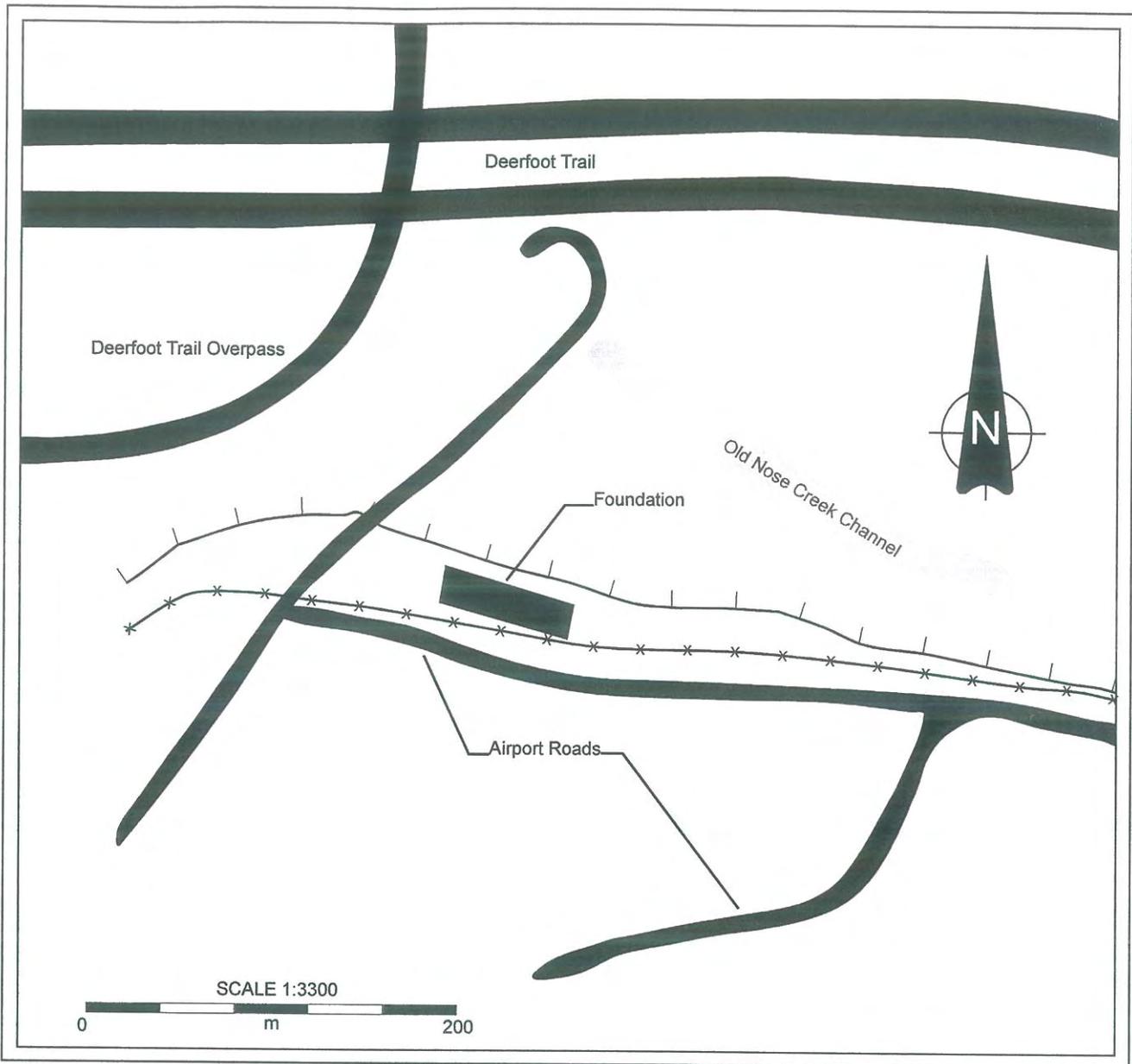
31. Form completed by Dan Meyer..... Date (Y/M/D) 00/11/30.....

32. Project name/Report Title Historical Resources Impact Assessment, Calgary Airport Authority, Calgary Airport.....

33. Site Significance/Recommendations no additional investigation required (justify):
 additional investigation required (specify):

The relatively young age of this site and type of remains give it low interpretive potential. Almost the entire site lies outside the airport boundary, and its position near the runways make it unlikely the area will be developed.

34. Additional Remarks



N.T.S. 1:50,000 MAP INSET MAP NO.: 82 P/4

LEGEND



PIPELINE RIGHT-OF-WAY	ROAD
WORKSPACE	TRAIL
SITE AREA	FENCE
SITE LOCATION	BREAK IN SLOPE
STONE CIRCLE	DRAINAGE
CAIRN	SEASONAL DRAINAGE
POSITIVE SHOVEL TEST	WATER BODY
NEGATIVE SHOVEL TEST	SEASONAL WATER BODY
ARTIFACT SCATTER	TRUED AREA
ARTIFACT FIND	DISTURBED AREA



Archaeological Survey
Provincial Museum of Alberta

Borden No. EgP.m.:30.....

Permit No.

ARCHAEOLOGICAL SITE INVENTORY DATA

Return to: Archaeological Inventory and Permit Coordinator
Archaeological Survey, 8820 - 112 St.
Edmonton, Alberta T6G 2P8

Update/Revisit Date: 00/10/30.....

1. Site Name 2. Field No.
3. Elevation .1075.m 4. N.T.S. 1:50,000 Map No. & Name .82.O/1.Calgary.....
5. U.T.M. Grid Zone .11UQG Easting .074 Northing .675 [X] NAD27 [] NAD83
GPS [] yes [X] no
6. Legal Description: LSD .4 Section .14 Township .25 Range .1 W of .5 M
7. Land Owner [X] Government of Canada [] Government of Alberta [] Municipal Government [] Freehold
Land Owner Name/Address .Calgary Airport Authority.....

8. Access (refer to highway, road number, trail, cardinal directions, landmarks, nearest settlement, distances)

no new information

9. Site Environment/Setting (describe in terms of drainage, slope, aspect, vegetation, soil type, landforms)

no new information

10. Site Class [X] prehistoric [] indigenous historic [] historic [] contemporary [] undetermined
11. Sub Type [X] surface [] subsurface [] underwater [] stratified [] undetermined
[] single component [] multi component [X] undetermined
..... # components

12. Site Type [] isolated find [] quarry [] ranch [] school
[] scatter (<10) [] rock art [] dwelling [] urban
[] scatter (>10) [] burial [] trading post [] ceremonial/religious
[] campsite [] palaeoenvironmental [] police post [] industrial
[X] stone feature [] settlement [] mine [] transportation
[] killsite [] homestead [] trail [] Other...
[] workshop [] farm [] mission

13. Features (frequencies if possible)
1..... stone circle medicine wheel pit structure Other Features:
2..... cairn effigy mound foundation
..... stone arc pictograph depression cellar
..... stone line petroglyph cabin dump
..... drive lane hearth house fence

14. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

[Empty box for description]

15. Materials observed /collected (frequencies if possible)

observed / collected	observed / collected	observed / collected
..... .. projectile points	..... .. faunal remains	..... .. shell
..... .. lithic tools	..... .. human remains	..... .. metal
..... .. lithic debitage	..... .. floral remains	..... .. glass
..... .. bone tools	..... .. tephra	..... .. other, specify
..... .. ceramics	..... .. soil samples	..... ..
..... .. fire cracked rock	..... .. macrofossils	..... ..
..... .. charcoal	..... .. wood	

16. Collection Remarks (formed tools, raw materials,)

[Empty box for collection remarks]

17. Collection Repository Provincial Museum of Alberta, Archaeological Survey Private collection Other...

Dispositions File No.

18. Photo/Images yes no Repository

19. Culture Early Prehistoric Late Prehistoric Historic Other...
 Middle Prehistoric Fur Trade/Contact Undetermined

Cultural Affiliation (Complexes, phases, traditions, projectile point types, ethnographic & ethnic groups)

[Empty box for cultural affiliation]

20. Calendar Date (A.D./B.C.)

21. Radiocarbon Dates

Borden No. EgP.m-30

Permit No.

22. Estimated Dimensions N-S m, E-W m, Depth m

23. Means of Estimating Dimensions surface inspection Other... No. of shovel tests erosion exposure No. of backhoe tests

24. Estimated Portion Intact %

25. Disturbance Factors (natural, human, current, potential)

Will current development impact site yes no unknown

Type of Disturbance

- agriculture gravel/sand pit forestry industrial area pipeline residential area transmission line vandalism wellsite coal mine reservoir erosion road/highway oil sands recreation area Other...

Disturbance Factors Remarks

Empty rectangular box for Disturbance Factors Remarks.

26. Researcher/Permit Holder Date (Y/M/D)

27. Observed by Date (Y/M/D)

28. Surface collected by Date (Y/M/D)

29. Tested/assessed by Date (Y/M/D)

30. Excavated/mitigated by Date (Y/M/D)

31. Form completed by Date (Y/M/D)

32. Project name/Report Title

33. Site Significance/Recommendations no additional investigation required (justify): additional investigation required (specify):

Empty rectangular box for Site Significance/Recommendations details.

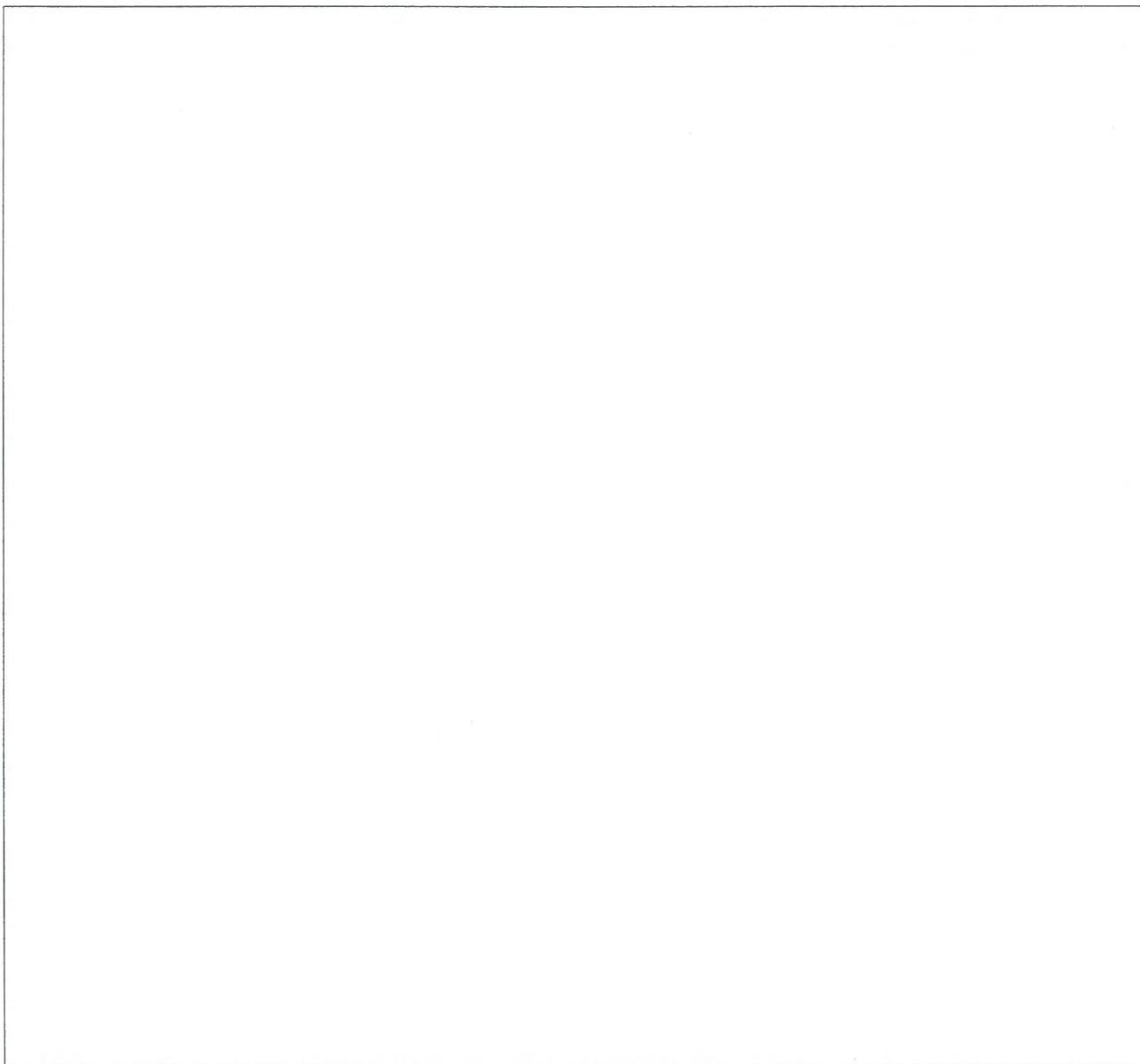
34. Additional Remarks

Empty rectangular box for Additional Remarks.

Borden No. EgPm-30.....

35. Site Map

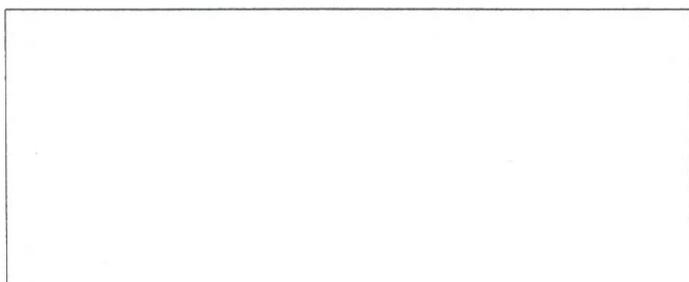
Permit No.



N.T.S. 1:50,000 Map Inset

Map No.:

Legend



Extent of Site	— — — — —	Fence	— x — x — x — x —
Positive Shovel Test	■	Railway	— + + + + + —
Negative Shovel Test	□	River	— > > > > —
Road	== == ==	Steep Rise	||| ||| |||
Trail	— — — — —		
Additional Legend			

Appendix B

Fedirchuk McCullough &
Associates Ltd. 2006. Historical
Resources Impact Mitigation
Calgary Airport Authority Sites
EgPI-11 and EgPI-12, Final
Report

HISTORICAL RESOURCES IMPACT MITIGATION

**CALGARY AIRPORT AUTHORITY
SITES EgPI 11 and EgPI 12**

FINAL REPORT

**Prepared For
Calgary Airport Authority
2000 Airport Road N.E.
Calgary, Alberta**

**Prepared By
FMA Heritage Resources Consultants Inc.
200, 1719 Tenth Avenue S.W.
Calgary, Alberta**

December 2006



December 21, 2006

Calgary Airport Authority
2000 Airport Road N.E.
Calgary, Alberta
T2E 6W5

Attention: Mr. Terry Thompson

Dear Mr. Thompson

**Re: Historical Resources Impact Mitigation, Calgary Airport Authority,
EgPI 11 and EgPI 12**

I am pleased to submit to you this report entitled *Historical Resources Impact Mitigation, Calgary Airport Authority, Sites EgPI 11 and EgPI 12, Final Report*. Should you have any questions regarding this project, please do not hesitate to contact me.

Yours truly,

**FMA HERITAGE RESOURCES
CONSULTANTS INC.**

James Graham, M.N.R.M.
/jg

Executive Summary

In 2000, at the request of the Calgary Airport Authority, Fedirchuk McCullough & Associates (FMA) conducted an Historical Resources Impact Assessment (HRIA) of approximately 2052 hectares of land, newly identifying one precontact archaeological site, EgPI 13, and three historic archaeological sites, EgPI 11, EgPI 12, and EgPm 304. As a result of the HRIA, FMA recommended that mitigation activities be undertaken at sites EgPI 11 and EgPI 12 prior to any development occurring. In June of 2006, Calgary Airport Authority contacted FMA Heritage Resources Consultants Inc. (FMA) in order to conduct mitigation activities at EgPI 12. It was decided that mitigation of EgPI 11 would occur concurrently.

The results of the mitigation of these two historic archaeological sites are the focus of this report. The Hooper Homestead, EgPI 12, is in immediate threat of destruction through golf course construction, while EgPI 11 is outside of the impact zone, as there are currently no plans for development. Both of these sites fall under federal jurisdiction and, as such, a provincial archaeological research permit is not required.

Mitigation activities at sites EgPI 11 and EgPI 12 occurred in several phases in late June to mid-July, 2006. The first phase of mitigation at both EgPI 11 and EgPI 12 consisted of an intensive pedestrian traverse and visual examination of the sites, combined with site mapping, surface collection, and interpretation. Diagnostic artifacts were collected from each site, facilitating an accurate interpretation of the occupation activities and occupation dates of each site. The second phase of mitigation at EgPI 12 involved limited shovel testing and exploratory trenches, adjacent to and across structural

foundations. The third phase of mitigation at EgPI 12 involved monitoring the removal of wood debris from inside the structural foundation of the Hooper Homestead. Following the removal of debris, the foundation was covered by landscaping fabric, serving to protect the foundation and any remaining buried historic deposits, effectively capping the site. Following the capping and preservation of the site, it was filled. The area above EgPI 12 will be incorporated into the golf course currently under construction.

During the mitigation activities, palaeontological materials were observed adjacent to site EgPI 12. Calgary Airport Authority was notified of the materials, and agreed that a site visit from a palaeontologist to assess the materials was necessary. This was carried out by Natalie Kuca, B.Sc., of FMA Heritage Resources Consultants Inc., in conjunction with mitigation activities carried out at EgPI 12. A separate report detailing the results of the palaeontological assessment has been filed with the Royal Tyrrell Museum.

There are no current regulatory requirements surrounding development in the vicinities of EgPI 11 and EgPI 12, due to their location on federal property. However, if any future developments in the area are subject to the Canadian Environmental Assessment Act (CEAA), additional work may be required. Due diligence on the behalf of Calgary Airport Authority may prompt a re-evaluation of the relationship between archaeological sites EgPI 11 and EgPI 12 and any future proposed developments.

It is recommended that Calgary Airport Authority, through due diligence, has adequately addressed historical resource concerns at archaeological historic sites EgPI 11 and EgPI 12.

Project Personnel

PROJECT LEAD : James Graham, M.N.R.M.

ARCHAEOLOGISTS : Kate Peach, M.A.
: Ed Kempenaar, M.A.
: Meaghan Porter, M.A.
: Janais Turuk, B.A.

DRAFTING : Keith Wilford, B.A.
: Bobbie Christink, B.Sc App. G.I.S.

REPORT AUTHORS : James Graham, M.N.R.M.
: Bonnie Brenner, M.A.

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INTRODUCTION

In 2000, at the request of the Calgary Airport Authority, Fedirchuk McCullough & Associates (FMA) conducted an Historical Resources Impact Assessment (HRIA) of approximately 2052 hectares of land, newly identifying one precontact archaeological site, EgPI 13, and three historic archaeological sites, EgPI 11, EgPI 12, and EgPm 304 (Figure 1). As a result of the HRIA, FMA recommended that mitigation activities be undertaken at sites EgPI 11 and EgPI 12 prior to any development occurring. In June of 2006, Calgary Airport Authority contacted FMA Heritage Resources Consultants Inc. (FMA) in order to conduct mitigation activities at EgPI 12. It was decided that the mitigation of EgPI 11 would occur concurrently.

The results of the mitigation of these two historic archaeological sites are the focus of this report. The Hooper Homestead, EgPI 12, is in immediate threat of destruction through golf course construction, while EgPI 11 is outside of the impact zone, as there are currently no plans for development. Both of these sites fall under federal jurisdiction and, as such, a provincial archaeological research permit is not required.

OBJECTIVES

The primary objectives of the Historical Resources Impact Mitigation were to mitigate the impacts of activities at sites EgPI 11 and EgPI 12 prior to development, and to provide an interpretation of past activities and occupations at both sites. This was achieved through:

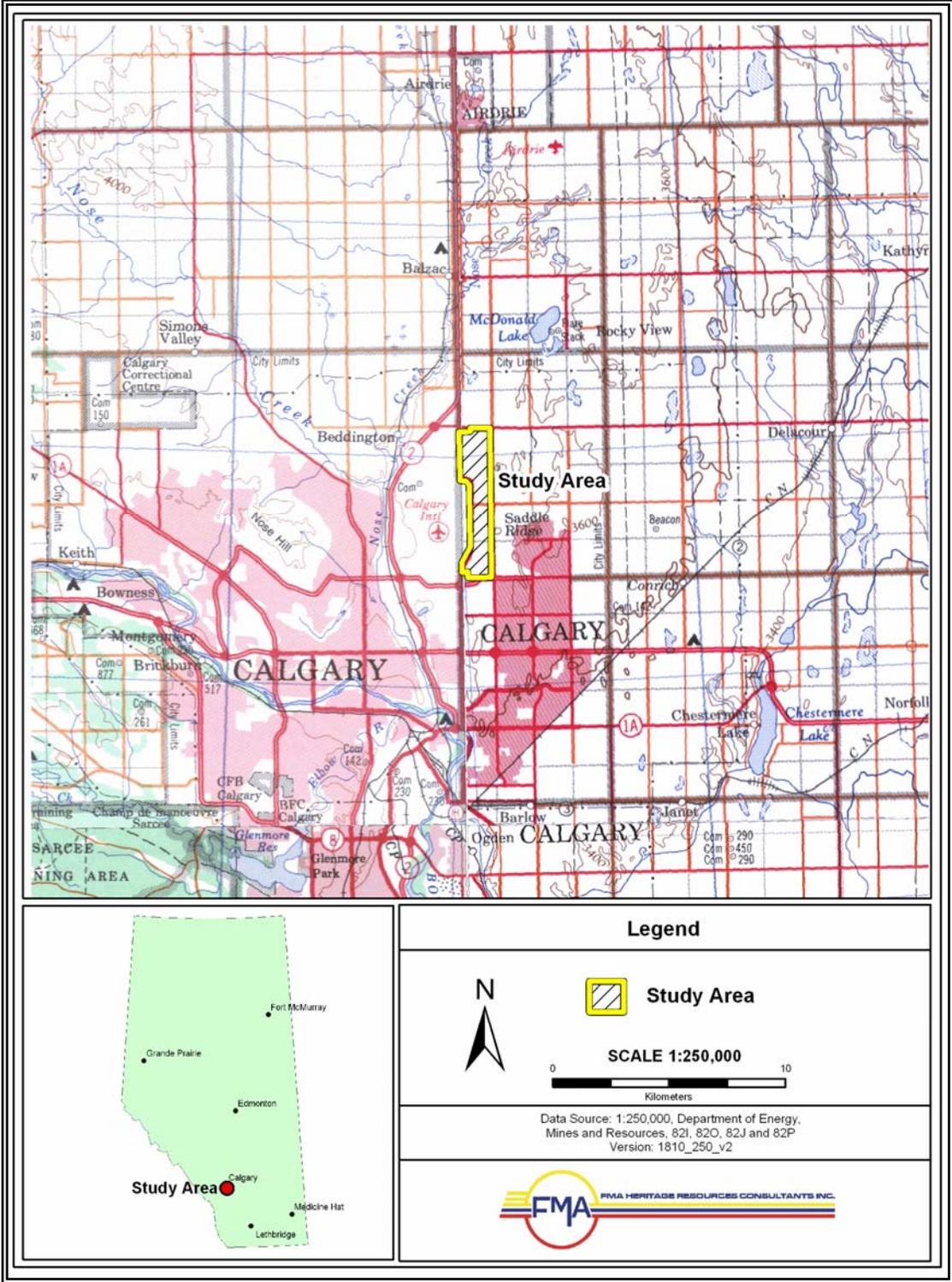


Figure 1 Location of study area

1. detailed mapping of both EgPI 11 and EgPI 12 to facilitate site interpretation;
2. the collection of a representative sample of artifacts from both EgPI 11 and EgPI 12 to facilitate site interpretation;
3. exploratory excavations at both EgPI 11 and EgPI 12 to facilitate interpretation; and,
4. a limited literature search.

SCOPE OF WORK

The scope of work for the mitigation undertaken by FMA Heritage Resources Consultants Inc. consists of the following components:

1. **Record Review** - to identify previously recorded sites in the vicinity of the project area that may contribute to an interpretation of the past occupations at EgPI 11 and EgPI 12.
2. **Ground Reconnaissance** - including detailed site mapping, surface collection, and exploratory excavations.
3. **Analysis** – Based on cultural materials recovered and their context, the analysis of the materials forms the basis of site interpretation.
4. **Interpretation** – based on the materials recovered, an interpretation of past occupation activities at EgPI 11 and EgPI 12 will be produced. The interpretation facilitates the formulation of recommendations for each site.
5. **Formulation of Recommendations** - to recommend, based on the mitigation activities conducted, whether further work is necessary.

ENVIRONMENTAL SETTING

INTRODUCTION

Environment has always provided the parameters within which human cultures may develop by providing both opportunities and limitations. As a result, elements of the regional environment are important considerations in the understanding of cultural development, as they influenced not only the types of activities that could be conducted, but the ways in which they could be accomplished. In the archaeological record, testimony to this pattern is witnessed in the type and location of archaeological sites in specific environments. Human populations were not uniformly distributed across the landscape, but were clustered in the most suitable habitats. In Alberta, archaeological sites are found associated with a specific set of landforms (including valley edges, knolls, rivers, lakes and sloughs), which would direct travel, bias routes of communication and enhance or restrict resource procurement and occupation. Due to this close relationship of human settlement and the environment, a brief overview of the regional and local environments is presented.

REGIONAL ENVIRONMENT

The Calgary International Airport lies within the Foothills Fescue Subregion of the Grassland Natural Region of Alberta (Figure 2). Soils of this region are mainly black chernozemic soils derived from clayey lacustrine deposits and

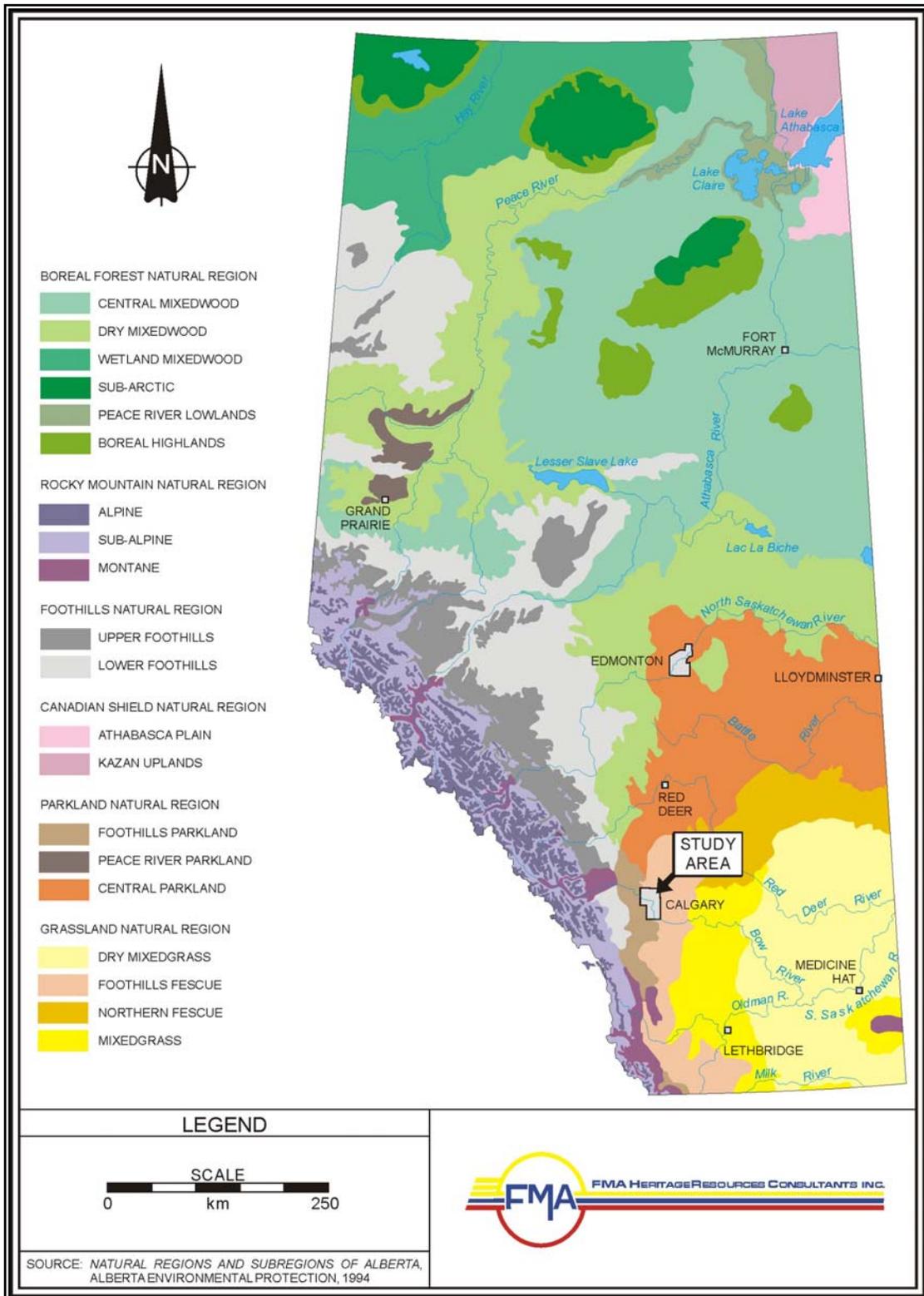


Figure 2 Natural Regions and Subregions of Alberta

glacial till that overlies sandstone and shale. The topography is commonly described as undulating to rolling due to its location along the flanks of the Rocky Mountain foothills, and also includes several major hill systems, such as the Porcupine Hills, Sweetgrass Hills and parts of the Cypress Hills plateau. It also features intermittent sloughs and ponds. Valleys formed during deglaciation contain many of the watercourses within the region. Bedrock in the subregion is covered with glacial till deposits, however some areas of glacial lake sediments, sand dune fields, outwash plains, and badlands are found in localized areas. Natural vegetation is dominated by rough fescue species of grasses with isolated shrub communities of saskatoon, silverberry, snowberry, and rose. Not surprisingly, agricultural practices have largely disturbed most of the native vegetation in the region.

Sites EgPI 11 and EgPI 12 are separated by approximately five kilometres and, as such, are located in somewhat similar environmental contexts. The Foothills Fescue Subregion is located along the flanks of the Rocky Mountain foothills and represents a transitional zone between grassland and Cordilleran environments (Strong 1992). Vegetation in the area is dominated by rough fescue (*Fescue scabrella*) and Parry oat grass (*Danthonia parryi*) growing in shallow black chernozemic soils. The climatic regime of the area is classified as Prairie, and is marked by cool summers and mild warm winters that are moderated by frequent chinook winds (Alberta Environmental Protection 1994). Greater proximity to the Rocky Mountains, however, results in greater amounts of precipitation than surrounding areas (Strong 1992).

The subhumid climatic conditions created by the overlap of Cordilleran and grassland climates result in the development of graminoid vegetation. In addition to the rough fescue, California oat grass (*Danthonia californica*) and Parry oat grass that are present, June grass (*Koeleria macrantha*), everlastings (*Antennaria spp.*), pasture sagewort (*Artemisia frigida*), common yarrow (*Achillea millefolium*), and northern bedstraw (*Galium boreale*) are also common. Shrub communities, which occupy less than five percent of the Subregion, are usually found in areas of greater moisture, including north facing slopes, ravines, and coulees. Tree and tall shrub growth is restricted to ravines and stream valleys where the water table is close to the ground

surface. In most locations however, the majority of native vegetation has been replaced by cultigens and other introduced species. Drier areas, such as south facing slopes or locations with coarse textured glacio-fluvial or aeolian deposits, promote the development of xerophytic plant communities (Strong 1992).

Much of the natural vegetation of the Foothills Fescue Subregion has been removed through agricultural practices and the diversity of wildlife is lower than in the surrounding grasslands subregions (Alberta Environmental Protection 1994). However, small pockets of native vegetation with a variety of wildlife are found in the riparian communities in stream and river valleys on alluvial terraces within the Foothills Fescue Subregion (Strong 1992). The fauna is not as diverse as the other Subregions of the Grasslands Natural Region, but is more diverse on the extensive plateaus of the Cypress Hills and the Milk River Ridge. Wildlife communities in the forests and shrublands of the southwestern rivers are similar to those of the Milk River in the Mixedgrass Subregion, and some Rocky Mountain Species can be found along the western edge of the Foothills Fescue Subregion. In general, the fauna of the Foothills Fescue Subregion represents a mixture of that found in the adjacent Grassland and Rocky Mountain Natural Regions (Alberta Environmental Protection 1994). Wildlife characteristic of these areas may include the white-tailed deer (*Odocoileus virginianus*), coyote (*Canis latrans*), prairie falcon (*Falco mexicanus*), marbled godwit (*Limosa fedoa*), horned lark (*Eremophila alpestris*), and pronghorn antelope (*Antilocapra americana*), as well as several other small mammals (Strong 1992). Extirpated species include bison (*Bison bison*), wolf (*Canis lupus*), and plains grizzly bear (*Ursus arctos horribilis*).

PROJECT ENVIRONMENT

The Calgary Airport lies east of the Nose Creek Valley, in level to undulating agricultural land with a number of large sloughs, no permanent watercourses, and no significant ephemeral drainages. The western end of the airport occupies the escarpment overlooking the Nose Creek valley, but the airport does not extend onto the creek's floodplain. A number of developments, including Deerfoot Trail (Highway 2), lie between the airport and Nose Creek.

The majority of the Calgary International Airport landholdings have already been developed. In addition to the airport terminal and runways, the southern end of airport property has numerous industrial developments, businesses, and general aviation facilities, including hangars and tarmacs. The majority of undeveloped airport property has been previously or is actively cultivated.

Located east of the Nose Creek Valley, site EgPI 11 is surrounded by relatively flat grassland, broken by shelterbelts. The fields encircling EgPI 11 have been cultivated in the past. Outlines of planted caragana (*Caragana arborescens*) indicate the location of historic site EgPI 11 (Plate 1).

Golf course construction was underway at the time of the mitigation at site EgPI 12 (Plate 2). As such, it was difficult to reconstruct the immediate surrounding environment, although it may be assumed that it was fairly similar to EgPI 11. Photographs appearing in the original HRIA report (Meyer 2001) indicate that EgPI 12 was surrounded by cultivation and that it was located on a small knoll or high point relative to the surrounding area.



Plate 1 Caragana vegetation surrounding site EgPI 11.
General view northeast.



Plate 2 Site EgPI 12 (the Hooper Homestead), located on a
knoll. General view north.

HISTORICAL RESOURCES

DEFINITION

In Alberta, historical resources are protected under the *Alberta Historical Resources Act* (2000) and are defined as precontact, historic, and palaeontological sites and their contents. Cultural landscapes and traditional use sites may also be associated with historical resources. Precontact sites are comprised of artifacts, features and residues of Native origin. They predate the arrival of Europeans and are typically characterized by modified bone and stone artifacts, as well as stone features or structures. Historic sites are characterized by structures, features and objects of European influence. Buildings and building remains represent the most prominent type of historic sites. Palaeontological sites are areas where fossils of ancient animals or plants have been preserved. Palaeontological sites include only those sites which contain fossils of multicellular invertebrates, vertebrates and plants. Traditional use sites are identified in consultation with members of aboriginal communities and may include camping or hunting locales, plant collection locations or areas related to matters of a spiritual nature.

POTENTIAL IMPACTS

Due to the fact that precontact archaeological, historical, palaeontological and traditional land use sites represent discrete episodes of past activities, they are non-renewable and, therefore, are susceptible to alteration or removal by modern industrial development. Precontact and historic archaeological resources are comprised of residues of past cultures or societies. Although the cultural entities responsible for deposition of the archaeological material are unavailable for observation, the preserved context and associations in

which the remains functioned can reveal many clues about past human behaviour, adaptations and relationships to the natural world. The key to the interpretation of these resources, however, is in their pattern of cultural deposition, which is extremely fragile, ephemeral and the product of unique processes and conditions of preservation. Consequently, once they are disturbed, they cannot be replaced, re-created or restored. Due to the nature of their origin and preservation, archaeological resources are finite in quantity. As a result, archaeological resources are increasingly susceptible to destruction and depletion through natural and cultural disturbances.

MITIGATIVE OPTIONS

Adverse primary impacts to historical resource sites, identified prior to the construction stage of development, can be significantly reduced or eliminated by avoidance or adequate study. Site avoidance can be achieved through relocation of the proposed project or by restriction of the construction within the development zone. Adequate study of archaeological sites generally involves scientific investigations that are designed to systematically explore and reconstruct the activities that are represented at the site. These investigations may involve the systematic collection of surface sites, detailed mapping, photographic documentation of sites, or the excavation of buried sites. In cases where the interpretive potential of a set of archaeological resources is considered to be low, it may be deemed that photographic documentation, recording, and collection of surface specimens are sufficient mitigative measures. In cases where the archaeological interpretive potential of a set of historical resources is identified as high, however, more detailed mitigative measures, such as controlled excavation, may be necessary. Similarly, adequate study of palaeontological sites may include collection and excavation of specimens, as a means of providing information on past species and habitats.

ARCHAEOLOGICAL OVERVIEW

The study area lies within the Northwestern Plains cultural area, which is characterized by cultural development focusing on the exploitation of bison. The cultural area extends from the Rocky Mountains on the west to the mixed

grass prairie on the east and the parkland on the north. It includes the southern portions of Alberta and Saskatchewan, the extreme southwestern corner of Manitoba, the eastern portion of Montana and the northern portion of Wyoming.

The earliest well documented evidence for human occupations in Alberta dates from about 10,500 years before present (B.P.). Evidence prior to this time, although recognized potentially as a “Pre-projectile Point” Horizon, is inconclusive and provides little evidence for the economic adaptations or technological innovations that may have existed at that time. Evidence for this period may have been obliterated or obscured by the major glacial advances and the advance-retreat cycles of the two major ice masses (a Cordilleran glacier originating in the west and a Laurentide glacier originating in the east) that occupied much of Alberta. Post-dating 10,500 years B.P., precontact diagnostic artifacts indicative of human occupation are found to persist through to the period of historic culture contact with Euro-Canadians, in the late A.D. 1800s. To organize this span of human existence, the precontact past of Alberta has been divided into three distinct periods, each of which is defined on the basis of different technological adaptations to the natural environment of the Plains. These periods include the Early (11,500 to 7,500 years B.P.), Middle (7,500 to 1,750 years B.P.) and Late (1,750 to 225 years B.P.) Periods. The Late Period is followed by a short Protocontact Period, during which historic trade goods were introduced into the archaeological record, and the Contact Period, when large-scale Euro-Canadian settlement changed the nature of indigenous life on the plains. Given that the focus of this report is the mitigation of historic archaeological sites EgPI 11 and EgPI 12, the remainder of the archaeological overview focuses on the history of the Protocontact and Contact periods.

The presence of European trade goods in the First Nations archaeological record is indicative of the Protocontact Period, during which time direct and indirect contact with Euro-Canadian traders and explorers occurred. Historically, the Canadian prairies were occupied by tribes of diverse ethnic origins: Cree, Ojibwa, Assiniboine, Gros Ventre, Blackfoot, Peigan, and Blood were Plains bison hunters, while Mandan and Hidatsa-Crow were Plains horticulturalists. The relationship between these historically documented

groups during the Late Precontact period is unclear, as the fur trade greatly impacted aboriginal lifestyles and cultural boundaries across North America.

In spite of the disruption of First Nation groups resulting from the fur trade and European settlement of the West, many First Nations peoples continued traditional seasonal rounds into the 19th century. Exploration of the Canadian Northwest and contact with the resident aboriginal population was a direct result of French-English rivalry to satisfy the demand for beaver pelts for the European market. The first non-aboriginal people to explore territories within the present province of Alberta were French fur traders, possibly as early as 1750 A.D. Between 1690 and 1692, Henry Kelsey undertook an expedition for the Hudson's Bay Company in an effort to convince the aboriginal people to bring furs for trade to Fort York (Innis 1970). Kelsey is commonly considered to be the first non-aboriginal person to provide a written account of the Canadian prairies. The earliest written records of exploration within the parkland and prairies were prepared by agents of the Hudson's Bay Company and the North West Company, like Henry Kelsey and later Samuel Hearne.

Until 1811, the traders affiliated with the Hudson's Bay Company and the North West Company maintained amicable relations to the extent that rival posts were often enclosed within the same palisades for mutual protection. After 1811, however, competition between the two companies became increasingly intense and after a decade of strife, the North West Company amalgamated with the Hudson's Bay Company. The Hudson's Bay Company lost the rights of a fur trade monopoly in 1869 when the territories controlled by the Company were transferred to the Dominion of Canada. With the transfer of these lands, the fledgling Canadian Government was faced with the task of settling the vast area between the Great Lakes and the Pacific Ocean. To this end, measures with respect to the aboriginal people, the survey of land, the development of a transportation system, the establishment of a law enforcement body, and the encouragement and control of immigration were implemented.

In 1872, the *Dominion Lands Act* was passed. Under the auspices of this act, free homesteads were offered to heads of households and immigration policies were implemented whereby large land reserves were made available

to individuals and societies who would sponsor immigrants. Railway companies were offered these land tracts as an incentive to establish new lines. A law enforcement body, the North West Mounted Police, was also established in 1873 (Morton and Martin 1938). Largely in response to increased settlement, seven treaties were signed with the aboriginal peoples of western Canada between 1871 and 1876, surrendering their Native rights to the prairies and parkland of what are now Manitoba, Saskatchewan and Alberta (Fedirchuk and McCullough 1993) (Figure 3).

Prior to this time, there was little interest in settling the lands of what are now southern Alberta and Saskatchewan. The Palliser Expedition (1857-60 A.D.) led by Captain John Palliser, was assigned the task of determining the suitability of western Canada for settlement. In reporting on the agricultural potential of the grasslands in the territories, Palliser identified the arid southwest portions of the area (the 'Palliser Triangle') as having little or no potential for agricultural purposes (Spry 1968). It was determined, however, by the Hind Expedition (1857-58 A.D.) that the fertile parkland belt was particularly suitable for agriculture (Hind 1860).

With the coming of the railway, the major population centres in southern Alberta were established. Initially, settlement was related to cattle ranching which developed in conjunction with the demise of the buffalo and the need to feed Native people now confined to reserves. Fort Macleod became the primary trading centre serving these ranching interests. In 1875, the North West Mounted Police built Fort Calgary, at the confluence of the Bow and Elbow Rivers (Unknown 1937). With the arrival of the railway at Fort Calgary in 1883 and transcontinental service in 1886, new lands became available for immigrant farmers. In 1884, Calgary was incorporated as a town, with a population of 506 and a footprint of four square miles (Unknown 1937). Initially, homesteading of the area started slowly, partially due to the low price of grain crops, resulting from the opening of the western United States to the railway. Eventually, wheat prices started to rise, and resulted in mass settlement. Between 1875 and 1900 Calgary's population rose to 4,000, and ten years later the population had increased by an additional 40,000. The size of Calgary had increased to 12 square miles by 1907 and to 36 square miles by 1910. The growth of Calgary paralleled the growth of Alberta in general. By

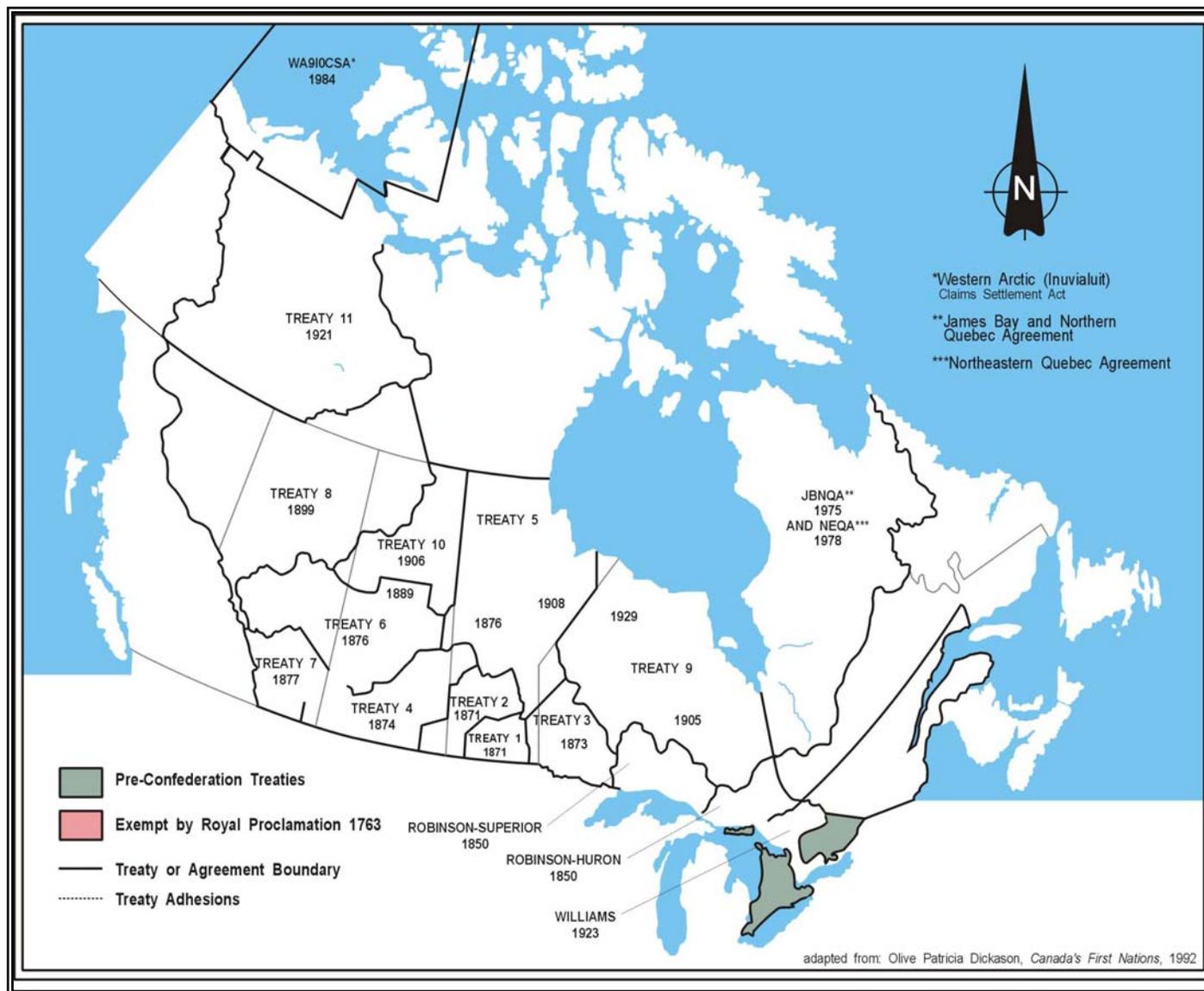


Figure 3 Treaty Regions of Canada

1911 the population of Alberta had increased by 300,000 over a ten year period. The greatest years of Alberta's growth were between 1905, the first year that Alberta became a province, and 1914, at the start of the Great War (Unknown 1937).

METHODOLOGY

RECORD REVIEW

A record review was conducted prior to the mitigation of sites EgPI 11 and EgPI 12. The record review consisted of a search of the Archaeological Site Inventory Data records maintained by the Heritage Resource Management Branch (Alberta Community Development). In addition, the report previously submitted to the Calgary Airport Authority was reviewed.

GROUND RECONNAISSANCE

As the current fieldwork focused on an assessment of specific lands within the Calgary Airport Authority, the methodology was site-specific. Additional discussion of methodology, detailed by site and mitigation stage, is included within the following “Results” sections of this report.

The ground reconnaissance consisted of a pedestrian traverse and intensive visual examination of the sites and adjacent areas. All fortuitous exposures such as deflated areas, rodent disturbances, vehicle track surfaces, and areas of previous construction disturbance were examined for evidence of cultural material. Visual inspection of these areas was considered adequate for assessing the presence of near surface cultural remains. Excavation of shovel tests (approximately 40 x 40 centimetres) was conducted in areas of limited exposure or in areas deemed to have potential for buried cultural deposits. The depth of each shovel test varied according to local soil conditions.

Where time-sensitive or culturally diagnostic materials were identified, they were flagged for later collection as distinct provenience units. If several artifacts were located in close proximity to one another (less than 2 m apart), artifacts were grouped together. If several pieces of the same object were identified in close proximity to one another, they were also collected as a single provenience unit. Not all artifacts observed were collected. Collection focused on items with distinctive manufacture techniques, time sensitive decoration, or maker's marks that can be traced. A representative sample of artifacts was collected, representing a broad range of artifact types from several time periods.

SITE DESIGNATION

Archaeological sites are referred to by a Borden Number which consists of a four-letter symbol accompanied by a number (*i.e.* FaPq 11). This uniform site designation scheme for archaeological sites in Canada was developed by Charles Borden (1954). Within this system, the upper case letters represent major blocks 2° by 4° blocks in size (*i.e.* F = 52° to 54° latitude, P = 112° to 116° longitude) and the lower case letters denote 10' units within the major block (*i.e.* a = 0' to 10' latitude; q = 40' to 50' longitude) (Figure 4). The numbers refer to specific sites within the units and are assigned by the Heritage Resource Management Branch (Alberta Community Development).

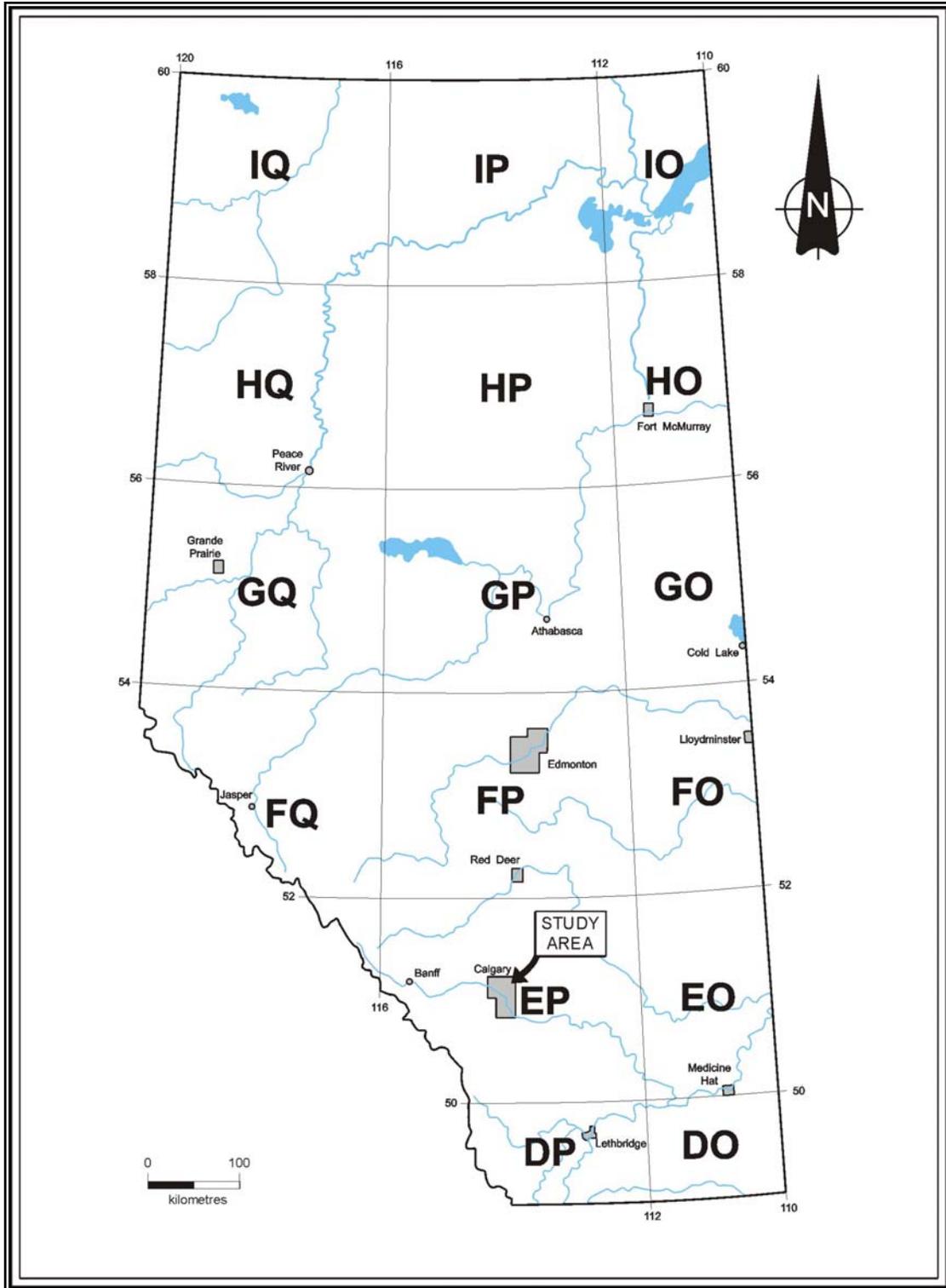


Figure 4 Alberta Borden Blocks

RESULTS: EGPL 11

RECORD REVIEW: EGPL 11

Prior to the ground reconnaissance, a record review of the Archaeological Inventory Sites Database and Historical Sites Database was conducted. The record review conducted for the Calgary Airport Authority property indicated that it lies within Borden Block "EgPI". Previously recorded archaeological sites EgPI 11 and EgPI 12 are the only sites on the property that have been identified in the Sixth Edition of the *Listing of Significant Historical Sites and Areas* (Alberta Community Development 2006) within the study area (Figure 5). These two sites are both listed with an Historical Resource Value (HRV) of "4", indicating recorded heritage resources with outstanding recommendations for continued avoidance of impact and/or further archaeological investigations. The first site, EgPI 11, is located in LSD 2 S21-T25-R29 W4M, and consists of an historic farm with the remains of a possible barn, several outbuildings and visible historic artifacts. This site is outside of the currently proposed development area and, as such, is not scheduled for impact. The second site, EgPI 12, is known as the Hooper Homestead and is located in LSD 2 S4-T26-R29 W4M. The site consists of an incomplete sandstone foundation around a central depression, with milled lumber piled in the centre. Numerous artifacts were visible and the nature of the artifacts indicates that this structure was possibly a house. This site is within the currently proposed golf course development area and will be impacted by further development.

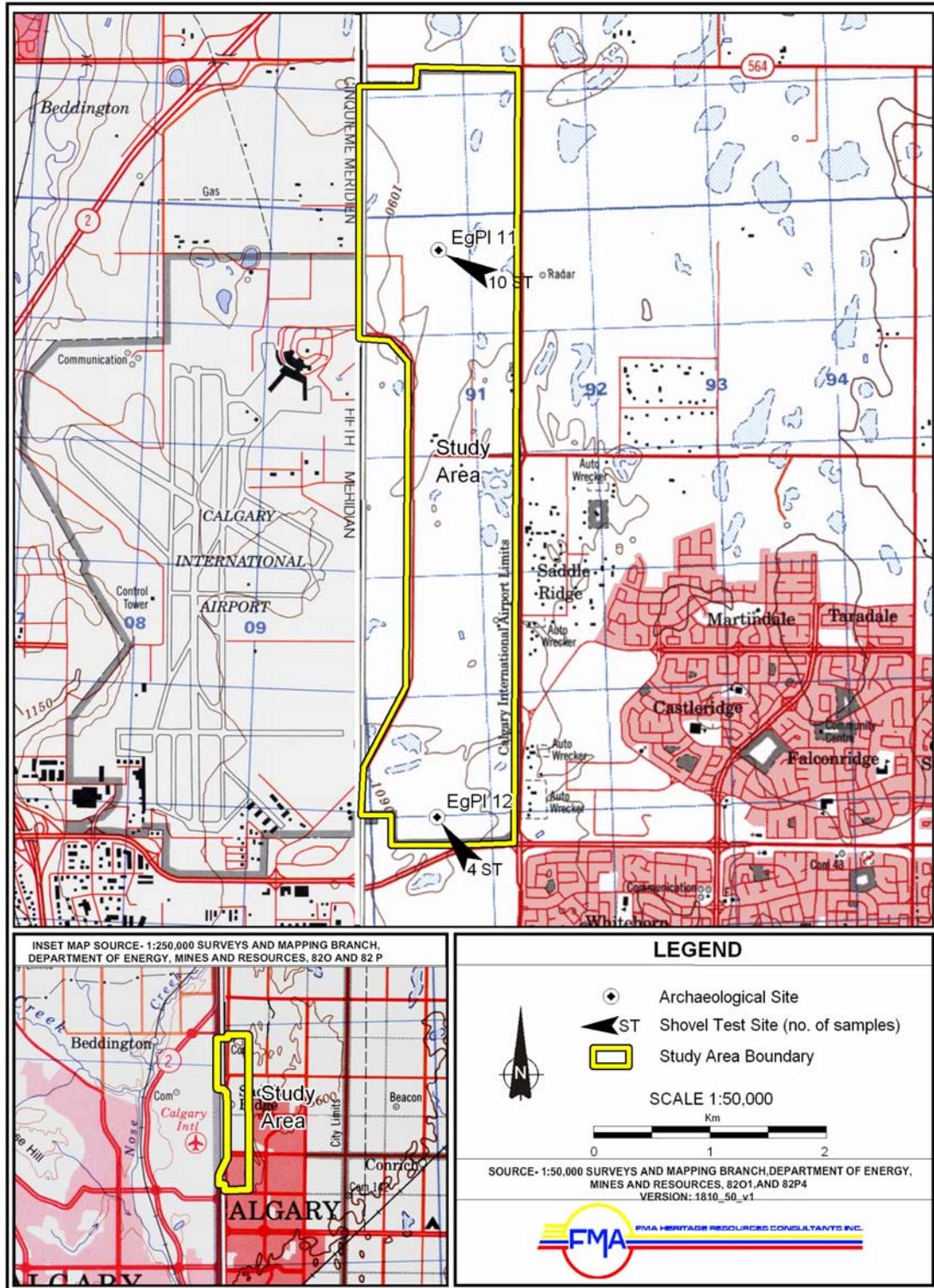


Figure 5 The locations of archaeological sites EgPI 11 and EgPI 12 on Calgary Airport Authority Land in the northeast corner of the City of Calgary.

INTRODUCTION

Archaeological site EgPI 11 was first identified and recorded in 2000 by Fedirchuk McCullough and Associates Ltd. At that time it was described as an historic farm with four structures, one foundation, one cellar and one dump. The site extended 50 metres (north-south) by 100 metres (east-west) and was located on a high spot surrounded by cultivated field with brush and a woodlot to the west and northeast.

Three shovel tests were excavated as part of the 2000 FMA Heritage Resources Consultants Inc. Historical Resources Impact Assessment (HRIA), two of which were positive for cultural material. These materials were observed between surface and 20 centimetres below surface, and consisted of a perfume bottle, coal or charcoal, two plate glass sherds and two lamp chimney glass sherds.

GROUND RECONNAISSANCE

The ground reconnaissance consisted of a pedestrian traverse and intensive visual examination of the site environment surrounding EgPI 11, and was conducted under the direction of James Graham, M.N.R.M., of FMA Heritage Resources Consultants Inc. In addition to the pedestrian survey, a surface collection of diagnostic artifacts was conducted, as well as detailed mapping, and a limited shovel testing program.

At the time of mitigation, EgPI 11 appeared to have been left relatively undisturbed since the original assessment and identification of the site in 2000. Portions of the site are currently used as a material storage area by Calgary Airport Authority, and this has partially disturbed the site. How much of the site has been impacted is unknown, however very few artifacts were observed in the disturbed area, indicating that the main portion of the site remained undisturbed. EgPI 11 is situated on a high spot with an open aspect, surrounded by cultivated fields. The site is bounded by caragana hedges (Plate 3) and a trail bisects the site diagonally (Figure 6). Soils in the area consist of a dark brown loam, suitable for agriculture. The remains on the site consist of a concrete barn foundation, a rubbish pile containing the remains of a demolished structure, the remains of a collapsed outhouse, and



Plate 3 View of existing lane at site, EgPI 11, view south. Note caragana hedges

a collapsed outbuilding with a peaked roof.

The area proposed for mitigation was extensive, encompassing an area of approximately 100 metres east-west by 50 metres north-south. All fortuitous exposures such as deflated areas, rodent disturbances, vehicle track surfaces, and areas of previous disturbance were examined for evidence of cultural material. Visual inspection of these areas was considered adequate for assessing the presence of near surface cultural remains. Four shovel tests were excavated around the barn foundation. Of the four shovel tests excavated, three were negative and one was positive for cultural material (Figure 6). This shovel test contained 142 nails, and was located in the southwest corner of the barn foundation (Figure 6). The discussion of these recoveries is combined with the results of the surface collection. Additional testing was conducted beneath the peaked roof and surrounding the rubbish pile, but did not result in the recovery of cultural material (Figure 6). A total of ten shovel tests were excavated at EgPI 11.

The surface collection at EgPI 11 was conducted in order to create a representative sample of the artifacts observed. The entire site was traversed in five metre transects, and areas where diagnostic artifacts were observed were marked with flagging tape. Following the survey of the site, individual artifacts were collected as separate provenience units and a hand-held Global Positioning System (GPS) was used to mark the location of each collected artifact. Artifacts within one metre of one another were collected as a single provenience unit.

An Alberta Archaeological site Inventory Data form has been completed, updating the results of the original 2000 assessment, and is included in Appendix I. Appendix II contains the artifact catalogue sheets for the material recovered from the site. These recoveries are described in greater detail, below.

ARTIFACT ANALYSIS

HISTORIC ARTIFACTS (N=198)

A total of 198 historic artifacts were collected during the surface collection and shovel testing program at EgPI 11. Artifacts were classified within the following functional categories: architectural object, container, ornamental, fastener, machinery, miscellaneous metal, storage, household part, and transportation (Table 1). This loosely follows the conventions of the Canadian Heritage Information Network (CHIN) (www.chin.gc.ca).

Architectural Object (N = 153). This functional category accounts for 77.3% of the total historic artifact assemblage. Within this category, metal artifacts (N=148) make up 96.7% of the architectural objects assemblage. The most predominant type of metal artifact is extruded nails (N=144), which account for 97.3% of the metal artifacts and 94.1% of the architectural objects. Although manufacture had commenced by the 1850s, extruded or wire cut nails did not become the predominant type until the 1890s. The remainder of the metal objects include hinges (N=3), and one door knob with backplate. The remainder of the architectural objects are windowpane glass (N=3) and ceramic, in the form of brick (N=2). One brick fragment is a ten hole perforated brick with horizontal etched lined on the sides. The other has the remnants of the frog. Neither artifact has any maker's marks.

Containers (N=37). This category includes those objects used as storage containers, including jars, bottles, metal pots and tin cans. This category comprises 18.7% of the total historic artifact assemblage (N=198). The largest material type within this category is glass, constituting 59.5% (N=22) of containers. The glass containers are made up predominantly of bottles (N=12), with the remainder of the glass container pieces made up of jars, lid liners, and undifferentiated glass sherds. Metal containers account for 24.3% (N=9) of the container category but do not contribute to the dating of the site.

Table 1 Summary of Categories of Artifacts Recovered from site EgPI 11

Function	Total (Percentage of Total Historic Artifact Assemblage N=198)
Architectural Object	153 (77.3%)
Container	37(18.7%)
Ornamental	2 (1%)
Fastener	1 (0.5%)
Machinery	1 (0.5%)
Miscellaneous Metal	1 (0.5%)
Storage	1 (0.5%)
Household Part	1 (0.5%)
Transportation	1 (0.5%)
Total	198

Within the metal containers there are seven tin cans or tin can fragments, one granite ware pot and a complete, threaded metal cap. There is also one complete tin can with a plastic liner around the opening, probably closed with a plastic lid. There are two glass containers with metal lids and two jars with metal lids. The final material type within the containers category is ceramic, represented by a single tan earthenware sherd, probably from a piece of crockery.

Ornamental (N=2). This category consists of two sherds of glass, likely from a mirror, and comprises 1.0% of the historic artifact assemblage.

The last five functional artifact categories comprise 3.0% of the total historic artifact assemblage (N=6). These include a small brass lock (Fastener); a machinery part, the possible cover or housing for a piece of machinery (Machinery); a circular domed metal cover with a central hole and three evenly spaced tabs (Miscellaneous Metal); a web belt with a loop with serrated teeth, possibly for cinching cargo (Storage); and, a thick, blue glazed ceramic sherd, possibly from a sink or toilet tank (Household Part). The final

artifact is a portion of a wagon wheel rim, with felloes plate and screws still in place (Transportation).

INTERPRETATION

An examination of the artifact inventory from EgPI 11 indicates that there are a total of 198 artifacts, the majority of which are nails. Glass and ceramics constitute the remainder of the artifacts. There are 27 glass sherds, of which three are windowpane fragments, two are mirror fragments, and the remainder are glass container fragments, including bottles and jars.

Two of the artifacts bear distinctive manufacturing marks suitable for use in dating the occupations at EgPI 11. The first mark is on the base of artifact EgPI 11:20, a complete jar with metal lid (Plate 4). The base is embossed with the “Diamond D” of the Dominion Glass Company. This particular jar was produced in the Hamilton, Ontario, manufacturing plant. The remaining embossing, “8...5...V-497-G”, indicates that this container was manufactured in late 1945 to mid 1950. The “V” prefix was in use only during this period, replaced in 1953 with the Box System.

A second artifact, EgPI 11:27, provides a tight date range (Plate 5). This is a complete White Rose motor oil can, and has been identified on the basis of the painted label, which was in use from 1953 to 1958 (Williams n.d.).

A few artifacts indicate a later date of manufacture and, therefore, later occupation of the site. Artifact EgPI 11:189 is commonly referred to as a “stubby” beer bottle, and was manufactured between 1962 and 1983. Also present is an “AerOwax” can that has French as well as English on the remaining portions of the label. This product is no longer manufactured, but the presence of both French and English on the label indicates that it was made after 1974, when the *Consumer Packaging and Labelling Act* came into effect, with specific regulations regarding the bilingual labelling of consumer products (Canadian Heritage n.d.) Table 2 provides a summary of the date ranges from recovered artifacts.



Plate 4 Artifact EgPI 11:27, Dominion Glass Company jar



Plate 5 Artifact EgPI 11:27, White Rose motor oil can

There are artifacts present at the site which can be dated to a very broad range of manufacture and, as such, do not provide useful dating information. These include the Granite ware pot and extruded nails. Granite ware was developed in the mid 1800s but is still manufactured today. Extruded or wire cut nails were in production by the 1850s; however, they didn't reach widespread popularity and production until the 1890s and remain in production to the present.

An examination of the historic land titles provides the history of ownership of the land on which EgPI 11 is located (Table 3). This was originally Canadian Pacific Railway Company land until 1910, when Royal Delbert Sheffield purchased the land and is listed on the first certificate of title. The land changed hands four times over the following five years, until it was purchased in 1915 by David D. Oughton, who kept it in his possession until 1944. At this time, the Ard family took possession, and held it until at least 1964.

Table 2 Artifacts from Site EgPI 11 and respective dates of manufacture

Artifact	Date Range
Jar with Dominion Glass Mould Mark with "V" prefix	1945-1950
White Rose motor oil	1953-1968
Granite ware pot	mid 1800s to present
"Stubby" beer bottle	1962-1983
"AerOwax" can	Post-1974
Extruded nails	1850 to present

Table 3 Landowners and Date of Ownership of S21-T25-R29 W4M

Landowner	Residence	Land Title Date
Canadian National Railway		1904
Canadian National Railway		1905
Royal Delbert Sheffield	Calgary, AB	1910
Ellery C. Clark	Calgary, AB	1910
William S. Varty	Calgary, AB	1910
Thomas Nelson Martin	Calgary, AB	1911
David D. Oughton	Calgary, AB	1915
Wilton E. Ard	Calgary, AB	1944
Adeline Tina Ard	Calgary, AB	1949
Adeline Tina Ard	Calgary, AB	1949
Jean Marguerite and Douglas Lissner	Burnaby, B.C.	1964

Unfortunately, there is a paucity of datable artifacts in the assemblage, but those that are available, indicate a broad occupation range from the 1940s to the 1980s. The artifacts that date between 1940s to 1960s likely correspond to the ownership of the land by the Oughton and Ard families. The Oughtons were a well known family and owned land throughout the city; however, this particular piece of land was probably not their primary residence. There is a lack of information regarding the Ard family, but they, in all probability, resided on the property at least until the 1960s. The Lissner family, listed in Table 3, were related to, and were the executors of the estate of, Adeline Tina Ard. Since they lived in British Columbia, they may have rented the land until it was sold to the airport. The types of artifacts recovered, combined with the remains of structures observed, indicate that EgPI 11 was probably an active farm site. The land titles search extends only until 1964, a date likely near the end of private ownership.

RECOMMENDATIONS

Based on the results of the surface collection conducted at the site, EgPI 11, it is recommended that the Calgary Airport Authority has adequately addressed the issues of historical resources with respect to the proposed development. Sufficient data have been recovered concerning the activities carried out at the site as reflected through the archaeological record. The site has not been impacted by development; however, should future development occur, Calgary Airport Authority may decide to re-evaluate the site relative to the proposed development.

RESULTS: EGPL 12

RECORD REVIEW: EGPL 12

Prior to the ground reconnaissance, a record review of the Archaeological Inventory Sites Database and Historical Sites Database was conducted. The record review conducted for the Calgary Airport Authority property indicated that it lies within Borden Block "EgPI". Previously recorded archaeological sites EgPI 11 and EgPI 12 are the only sites on the property that have been identified in the Sixth edition of the *Listing of Significant Historical Sites and Areas* (Alberta Community Development 2006) within the study area (Figure 5). These two sites are both listed with an Historic Resource Value (HRV) of "4". The first site, EgPI 11, is located in LSD 2 S21-T25-R20 West of the 4th Meridian, and consists of an historic farm with the remains of a potential barn, several outbuildings and visible historic artifacts. This site is outside of the currently proposed development area and, as such, is not scheduled for impact. The second site, EgPI 12, is known as the Hooper Homestead and is located in LSD 2 S4-T26-R29 West of the 4th Meridian. The site consists of one incomplete sandstone foundation with milled lumber piled in the centre. Numerous artifacts were visible and the nature of the artifacts indicated that this structure was possibly a house. This site is within the currently proposed development area and will be impacted by further development.

INTRODUCTION

EgPI 12, also known as the Hooper Homestead, was first identified and recorded in 2000 by Fedirchuk McCullough and Associates Ltd. (FMA) (Figures 5 and 7). At that time it was described as an old sandstone house foundation, with a wooden frame that had either collapsed or had been dumped into the interior cellar hole. The site is located on a low rise or small knoll, in otherwise flat to undulating terrain.

Four shovel tests were excavated as part of the 2000 FMA site assessment, all of which were positive for cultural material. These materials consisted of an earthenware plate basal sherd with a partial maker's mark, three pieces of transfer printed earthenware, and one piece of handpainted porcelain.

GROUND RECONNAISSANCE

The 2006 mitigation of archaeological site EgPI 12 was conducted in three phases. The first phase involved a ground reconnaissance, and surface collection, and was conducted under the direction of James Graham, M.N.R.M., of FMA Heritage Resources Consultants Inc. (FMA). As part of the investigation, portions of the sandstone foundation of the building were exposed. Below the sandstone blocks, a mixture of gravel and mortar was observed, which may have been used to prepare a base for the foundation. Based on the initial phase of investigation, a second phase, consisting of further excavations exposing the sandstone foundation, was conducted. Three trenches, including two paralleling and one intersecting the sandstone foundation of the structure, were excavated (Figure 7). The third and final phase of mitigation involved monitoring the removal of accumulated debris from the interior of the structure. This was followed by the placement of specialized landscaping fabric that capped and protected the sandstone foundation and any remaining buried historical archaeological deposits. The results of these three stages of investigation are presented separately, below.

The ground reconnaissance of EgPI 12 consisted of a pedestrian traverse and intensive visual examination. The survey of the area was limited to the

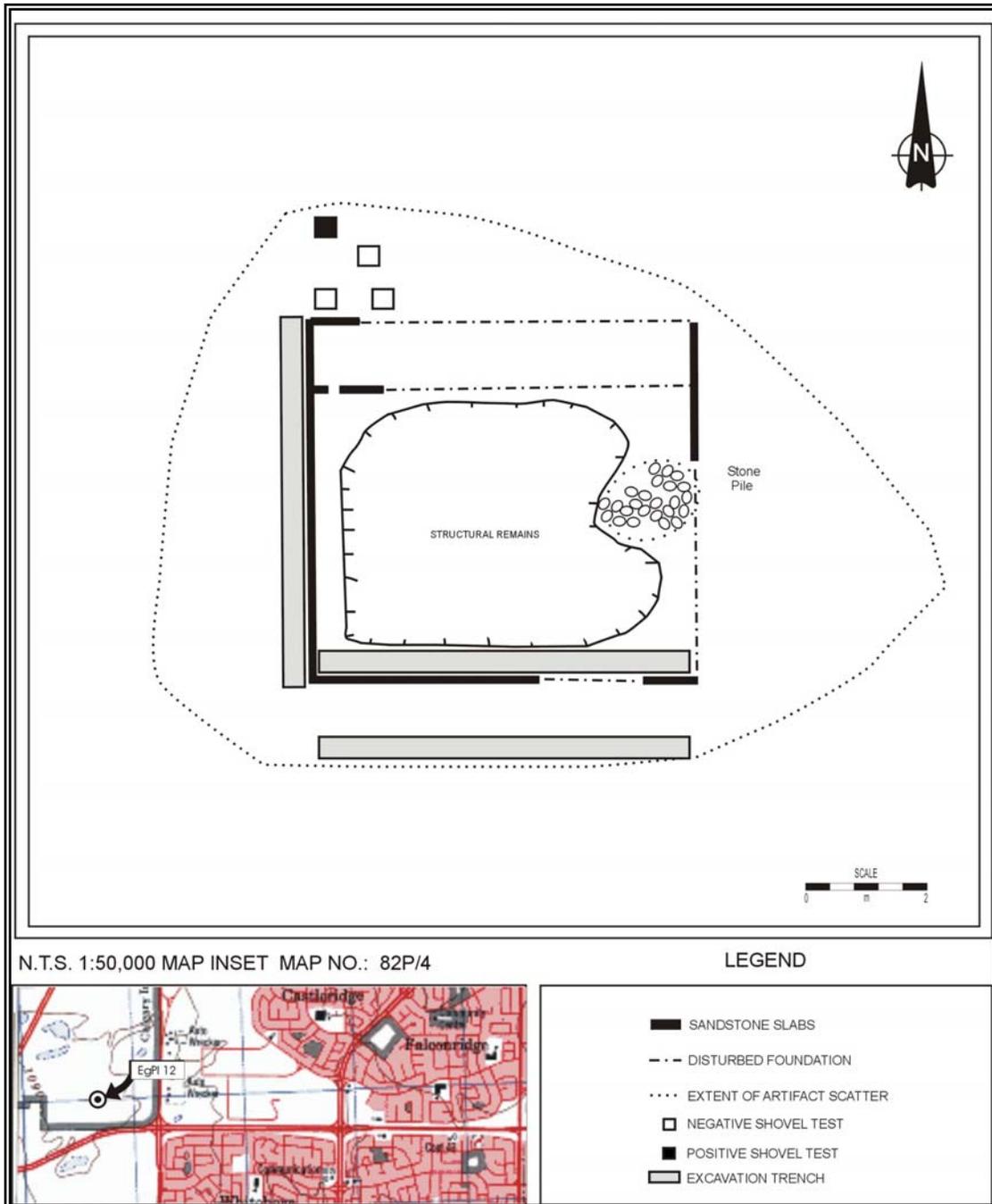


Figure 7 Sketch map of site, EgPI 12

area immediately surrounding the site. At the time of mitigation, the land surrounding EgPI 12 was in the process of being stripped and terra-formed for the development of a golf course. The site had been temporarily fenced, leaving a comparatively undisturbed area immediately around the homestead foundation (Figure 7). However, the surface collection extended outside the limits of the fencing and encompassed an area approximately 34 metres north-south by 46 metres east-west. The area outside of the fencing had been cultivated in the past but was relatively undisturbed by the current development. All fortuitous exposures such as deflated areas, rodent disturbances, vehicle track surfaces, and areas of previous construction disturbance were examined for evidence of cultural material. The field methodology was based partially upon the results and recommendations in the original site report (Meyer 2001).

An Alberta Archaeological site Inventory Data form has been completed combining the three phases of investigation, and a sketch plan illustrating the position of the site and excavations has been included (Figure 7; Appendix I).

SURFACE COLLECTION

The surface collection focused on gathering a representative sample of artifacts from the site area. Areas north, east, west, and south of the foundation were gathered as distinct provenience units. A fifth provenience unit representing areas inside the foundation was also created.

ARTIFACT ANALYSIS

Faunal Remains (N=7). Seven pieces of fauna were recovered during the surface collection representing 2.8% of the total artifact assemblage (n=252). The faunal remains consist of two *Bos taurus* (domestic cattle) bone fragments and five large mammal bone fragments. The specimens include femur, rib, long bone and scapula fragments (Table 4). Of these, all but one has been modified by cutting or sawing.

The modified faunal elements appear to have been cut or sawn using modern metal tools. Striations from the saw blade are visible on the sawn elements,

Table 4 Summary of Recovered Faunal Remains from Site, EgPI 12

Element	Taxon	Cut, Gnawed	Sawn	Sawn, Weathered	Sawn, Calcined	None	Total
Femur	<i>Bos taurus</i>		1				1
Rib	<i>Bos taurus</i>	1					1
Rib	<i>Lg Mammal</i>					1	1
Long bone	<i>Lg. Mammal</i>		1	1	1		3
Scapula	<i>Lg Mammal</i>			1			1
Total		1	2	2	1	1	7

indicating the use of historic metal, rather than stone precontact tools. The faunal remains are therefore considered to have been modified during the homestead period.

HISTORIC ARTIFACTS (N=245)

There were 245 historic artifacts collected during the surface collection of EgPI 12 (Table 5), representing 97.2% of the total artifact assemblage (n=252). The historic artifacts are classified within the following functional categories in alphabetical order: ammunition, architectural object, container, detritus, dinnerware, flora, machinery, ornamental, and clothing. This loosely follows the conventions of the Canadian Heritage Information Network (CHIN) (www.chin.gc.ca).

Ammunition (N =5). This category comprises 2.1% of the total historic artifact assemblage (N=245). Four of the five pieces of ammunition are cartridge cases (.303 calibre), bearing a headstamp from Dominion Arsenal. The remaining piece is a shotshell made of brass with paper liner.

Table 5 Summary of Categories of Artifacts Recovered from Site, EgPI 12

Function	Total (Percent of Total Assemblage n=252)
Ammunition	5 (1.9%)
Architectural objects	37 (14.7%)
Clothing	1 (0.41%)
Containers	75 (29.8%)
Detritus	6 (2.4%)
Dinnerware	110 (43.7%)
Flora	2 (0.8%)
Machinery	1 (0.4%)
Ornamental	8 (3.2%)
Fauna	7 (2.7%)

Architectural Object (N = 37). This functional category accounts for 15.1% of the total historic artifact assemblage (n=245). Within this category, windowpane glass fragments make up 91.9% (N=34) of the architectural object assemblage. The remainder of this category include a hinge (N=1), a brick (N=1), and a corroded metal tube, half of which is threaded and flanged on the inside (N=1).

Clothing (N=1). This functional category represents 0.41% of the total historic artifact assemblage (N=245). The single artifact is a fragment of tanned leather strap, possibly from a belt.

Container (N=74). This category includes those objects used for storage and includes bottles, jars, and metal cans. This category comprises 30.6% of the total historic artifact assemblage. The largest material type within this category is glass (N=59; 79.7%). The glass containers are made up predominantly of bottles (N=12), and the remainder of the glass containers include jars, lid liners, and undifferentiated glass sherds. There are five artifacts made of milk glass that have been included in the glass artifacts. Metal containers account for 10.8% (N=8) of the container category, including seven tin cans or tin can fragments, and one crown cap with the remains of a cork liner. The final material type within the container category is ceramic,

accounting for 10.8% (N=8). Within the ceramics, there are two stoneware sherds from crockery, and six earthenware sherds.

Detritus (N=6). This category includes those artifacts whose function cannot be determined, due either to the fragmentary nature of the artifact, or because the artifact is the byproduct of the manufacture of a different object. An example of a byproduct is the production of lead sprue during the manufacture of lead shot. There are five pieces of detritus, representing 2.0% of the total historic artifact assemblage (N=245), including three pieces of metal, a piece of lead sprue, a clinker, and a single piece of synthetic material. This is a bakelite or vulcanite fragment, with geometrical border ridges and an internally depressed hobnail surface.

Dinnerware (N=111). The largest category of artifacts is dinnerware, constituting 44.9% of the total historic artifact assemblage. Of this, 101 (91%) are manufactured from ceramic. All the artifacts are manufactured from earthenware, and 63 have been identified to a particular type of dinnerware. Plate sherds represent the most frequently occurring type of dinnerware (N=35, 55.6% of the identified dinnerware). The remainder are manufactured from milk glass (N=10). There are 52 decorated ceramic sherds, the remainder are undecorated white sherds. Decorative techniques include transfer printing, handpainting, lithograph, and combinations including transfer printing with handpainting and lithograph with handpainting. Motifs are predominantly floral, although there are some geometric patterns and handpainted stripes. Specific patterns could not be identified.

Flora (N=2). The two floral specimens are coal and represent 0.82% of the total historic artifact assemblage.

Machinery (N=1). There is one artifact of machinery representing 0.41% of the total historic artifact assemblage. This single piece of machinery is represented by a small metal handle, likely used to crank a gear.

Ornamental (N=8). This category consists of eight sherds representing 3.3% of the total historic artifact assemblage. There are two artifacts manufactured of glass which are probably lampshade fragments. One of these is either

solarized or manganese glass. The remaining six sherds are milk glass, and are likely to be also lampshade fragments

EXCAVATION

In an effort to better understand the architecture of the building, several trenches were excavated, including a north-south trench along the outside western wall of the sandstone foundation. Additionally, two east-west trenches were excavated, one located outside the sandstone foundation approximately one metre south of the foundation, and the other along the interior of the south wall of the foundation (Figure 7; Plates 6 and 7). These trenches were excavated to a depth of approximately 30 centimetres, where a substantial decrease in the frequency of artifact recoveries occurred. In addition, four shovel tests were excavated on the north side of the structure. In one of the four shovel tests, four pieces of earthenware ceramic from a single vessel were recovered at approximately 20 centimetres below surface. The remaining three shovel tests were negative for cultural material, but an abundance of charcoal was noted in all four shovel tests. A few artifacts were collected from the surface, but an intensive surface collection was not undertaken. The artifact analysis section below includes artifacts from both the shovel testing and trenching.

ARTIFACT ANALYSIS

Faunal Remains (N=4). Four pieces of fauna were recovered during the trench and shovel test excavations at site EgPI 12, representing 3.7% of the total artifact assemblage (n=107). These specimens include two bone fragments of *Bos taurus*, one squirrel (Scuridae) bone fragment and one waterfowl (Anseriformes) bone fragment. The *Bos taurus* fragments consist of one hacked and carnivore gnawed rib recovered from the north-south trench, and one proximal rib fragment. The squirrel and bird fragments did not have any indication of cultural modification and can be considered intrusive in the site. The hacked *Bos taurus* rib fragment is considered to be culturally modified, likely occurring during homestead occupation.



Plate 6 North-south exterior trench, site EgPI 12; looking north



Plate 7

East-west exterior trench, site EgPI 12; looking east

HISTORIC ARTIFACTS (N=103)

There were 103 historic artifacts collected during the trench and shovel test excavation stage, representing 96.3% of the total artifact assemblage (n=107). The historic artifacts are classified within the following functional categories recorded alphabetically: agricultural object, architectural object, container, detritus, dinnerware, machinery, and ornamental (Table 6).

Table 6 Summary of Categories of Artifacts Recovered from Site EgPI 12 (Mitigation)

Function	Total (Percent of Total Assemblage N=107)
Agricultural Object	2 (1.8%)
Architectural Object	34 (31.8%)
Container	25 (23.4%)
Detritus	6 (5.6%)
Dinnerware	27 (25.2%)
Machinery	2 (1.8%)
Ornamental	7 (6.5%)
Fauna	4 (3.7%)

Agricultural Objects (N=2). There are two artifacts which make up this category, representing 1.9% of the total historic artifact assemblage (N=103). One artifact is a piece of barbed wire, and the other is a small white ceramic insulator, possibly used for electric fencing.

Architectural Objects (N=34). This functional category accounts for 33.0% of the total historic artifact assemblage. Windowpane glass fragments make up 67.6% (N=23) of this category. There are five extruded nails. Although manufacture had commenced by the 1850s, extruded or wire cut nails did not become the most common type until the 1890s. The remainder of this

category includes brick fragments (N=3), and, asphalt shingle fragments (N=3).

Containers (N=25). This category comprises 24.3% of the total historic artifact assemblage (N=103). The largest material type within this category is glass (N=11; 44%), including bottles (N=7), and a variety of jars, lid liners, and undifferentiated glass sherds. Metal containers (N=10; 29.4%) include seven tin cans or tin can fragments, and three crown caps, one with a cork liner, and one with a plastic liner. The final material type within the containers category is ceramic, accounting for 11.8% (N=4), and represented by three stoneware crockery sherds and one earthenware sherd.

Detritus (N=6). This category includes those artifacts whose function cannot be determined, either due to the fragmentary nature of the artifact or because the artifact is the byproduct of the manufacture of an identifiable object. An example of this is the lead sprue produced during the manufacture of lead shot. There are six pieces of detritus, representing 5.8% of the total historic artifact assemblage (N=103), and these include one piece of plastic and five pieces of unidentifiable metal.

Dinnerware (N=27). The functional category of dinnerware constitutes 26.2% of the total historic artifact assemblage (N=103) and is comprised of earthenware sherds, 21 of which have been identified to a particular vessel type. The most frequent type of dinnerware is plates (N=13, 48.1% of the identified dinnerware). There are 17 decorated ceramic sherds, the remainder are undecorated white sherds. Decorative techniques include transfer printing, handpainting, and lithograph with handpainting. Motifs are predominantly floral, although there are some geometric patterns and handpainted stripes. Specific patterns could not be identified.

Household Part (N=1). This single artifact is a fragment of glass, representing 0.98% of the total historic artifact assemblage (N=103). This artifact is heavily ridged on one side and is likely a fragment of a washboard.

Machinery (N=2). There are two artifacts representing the machinery functional artifact category, comprising 1.9% of the total historic artifact

assemblage (N=103). One artifact is an L-shaped bracket with associated hardware; the other is dagger-like in overall shape and was perhaps part of agricultural machinery.

Ornamental (N=7). This functional category consists of seven sherds of glass, representing 6.8% of the total historic artifact assemblage (N=103). There are five artifacts of manufactured milk glass, two of which have been painted green on their exterior surface. The two remaining sherds are clear glass, one embossed with a series of horizontal ridges boxed by vertical ridges; the second is finely ridged on one side.

MONITORING

The third and final stage of mitigation at EgPI 12 involved monitoring the removal of accumulated debris from the interior of the homestead structure (Plate 8). Once the wooden debris from the surface was removed by backhoe, the interior of the structure was excavated to further remove debris that had collapsed into what is likely a cellar depression under the house. During the backhoe excavation of the cellar depression, historic materials were collected from the back dirt pile and from within the depression when stabilized footing was available. The materials collected are a representative sample of the materials present in the interior of the structure and cellar depression. Once the removal of debris was complete, landscaping fabric was placed over the resultant depression, capping and protecting the foundation and any remaining buried historical archaeological deposits.

ARTIFACT ANALYSIS

HISTORIC ARTIFACTS (N=26)

There were 26 historic artifacts collected during the monitoring stage at EgPI 12. The historic artifacts are classified alphabetically within the functional categories of agricultural object, container, and dinnerware.



Plate 8 View of debris pile at site EgPI 12, prior to removal

Agricultural Object (N=2). This functional category represents 7.7% of the total historic artifact assemblage (N=26). The two pieces include a complete scythe blade, and a large fragment from a piece of John Deere equipment with the name “DEERE” impressed on one side.

Container (N=21). This category comprises 80.8% of the total historic artifact assemblage (N=26). The largest material type within this category is glass, constituting 81.0% (N=17) of the container category. The glass containers are predominantly bottles (N=11), with the remainder including one complete carboy and a complete decanter, with glass stopper and cork shank intact, as well as a complete milk glass jar. Metal containers represents 14.3% (N=3) of the assemblage, and include one graniteware coffee pot, one graniteware lid, and an aluminium coffee pot. The final material type within the containers category is ceramic, accounting for 4.8% (N=1) and represented by one complete small stoneware teapot without a lid.

Dinnerware (N=3). The dinnerware functional artifact category constitutes 11.5% of the total historic artifact assemblage (N=26). All artifacts are earthenware sherds, all of which have been identified to a particular vessel type. The most frequent type of dinnerware is plates (N=2, 66.7% of the identified dinnerware). There are 2 decorated ceramic sherds; the remainder are undecorated blue glazed sherds. Both decorated ceramic artifacts are lithographed. One motif is floral and the other represents a car. Specific patterns could not be identified.

INTERPRETATION

The surface collection, trench and shovel test excavations, and monitoring at site EgPI 12 produced an assemblage of 374 historic artifacts and 11 faunal remains, assisting in the interpretation of the site’s historic occupation and function. This collection is assumed to be representative of the range of functional activities conducted at the site.

Although the structural remains are known to be historic, providing a date on the basis of the archaeological remains is difficult. The surface structure is no longer present, and the precise origin of the wood debris within the foundation

is unknown. In addition, the wood debris is generic milled lumber with extruded nails that could originate from as early as the turn of the century.

The most compelling evidence for the date of occupation of the Hooper Homestead is the sandstone foundation (Plate 9). After a devastating fire of 1886 in which many of Calgary's wooden buildings were destroyed, a number of sandstone quarries opened in and around Calgary. These quarries provided sandstone for construction, and heralded the "Sandstone Era." Between 1886 and 1920, fifteen quarries located in and around the city were providing sandstone for construction; however, the advent of World War I resulted in the closure of the majority of the quarries. Those that remained closed shortly after (Cunniffe 1969; Keller 2002).

In addition to the relatively narrow date range that the sandstone foundation provides for the structure at EgPI 12, artifacts recovered during the surface collection, excavation, and monitoring phases of investigation, help to provide a date of occupation. Although many artifacts typically have a broad date of manufacture, the narrow time frame in which manganese glass was manufactured, provides an indication of occupation date. During the manufacture of clear glass, manganese was used in small quantities to clear the greenish tint in glass from the iron content in the raw materials. The amount of manganese in the glass and the length of time it is exposed to ultraviolet light result in a pale purple colour of varying intensity. Manganese was used only from the late 19th century through to the beginning of World War I (ca. 1880-1914) (Jones and Sullivan 1985, Lindsey 2006). Manganese glass was recovered from the site during the surface collection (EgPI 12:74) and excavation phases of mitigation (Plate 10).

Both artifacts EgPI 12:209 and EgPI 244 (Plate 10) exhibit a valve mark on the base of the bottle. This mark is indicative of a distinctive type of manufacture, known widely as "press and blow". These marks are typically found on wide mouth bottles, milk bottles and canning jars. The valve mark is produced by the push-rod valve used to eject the glass out of a blank mould, in preparation for the second stage of production. This mark is commonly found on jars produced between the mid 1910s through the 1940s (Bureau of Land Management n.d.).



Plate 9 Sandstone foundation at the Hooper Homestead, site
EgPI 12

Artifact EgPI 12:244 was recovered during the excavation phase. The mould mark on the base is an inverted triangle with a sharp edge and a “C” in the center (Plate 10). This is the mould mark from the Consumer Glass Company, Ville St. Pierre, Montréal. The inverted triangle was in use from 1917 to 1961. After 1961, the triangle was rotated 180 degrees and the edges of it were rounded. The mould mark is ill-defined but is faintly visible in the upper portion of the sherd (Whitten n.d.).

Transfer print sherds are plentiful at the site (Plate 11). Transfer printing was developed in the 1750s and reached its peak in popularity by the mid 1800s, then began to decline in popularity by the end of the 1800s. The manufacture of transfer prints continues to the present, although mostly for reproduction purposes. The transfer print sherd, EgPI 12:18, exhibits the technique known as “flow blue.” This began circa 1825, although there is debate as to whether the technique was discovered by accident or developed purposefully. This technique blurs the outline of the design to varying degrees, creating a more “mysterious” effect. It reached its height of popularity in Britain in the late 1870s, and waned rapidly. However, the American markets continued to demand this type of ware, and its popularity lasted until the early decades of the 20th century (Grammytique.com 2000).

Transfer prints were manufactured in various colours, although the most popular shade was blue. In some cases, the age of a ceramic sherd can be determined from the transfer print pattern on the vessel. However, in many instances, as in the case of artifact, EgPI 12:47, a pattern is not identifiable, regardless of how clear the design is or large the artifact might be (Plate 11). Decal or lithograph pottery, also present at the site, was introduced as a method of decorating ceramics in approximately 1860, and continues to the present.



Plate 10 Manganese glass sherd (EgPI 12:74); valve ejection mark (EgPI 12: 209); and, Consumer Glass Company mark (EgPI 12: 244).



Plate 11 Transfer print sherds (EgPI 12:18 and EgPI 12:47); partial maker's mark (EgPI 12:98)

The best indication of manufacturing dates for ceramics, particularly dinnerware, is the maker's mark on the bottom of the vessel. Unfortunately, these marks are quite rare, and often incomplete. There were four maker's marks fragments recovered from site EgPI 12. Some indicate a long range of manufacture, as those manufactured by the Johnson Brothers, ("...NSON" on EgPI 12:56) recovered during the surface collection. The Johnson Brothers started business in 1883, and continue through the present. Artifact, EgPI 12:98, recovered during the surface collection phase, was manufactured by Britannia Potters, Glasgow, which began operation in 1896. The maker's mark went through various alterations through time, and this particular version of the maker's mark dates between 1920 and 1939 (Plate 11) (A Small Collection of Antique Silver and Objects of Vertu 2006).

The majority of artifacts indicate a later date of occupation for the Hooper Homestead. The Orange Crush bottle, EgPI 12:323, was recovered during the monitoring phase (Plate 12). This bottle has an applied colour label (first used in ca. 1934) with "Design Reg'd 1956" painted on the back. Manufactured by the Dominion Glass Company after 1953, as determined from the use of the Box dating system, it is a "Mae West" or "draped" bottle shape that was in use between the mid 1950s to late 1960s. This indicates a final occupation between 1956 and the late 1960's (Rosman n.d.).

The complete Kickapoo Joy Juice bottle (Plate 13), artifact EgPI 12:324, was recovered during the monitoring phase. This bottle has an applied colour label on a "Mae West" style bottle that reads, on the front "Kickapoo Joy Juice...10 FL. OZ...Kickapoo Joy Juice...1965 Capp Enterprises, Inc." The back of the bottle reads, "Kickapoo Joy Juice...10 FL OZ...Kickapoo Joy Juice...The original Dogpatch Recipe...LICENSED BY KICKAPOO JOY JUICE LIMITED TORONTO ONTARIO, CANADA." The 1965 Capp Enterprises date, and the use of these bottles into the 1970s, indicates a reasonable date range for this artifact.



Plate 12 Artifact EgPI 12:323, Orange Crush bottle; front, base and back views



Plate 13 Artifact EgPI 12:324, Kickapoo Joy Juice bottle; front, base and back views

Artifact EgPI 12:218 is a complete maple syrup bottle recovered during the surface collection of the site (Plate 14). It is embossed on the base with “PRODUCTEURS SUCRE ERABLE QUEBEC MADE IN CANADA...R.D. 1936” The Maple Syrup Producers of Quebec originated in 1925. The “R.D.” on the base may indicate that it was registered in 1936.

The Woodbury Deodorant jar, EgPI 12:328, is a small white milk glass jar with red painted label (Plate 15). It is embossed on the base with the letter “A” in a circle. This is the maker’s mark of the Armstrong Cork Company Glass Division, which was producing glass products between 1938 and 1969.

Artifact EgPI 12:217 was recovered during the surface collection, and displays an Owen scar (Plate 15). Owen scars appear as a circle with feathery edges, and are the result of bottle manufacture on an Owen machine. This was one of the first fully automatic bottle making machines, invented by Michael Owen circa 1903. Commercial production began in 1904, but by 1920 was already being replaced by other automated machines due to the high cost of production. Bottle production by use of the Owen’s machine extended into the late 1940s and early 1950s. This complete sauce bottle is also embossed on the bottom with “H. J. HEINZ CO...255...PATD”

Artifact EgPI 12:231, is a small twist cap medicine bottle, with gradations for ounces and cubic centimeters embossed on one side (Plate 15). The base of the bottle has a Dominion Glass Company mould mark, the “Diamond D.” This particular bottle was produced in the Redcliff, Alberta, manufacturing plant. The remaining embossed “V-227-A”, indicates that this container was manufactured between late 1945 and mid 1950. The “V” prefix was in use only during this period, replaced in 1953 with the Box System. Interestingly, this mould mark contains both the “V” prefix and the Box dating system, indicating that this bottle was manufactured in a very narrow window after 1953 when the Box system came into use, but only until the mid 1950s when the “V” system was replaced by the Box system.



Plate 14 Artifact EgPI 12:218, maple syrup bottle; front, base and back views



Plate 15 Owen's scar on bottle base (EgPI 12:217); Woodbury Deodorant jar (EgPI 12:328); and Dominion Glass Company "V" mould mark (EgPI 12:331).

The selected artifacts indicate a range of dates for the Hooper Homestead between 1905 and the 1960's (Table 7). The early dates derived from the sandstone foundation and the manganese glass correspond to the ownership and occupation of the land by the Hooper family.

An examination of historic Land Titles indicates that Edgar Hooper was the first person to own title to the land (SE ¼ S4-T25-R29 W4M) (Table 8). This certificate of title dates to February 1905. An examination of the records in ARCHIVIA.NET indicates that Edgar Hooper's name is attached to the legal description, which usually indicates that he was the original homesteader of the land. The Hooper family is recorded in the certificates of title as owning the land until 1959, when it was purchased by the City of Calgary. An examination of the Calgary Online newspapers on the Alberta Family Histories Society web page, publishes Edgar Hooper's marriage to Harriet Stinchcombe in Calgary on Nov 16, 1895, placing him in Calgary a number of years prior to settling at the site.

The mitigation consisted of the excavation of three trenches parallel to the homestead foundation. These trenches were excavated to an arbitrary depth of approximately 30 centimetres and no stratigraphy was observed. Four shovel tests were excavated in the northwest corner outside of the foundation area. Three of the tests were negative for cultural material, but one shovel test yielded ceramics. The trench and shovel test excavations produced fewer artifacts than the surface collection (Table 9), but the majority of these artifacts are more closely associated with the use of the structure as a residence. The combination of containers, dinnerware and architectural objects (N=86) represents 83.5% of the total number of historic artifacts recovered.

Artifacts were scattered ubiquitously across the surface of the site. The area had been arbitrarily divided into collection units, but an examination of the artifacts indicated that they are uniform in their horizontal distribution. The greatest number of artifacts was collected during the surface collection stage of the mitigation. This may indicate that cultivation after its use as a residence may have resulted in the disturbance of a midden site, or that the site was

Table 7 Artifacts from site EgPI 12 and Relative Dates

Artifact	Date Range
Sandstone Foundation	1905-1920
Manganese Glass	1880-1914
Consumer Glass Maker's Mark	1917-1961
Owen's Scar	1905-1940
Pontil Scar	1940
Maple Syrup Bottle	Ca. 1936
Britannia Maker's Mark	1920-1939
Transfer Print	1780-present
Woodbury Deodorant Jar	1938-1969
Orange Crush Bottle	1956-late 1960s
Kickapoo Joy Juice Bottle	1965

Table 8 Landowners and Date of Ownership for S4-T25-R29 W4M

Landowner	Residence	Land Title Date
Edgar Hooper	Calgary, AB	1905
Alexander Victor Bilton	Calgary, AB	1908
Edgar Hooper	Calgary, AB	1908
Hattie M. Hooper	Calgary, AB	1911
Myra Harriet Catherine Hooper	Vancouver, B.C.	1951
Myra Harriet Catherine Aird	Vancouver, B.C.	1951
Myra Harriet Catherine Aird	Vancouver, B.C.	1952
David Alfred MacGregor Aird	Vancouver, B.C.	1959
City of Calgary		1959
City of Calgary		1959
Her Majesty the Queen		1967

used as a refuse dump after it was no longer a residence and artifacts became scattered across the site over time.

The monitoring stage of the mitigation revealed that the material within the cellar depression was far more varied than that recovered from the previous two stages. These materials included barbed wire, tires, oversize metal cans, pieces of farm equipment and other large artifacts not necessarily associated with a residence. These items may point to the use of the site as a refuse dump, and were not considered part of the artifact assemblage related to occupation of EgPI 12. Therefore, these items were not collected or analyzed.

The date of ownership, as listed in the certificates of title, and the presence of sandstone quarries in Calgary, places the construction of the homestead circa between 1905 and the early 1910s. Given the large quantity of household remains recovered, it is evident that the site was a homestead or residential site. It may be postulated that, either with the move of Myra Harriet Catherine Aird in 1951 to Vancouver, or the sale of the land to the City of Calgary (prior to use as airport land), the use of the site as a residence may have ended and the land was farmed, perhaps by other family members or tenants. It may be during this time that the land was cultivated closer and closer to the original homestead structure. At some point the site became a refuse area.

Table 9 Categories of Artifact from Surface Collection, Mitigation and Monitoring, EgPI 12

Category	Surface Collection	Mitigation	Monitoring	Total
Ammunition	5			5
Agricultural Object		2	2	4
Architectural Object	37	34		71
Clothing	1		21	22
Container	75	25		100
Detritus	6	6	3	15
Dinnerware	110	27		137
Fauna	7	4		11
Flora	2	2		4
Machinery	1	7		8
Ornamental	8			8
Grand Total	252	107	26	385

PALAEONTOLOGICAL SITES

During the mitigation of EgPI 12, several large sandstone blocks were observed approximately 500 metres north of the site (Plate 16). Preliminary examination of these blocks revealed the presence of fossilized material. A recommendation was made to have a palaeontologist assess the materials, and Calgary Airport Authority agreed with this recommendation.

The palaeontological assessment was carried out by Natalie Kuca, B.Sc, on Thursday, August 3, 2006, to determine the fossil content of the blocks and the origin of the bedrock. The sandstone blocks were examined thoroughly and photographed, and a nearby bisected hillside and large trench were examined to determine regional lithology.

The sandstone blocks range from 1 to 3 cubic metres and are no longer within their original depositional context. The surrounding hills and ground below (to a depth of approximately 8 metres) are composed of surficial silts with pebbles and rare cobbles. The sandstone bedrock is buff to grey coloured, fine-grained, well consolidated, and ranges from massive to cross-bedded. Sandstone is referable to the Paleocene Paskapoo Formation. An iron-rich sandstone stratum was found exposed on several sandstone blocks, and was approximately 5 centimetres thick. This iron-rich layer contained fossilized wood fragments, partial leaf impressions (of possibly *Platanus* sp.), unionid clams and viviparid snails (Plates 17-20). A highly burrowed, siltstone stratum, was also observed exposed on some sandstone blocks.

The sandstone blocks do not appear to have been excavated at the site and were apparently dumped at their present site before Boulder Creek Golf Course Construction began (personal communication, on-site construction personnel). The origin of the blocks is unknown.

Bedrock was not found *in situ* in the area and surficial sediments were observed to be at least 13 metres thick. Fossils found in disturbed bedrock blocks are of low heritage value. There are thus no palaeontological concerns at this time and no further palaeontological work is recommended.



Plate 16 View of sandstone blocks; facing southeast



Plate 17 View of fossilized wood fragments

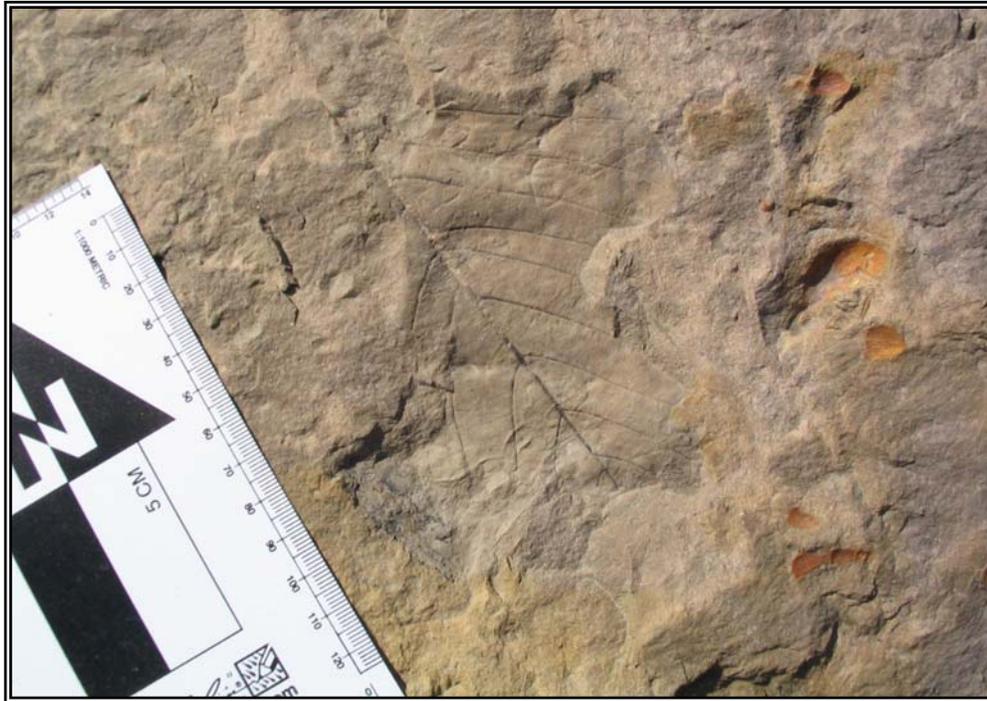


Plate 18 View of fossilized leaf impression (partial)

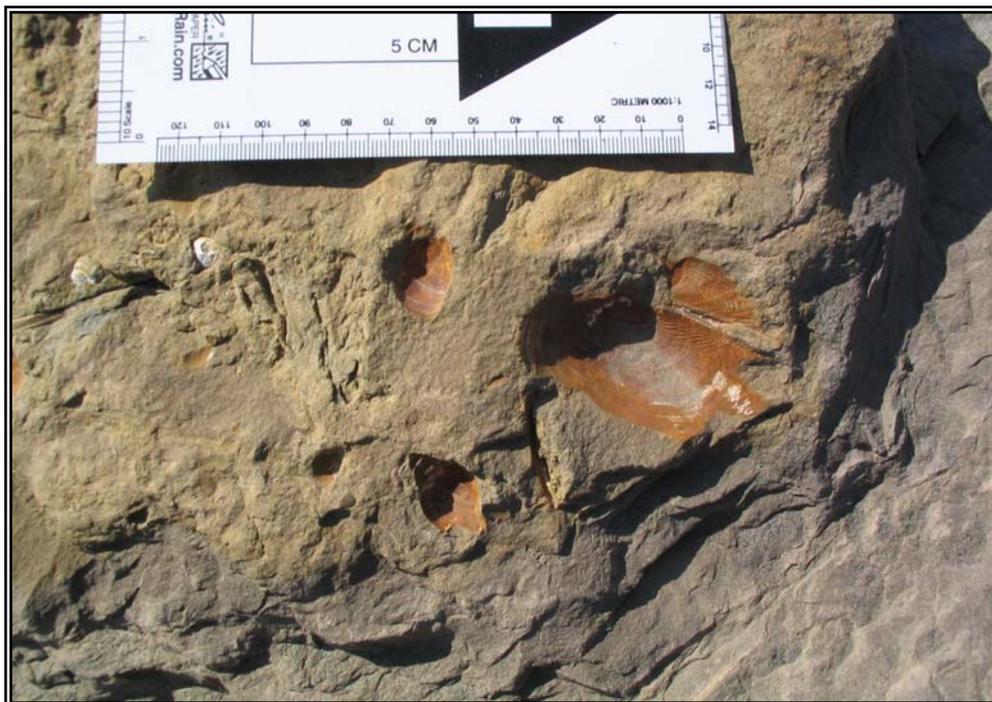


Plate 19 Fossilized unionid clams



Plate 20 Fossilized viviparid snails

SUMMARY AND RECOMMENDATIONS

In 2000, at the request of the Calgary Airport Authority, Fedirchuk McCullough & Associates (FMA) conducted an Historical Resources Impact Assessment (HRIA) of approximately 2052 hectares of land, newly identifying one precontact archaeological site, EgPI 13, and three historic archaeological sites, EgPI 11, EgPI 12, and EgPm 304. As a result of the HRIA, FMA recommended that mitigation activities be undertaken at sites EgPI 11 and EgPI 12 prior to any development occurring. In June of 2006, Calgary Airport Authority contacted FMA Heritage Resources Consultants Inc. (FMA) in order to conduct mitigation activities at EgPI 12. It was decided that mitigation of EgPI 11 would occur concurrently.

The results of the mitigation of these two historic archaeological sites are the focus of this report. The Hooper Homestead, EgPI 12, is in immediate threat of destruction through golf course construction, while EgPI 11 is outside of the impact zone, as there are currently no plans for development. Both of these sites fall under federal jurisdiction and, as such, a provincial archaeological research permit is not required.

Mitigation activities at sites EgPI 11 and EgPI 12 occurred in several phases in late June to mid-July, 2006. The first phase of mitigation at both EgPI 11 and EgPI 12 consisted of an intensive pedestrian traverse and visual examination of the sites, combined with site mapping, surface collection, and interpretation. Diagnostic artifacts were collected from each site, facilitating an accurate interpretation of the occupation activities and occupation dates of each site. The second phase of mitigation at EgPI 12 involved limited shovel testing and exploratory trenches, adjacent to and across structural foundations. The third phase of mitigation at EgPI 12 involved monitoring the

removal of wood debris from inside the structural foundation of the Hooper Homestead. Following the removal of debris, the foundation was covered by landscaping fabric, serving to protect the foundation and any remaining buried historic deposits, effectively capping the site. Following the capping and preservation of the site, it was filled. The area above EgPI 12 will be incorporated into the golf course currently under construction.

During the mitigation activities, palaeontological materials were observed adjacent to site EgPI 12. Calgary Airport Authority was notified of the materials, and agreed that a site visit from a palaeontologist to assess the materials was necessary. This was carried out by Natalie Kuca, B.Sc., of FMA Heritage Resources Consultants Inc., in conjunction with mitigation activities carried out at EgPI 12. A separate report detailing the results of the palaeontological assessment has been filed with the Royal Tyrrell Museum.

There are no current regulatory requirements surrounding development in the vicinities of EgPI 11 and EgPI 12, due to their location on federal property. However, if any future developments in the area are subject to the Canadian Environmental Assessment Act (CEAA), additional work may be required. Due diligence on the behalf of Calgary Airport Authority may prompt a re-evaluation of the relationship between archaeological sites EgPI 11 and EgPI 12 and any future proposed developments.

It is recommended that Calgary Airport Authority, has adequately addressed historical resource concerns at archaeological historic sites EgPI 11 and EgPI 12.

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Archaeological Survey Heritage Resource Management

Borden No. EgPI 11

Permit No. N/A

ARCHAEOLOGICAL SITE INVENTORY DATA

Return to: Archaeological Permits and Records Coordinator
Archaeological Survey, 8820 - 112 St.
Edmonton, Alberta T6G 2P8

Update/Revisit Date: 06/06/27

1. Site Name _____ 2. Field No. _____

3. Elevation (m) 1098 m 4. N.T.S. 1:50,000 Map No. & Name 82P/4 Dalroy

5. Legal Description: LSD 2 Section 21 Township 25 Range 29 W of 4 M

6. UTM NAD27 Civilian Zone 12 Easting 0290742 To _____ Northing 5669499 To _____

UTM NAD83 12 0290681 5669729

7. Land Owner Government of Canada Government of Alberta Municipal Government Freehold

Land Owner Name/Address Calgary Airport Authority
2000 Airport Road NE, Calgary, AB T2E 6W5

8. Access (refer to highway, road number, trail, cardinal directions, landmarks, nearest settlement, distances)

Follow Barlow Trail NE. When you see Airport Trail NE, make a right onto the gravel road that is located east of the eastbound lane of Airport Trail NE. Follow this road east approximately 950 metres until it turns into a trail that will bisect the site. The UTM provided is located at the rubble pile located in the centre of the site.

9. Site Environment/Setting (describe in terms of drainage, slope, aspect, vegetation, soil type, landforms)

The site is located on a high spot surrounded by cultivated fields with carraganas surrounding the site. A woodlot is located on the west and northwest. The site has an open aspect and the soil is a dark brown loam. Vegetation consists of cultivated fields, brush and poplar.

10. Site Class prehistoric indigenous historic historic contemporary

11. Sub Type surface single component subsurface multi component underwater undetermined stratified undetermined # components

12. Site Type isolated find workshop homestead mine industrial scatter (<10) quarry farm trail transportation scatter (>10) rock art ranch mission Other... campsite burial dwelling school stone feature palaeoenvironmental trading post urban killsite settlement police post ceremonial/religious

13. Features (frequencies if possible)

..... stone circle	..... medicine wheel	..... pit	4..... structure	Other Features:
..... cairn	..... effigy	..... mound	.1..... foundation	.1..... Trail.....
..... stone arc	..... pictograph	.1..... depression	..... cellar	
..... stone line	..... petroglyph	..... cabin	.2..... dump	
..... drive lane	..... hearth	..... house	..... fence	

14. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

The remains of this site consist of one concrete barn foundation; one collapsed outbuilding, a possible dwelling; a collapsed outhouse; and a peaked roof. The barn foundation measures 6.85 metres E-W by 12.2 metres N-S, and is 31 centimetres wide. Metal pegs and wood are still attached to the foundation. Evidence suggests that the superstructure was removed. The wooden outbuilding has collapsed and appears to have measured 4.57 metres by 4.25 metres. The wood is milled lumber. A peaked roof is located north of the collapsed structure. To the northwest of the peaked roof is a double seater outhouse with a tin roof. A rubble pile is present, which may represent a collapsed structure, or a pile of refuse. A depression located south of the rubble pile is indicative of an activity area. A trail bisects the area diagonally.

15. Materials observed /collected (frequencies if possible)

observed / collected	observed / collected	observed / collected
..... projectile points	..... faunal remains	..... shell
..... lithic tools	..... human remains	x..... 163.. metal
..... lithic debitage	..... floral remains	x..... 31.... glass
..... bone tools	..... tephra	..... other, specify
x..... 4..... ceramics	..... soil samples	.....
..... fire cracked rock	..... macrofossils	.....
..... charcoal	..... wood	.....

16. Collection Remarks (formed tools, raw materials,)

The area around the barn has been ploughed, and plate glass and ceramic were noted in the area (00/10/21). Four shovel tests in relation to the barn revealed architectural objects including plate glass, nails and bricks, as well as container glass and metal. A possible mirror fragment was also recovered (06/06/27).

17. Collection Repository

Royal Alberta Museum Other...

Dispositions File No.

18. Photo/Images

yes no

Repository

FMA Heritage Resources Consultants Inc.....

19. Culture

Early Prehistoric

Late Prehistoric

Historic

Other..

Middle Prehistoric

Fur Trade/Contact

Undetermined

Cultural Affiliation (Complexes, phases, traditions, projectile point types, ethnographic & ethnic groups)

Euro-Canadian.

20. Calendar Date (A.D./B.C.)

21. Radiocarbon Dates

22. Estimated Dimensions N-S 50..... m, E-W 100..... m, Depth 2..... m

23. Means of Estimating Dimensions surface inspection erosion exposure .10... No. of shovel tests
..... No. of backhoe tests

24. Estimated Portion Intact 60..... %

25. Disturbance Factors (natural, human, current, potential)

Will current development impact site yes no unknown

Type of Disturbance

- agriculture road/highway coal mine transmission line industrial area Other...
- pipeline gravel/sand pit oil sands reservoir vandalism
- wellsite residential area forestry recreation area erosion

Disturbance Factors Remarks

Parts of the site have been cultivated, and a trail runs through the site. Modern garbage has been dumped at the site.

26. Researcher/Permit Holder James.Graham..... Date (Y/M/D) 06/06/27.....

27. Observed by J.Graham, K. Peach, E. Kempanaar..... Date (Y/M/D) 06/06/27.....

28. Surface collected by J.Graham, K. Peach, E. Kempanaar..... Date (Y/M/D) 06/06/27.....

29. Tested/assessed by J.Graham, K. Peach, E. Kempanaar..... Date (Y/M/D) 06/06/27.....

30. Excavated/mitigated by Date (Y/M/D)

31. Form completed by Meaghan.Porter..... Date (Y/M/D) 06/11/24.....

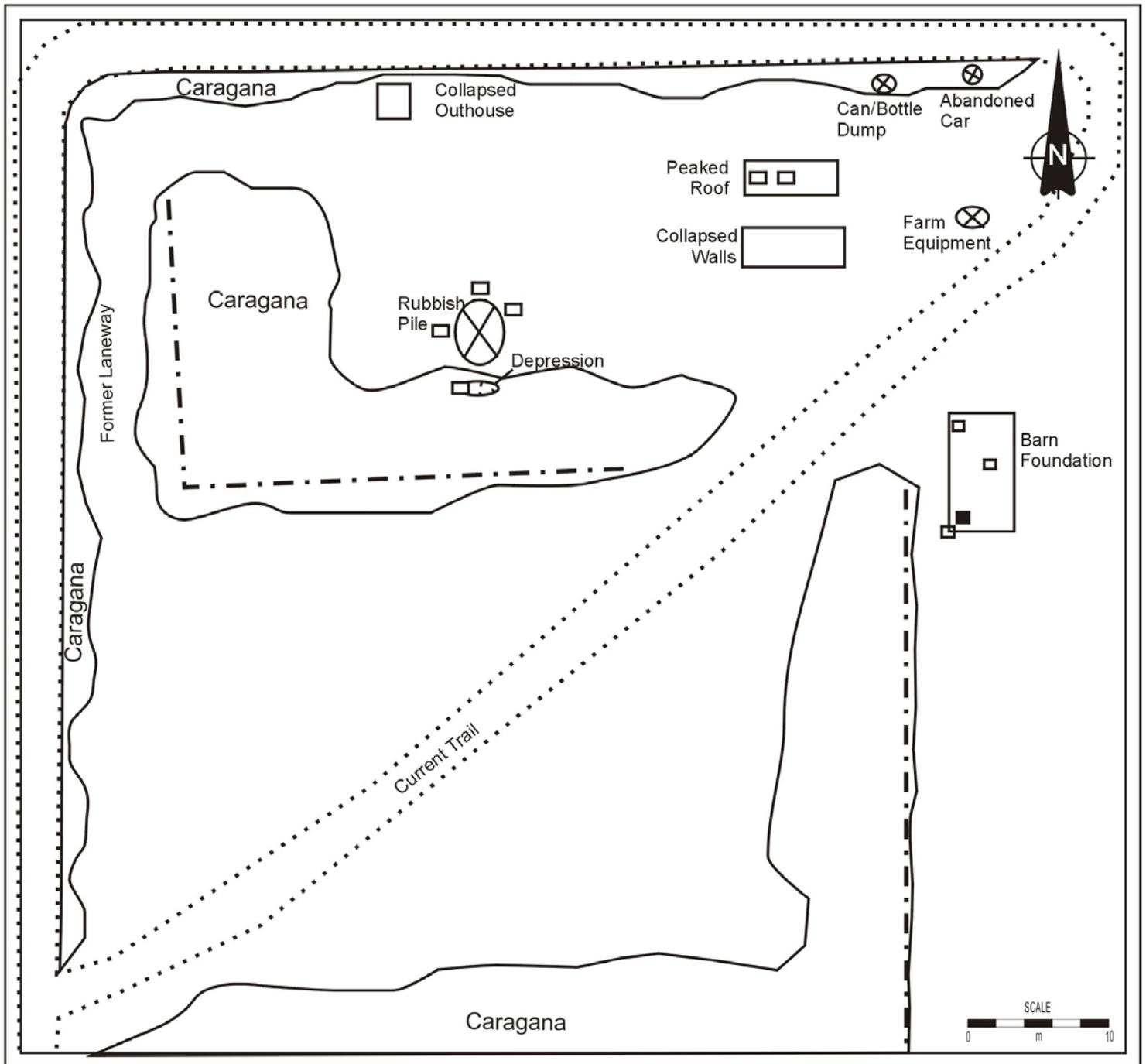
32. Project name/Report Title
Historical Resources Impact Mitigation, Calgary Airport Authority, EgPI.11 and EgPI.12,
Final Report.....

33. Site Significance/Recommendations no additional investigation required (justify):
 additional investigation required (specify):

If any planned development in the vicinity of the site, EgPI 11, was proposed to be subject to the Canadian Environmental Assessment Act (CEAA), additional work may be required. Although there are no regulatory requirements affecting development at EgPI 11, unless subject to CEAA, due diligence on the behalf of Calgary Airport Authority may prompt a re-evaluation of the relationship between archaeological site EgPI 11 and any future proposed developments.

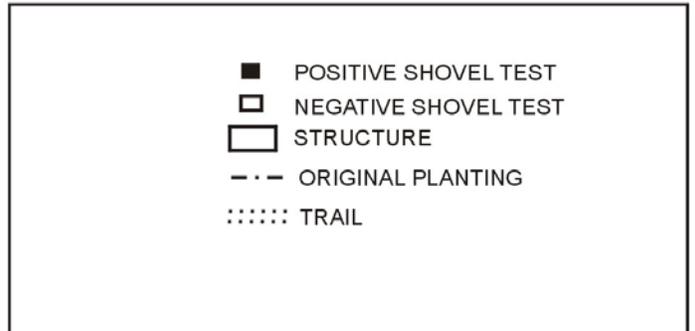
34. Additional Remarks

The site was surface collected without an ASA permit, as it lies within Federal Land. Archaeological investigations were carried out in response to the Calgary Airport Authority's request for due diligence.



N.T.S. 1:50,000 MAP INSET MAP NO.: 82P/4

LEGEND



ARCHAEOLOGICAL SITE INVENTORY DATA

Return to: Archaeological Permits and Records Coordinator
 Archaeological Survey, 8820 - 112 St.
 Edmonton, Alberta T6G 2P8

 Update/Revisit Date: 06/06/27.....

1. Site Name Hooper Homestead 2. Field No. _____

3. Elevation (m) 1090 m 4. N.T.S. 1:50,000 Map No. & Name 82P/4 Dalroy

5. Legal Description: LSD 2 Section 4 Township 25 Range 29 W of 4 M

6. UTM NAD27 Civilian Zone 12 Easting 0290545 To _____ Northing 5664779 To _____

UTM NAD83 12 0290484 _____ 5665000 _____

7. Land Owner Government of Canada Government of Alberta Municipal Government Freehold

Land Owner Name/Address Calgary Airport Authority
2000 Airport Road NE, Calgary, AB T2E 6W5

8. Access (refer to highway, road number, trail, cardinal directions, landmarks, nearest settlement, distances)

In Calgary, head north on 36th Street, continue north past McKnight Blvd. (36th Street will turn into 44th Street) .Turn right at 48th Ave N.E., and head east for approximately 1 kilometre. Turn left onto the dirt road. Proceed northeast for approximately 700 metres; follow the UTM given, which is the SW corner of the foundation. The site will be located on a golf course, beneath a tee, possibly named the "Hooper Tee".

9. Site Environment/Setting (describe in terms of drainage, slope, aspect, vegetation, soil type, landforms)

The site was located on a small knoll in otherwise flat to undulating terrain. It lay within a cultivated field with a mixture of domestic and wild grasses. The site had an open aspect (00/10/21). Currently the landscape has been significantly modified due to construction of the golf course.

10. Site Class prehistoric indigenous historic historic contemporary

11. Sub Type surface subsurface underwater stratified undetermined

single component multi component undetermined

.1..... # components

12. Site Type isolated find scatter (<10) scatter (>10) campsite stone feature killsite

workshop quarry rock art burial palaeoenvironmental settlement

homestead farm ranch dwelling trading post police post

mine trail mission school urban ceremonial/religious

industrial transportation Other.....

13. Features (frequencies if possible)

..... stone circle	..... medicine wheel	..... pit	1..... structure	Other Features:
..... cairn	..... effigy	..... mound	1..... foundation	.....
..... stone arc	..... pictograph	..... depression	1..... cellar	.....
..... stone line	..... petroglyph	..... cabin	..... dump	.....
..... drive lane	..... hearth	..... house	..... fence	.....

14. Description (spatial extent, patterning, density and variety of remains, diagnostics and exotic material, for historic archaeological sites provide details regarding site ownership, origins, function and context)

In 2006, revisits to the site included surface collection (06/06/27), mitigation (06/07/14) and monitoring (06/08/03). The site consists of a collapsed wooden house over a sandstone foundation, which is surrounding a cellar pit. The foundation is of shaped sandstone blocks, up to 45 cm wide, and buried up to 20 centimetres below the surface. The cellar depression extends to roughly 2 metres below surface. The site was patented in 1905 by Edgar Hooper. It remained the property of the Hooper family until 1959, when it was purchased by the City of Calgary. The currently described structure was the only remaining at the site. It is assumed to have originally served as a residence. Backhoe testing revealed artifacts that may indicate that the structure was later utilized as a storage shed.

15. Materials observed /collected (frequencies if possible)

observed / collected	observed / collected	observed / collected
..... projectile points	x..... 11.....	..... faunal remains
..... lithic tools	.....	x..... 49..... human remains
..... lithic debitage	.....	x..... 167..... floral remains
..... bone tools	.....	x..... 9..... tephra
x..... 149..... ceramics	.....	..... soil samples
..... fire cracked rock	.....	..... macrofossils
x..... charcoal	x.....	..... wood
		..... shell
		..... metal
		..... glass
		..... other, specify
		..... synthetic/plastic (4);
		..... asphalt shingle (1)...

16. Collection Remarks (formed tools, raw materials,)

Historic artifacts are spread over a large area, representative surface collected artifacts include ceramics, glass, metal and synthetic/plastic (06/06/27). Excavation of three trenches in relation to the foundation revealed large numbers of ceramic, glass, synthetic/plastic, fauna and metal artifacts. A representative sample was collected (06/07/14). Backhoe testing revealed a substantial number of artifacts, similar to those mentioned above, including artifacts associated with more recent dates. A representative sample was collected (06/08/03).

17. Collection Repository

Royal Alberta Museum Other...

Dispositions File No.

18. Photo/Images

yes no

Repository

FMA Heritage Resources Consultants Inc.....

19. Culture

Early Prehistoric

Late Prehistoric

Historic

Other..

Middle Prehistoric

Fur Trade/Contact

Undetermined

Cultural Affiliation (Complexes, phases, traditions, projectile point types, ethnographic & ethnic groups)

Euro-Canadian.

20. Calendar Date (A.D./B.C.)

A.D. 1905.....

21. Radiocarbon Dates

22. Estimated Dimensions N-S 70..... m, E-W 65..... m, Depth 2..... m

23. Means of Estimating Dimensions surface inspection erosion exposure 4..... No. of shovel tests
1..... No. of backhoe tests

24. Estimated Portion Intact 10..... %

25. Disturbance Factors (natural, human, current, potential)

Will current development impact site yes no unknown

Type of Disturbance

- agriculture road/highway coal mine transmission line industrial area Other...
- pipeline gravel/sand pit oil sands reservoir vandalism
- wellsite residential area forestry recreation area erosion

Disturbance Factors Remarks

The site will be located beneath a tee-off in the proposed golf course and will be impacted. Three trenches running the length and width of the foundation were excavated (06/07/14). Additionally, backhoe testing of the site revealed further cultural deposits in a cellar located beneath the structure (06/08/03). Geomat fabric has been placed in the depression of the cellar, thus preserving remaining deposits. The sandstone foundations were preserved as well.

26. Researcher/Permit Holder James.Graham..... Date (Y/M/D) 06/06/27.....

27. Observed by J.Graham, K. Peach, E. Kempanaar..... Date (Y/M/D) 06/06/27; 06/07/14;.....

28. Surface collected by J. Graham, K. Peach and E. Kempanaar..... Date (Y/M/D) 06/06/27.....

29. Tested/assessed by J.Graham, K. Peach, E. Kempanaar..... Date (Y/M/D) 06/06/27; 06/07/14.....

30. Excavated/mitigated by Meaghan Porter and Janais Turuk..... Date (Y/M/D) 06/07/14; 06/08/03.....

31. Form completed by Meaghan Porter..... Date (Y/M/D) 06/11/22.....

32. Project name/Report Title

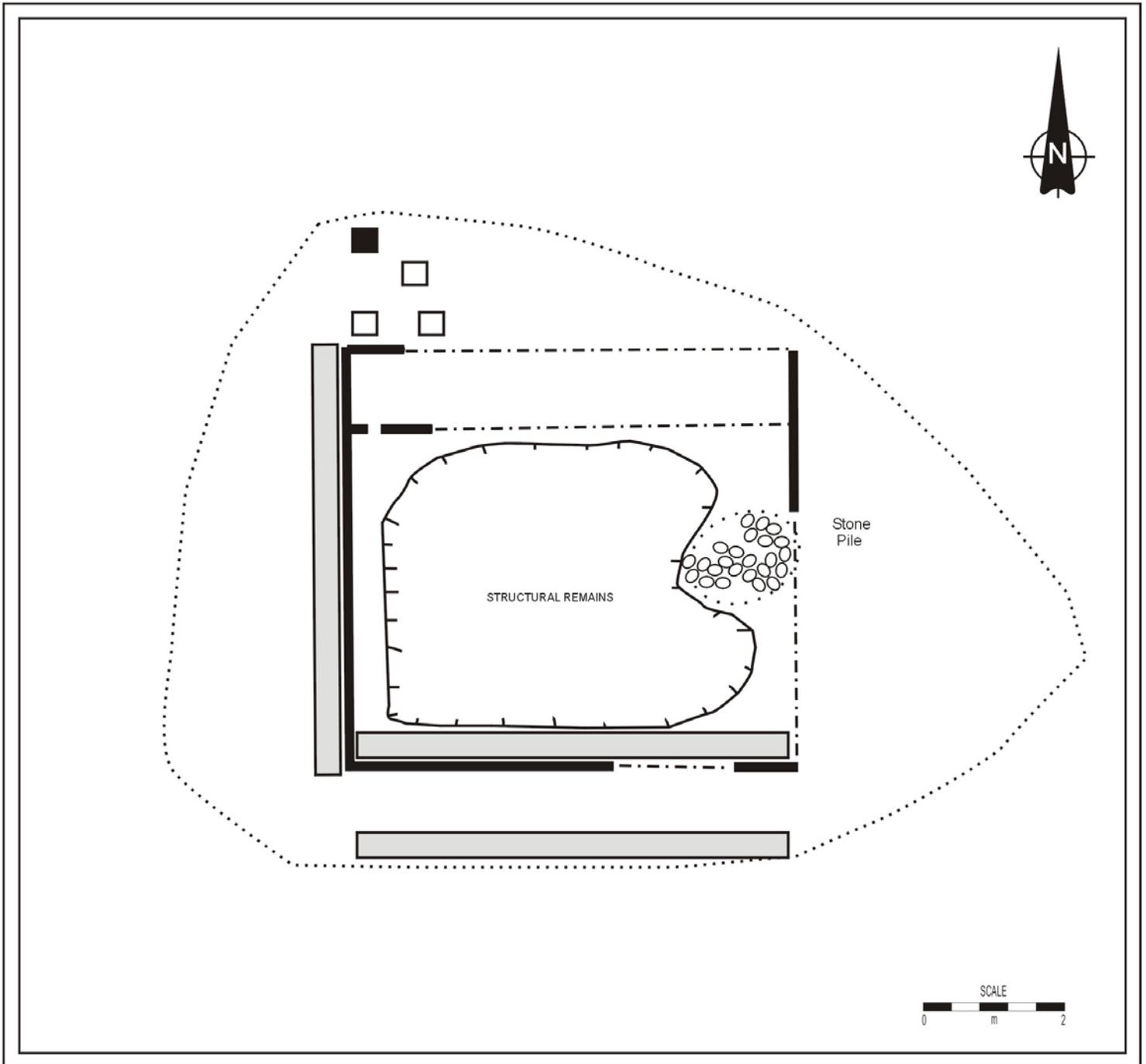
Historical Resources Impact Mitigation, Calgary Airport Authority, EgPI.11 and EgPI.12, Final Report.....

33. Site Significance/Recommendations no additional investigation required (justify):
 additional investigation required (specify):

Relative to the currently proposed develeopment, the site is considered to have been adequately mitigated in the form of mapping, photographing, excavating, and monitoring. Furthermore, remaining deposits have been preserved beneath the currently proposed development with the placement of geomaterial. No further work is recommended. However, if any planned development in the vicinity of EgPI 12 was proposed to be subject to the Canadian Environmental Assessment Act (CEAA), additional work may be required.

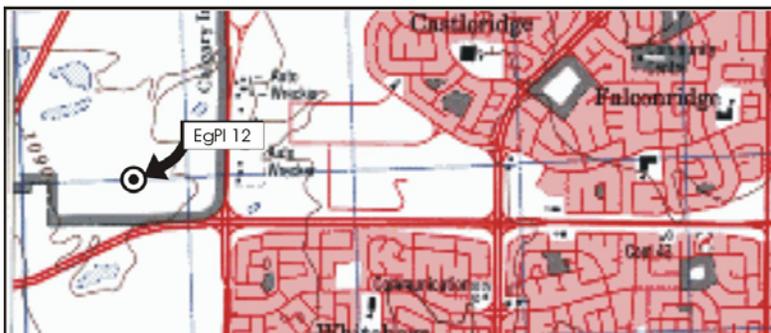
34. Additional Remarks

The site was mitigated without an ASA permit, as it lies within Federal Land. Archaeological investigations were carried out in response to the Calgary Airport Authority's request for due diligence. Mitigation was conducted in a short period of time, and therefore is included on a single site form. Although there are no regulatory requirements affecting development at EgPI 12 unless subject to CEAA, due diligence on the behalf of Calgary Airport Authority may prompt a re-evaluation of the relationship between archaeological site EgPI 12 and any future proposed developments.



N.T.S. 1:50,000 MAP INSET MAP NO.: 82P/4

LEGEND



	SANDSTONE SLABS
	DISTURBED FOUNDATION
	EXTENT OF ARTIFACT SCATTER
	NEGATIVE SHOVEL TEST
	POSITIVE SHOVEL TEST
	EXCAVATION TRENCH

Alberta Community Development
Heritage Resource Management Branch
Historic Artifact Catalogue

Site: EgPI 11 Surface Collection
Project: Calgary Airport Authority

Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
6			1	194.7	Container	Glass	Glass	bottle	clear	chipped; scratched	body; base; shoulder		moulded	3 pieces refit; mould seam, pontil scar
7			1	61.8	Container	Glass	Glass	bottle	clear	chipped; scratched	body; shoulder		moulded	probably part of #6 but doesn't refit; mould seam
8			1	98.8	Container	Glass	Glass	bottle	clear	bloom; chipped	base; body; shoulder	"9...EST 112...10"	moulded	pontil scar; square bottle; sauce bottle (?) HP-like
9			1	69.2	Container	Glass	Glass	bottle	amber	chipped	body; shoulder; finish	"...X...32 OZ...J..."	moulded	Javex bleach bottle; mould seam to lip; horizontal mould seam under bead; continuous thread on finish; embossed lettering and stippling
10			1	47.5	Container	Glass	Glass	bottle	green	bloom; chipped	body		moulded	body sherd with mould seam; shoulder just beginning
11			1	89	Container	Glass	Glass	bottle	clear	chipped	body		moulded	rectangular body with chamfered corners and recessed panel

Alberta Community Development
Heritage Resource Management Branch
Historic Artifact Catalogue

Site: EgPI 11 Surface Collection
Project: Calgary Airport Authority

Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
12			1	30	Container	Glass	Glass		clear	chipped; scratched	body		moulded	part of shoulder, pronounced ridge
13			1	19.6	Architectural Object	Glass	Glass	windowpane	clear	bloom; chipped	sherd		rolled	
14	WP 32		1	8.8	Container	Glass	Glass	jar	clear	chipped	finish		moulded	thread and bead
15	WP 32		1	9.7	Container	Ceramic	Earthenware		tan	chipped	body	two incised horizontal lines	moulded; fired; glazed	
16	WP 32		1	11.8	Architectural Object	Metal	Iron	nail		bent; corroded	head; shank; point		extruded	round head
17	WP 28		1	3.8	Container	Glass	Glass		clear	bloom; chipped	body		moulded	
18	WP 28		1	8.8	Fastener	Metal	Brass	lock		oxidized	complete	incised stylized pattern	cast	

Alberta Community Development
 Heritage Resource Management Branch
 Historic Artifact Catalogue

Site: EgPI 11 Surface Collection
Project: Calgary Airport Authority

Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
19			1	307.6	Container	Glass; Metal	Glass; Iron	jar; lid	clear	corroded; scratched	complete	"FL. 24 OZ" on shoulder; "4..6..V- 1486..."	moulded; rolled; pressed	diamond D and box embossed; Dominion Glass Company Redcliff AB, Sept-Oct; cup bottom mould; mould seams; thread and bead; screw top lid; "V" prefix w/ mould noslate 1945-mid 1950; box system began 1952

Alberta Community Development
 Heritage Resource Management Branch
 Historic Artifact Catalogue

Site: EgPI 11 Surface Collection
Project: Calgary Airport Authority

Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
20			1	191.7	Container	Glass; Metal	Glass; Iron	jar; lid	clear	corroded; scratched	complete	"FL 12 OZ" on shoulder; "8...5...V-497 G"	moulded; rolled; pressed	diamond D and box embossed; Dominion Glass Company Hamilton, ON, Nov-Dec; cup bottom mould; mould seams; thread and bead; screw top lid; "V" prefix w/mould nos late 1945- 1950; box system began 1953

Alberta Community Development
Heritage Resource Management Branch
Historic Artifact Catalogue

Site: EgPI 11 Surface Collection
Project: Calgary Airport Authority

Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
21			1	371	Container	Glass; Metal	Glass; Iron	bottle; cap	clear	bloom; corroded	complete	cap painted; "NW...635... 4"	moulded; rolled; pressed	bead, no thread visible, cap similar to crown cap but not crimped; two ridges at shoulder-body junction, two ridges at body- base junction; cup mould; bottom stippled in concentric circles; mould seams on body and around neck
22			1	260.8	Container	Glass; Metal	Glass; Iron	bottle; cap	clear	bloom; corroded	complete	"16 FL OZ on body at base; "1...6...7927- A..."	moulded; rolled; pressed	Dominion Glass Company, Redcliff AB, May-June; cup mould base, stippled; panels on shoulder and neck; mould seams; continuous thread and bead; twist off cap

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Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
23			1	258.5	Container	Glass	Glass	bottle	clear	bloom	complete	"16 FL OZ on body at base; "9...8...7927- A..."	moulded; rolled; pressed	Dominion Glass Company, Redcliff AB, July-August; cup mould base, stippled; panels on shoulder and neck; mould seams; continuous thread and head
24			1	257.3	Container	Glass	Glass	bottle	clear	bloom	complete	"16 FL OZ on body at base; "2...4...7927- A..."	moulded; rolled; pressed	Dominion Glass Company, Redcliff AB, November- December; cup mould base, stippled; panels on shoulder and neck; mould seams; continuous thread and head

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25			1	198.1	Container	Glass	Glass	Jar	clear	good	complete	"SA134...8... AUG 8"; "FMF ? FVF?"	moulded	cup mould base; mould seams; makers mark on base is either stylized FMF or FVF, the first F is backwards
26			1	100.9	Container	Metal	Iron	tin		bent; corroded	complete		rolled; pressed	herring size tin; oval in shape; tin opened but lid still attached; approx 1.5 in high, 6.25 in long, 4.25 in wide
27			1	141.6	Container	Metal	Iron	tin		bent; corroded	complete	"WHITE ROSE ULTRA MOTOR OIL"	rolled; pressed	1953-1958 product; opened at top with triangular punch
28			1	191.7	Container	Metal; Synthetic	Iron; Plastic	tin		corroded	complete	"AerOwax... CIRE..."	rolled; pressed	tin has been used for target practice; written in French, but opposite side of can eroded away; product no longer manufactured

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Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
29			1	84.5	Container	Metal	Iron	tin		corroded	complete	"Black Flag...."	rolled; pressed	portion of tin corroded away; rectangular can red and black label in English and French; first product sold in 1833, continues to present
30			1	155.7	Container	Metal	Iron	tin		bent; corroded	complete	painted label "Empress chunk style peanut butter"	rolled; pressed	plug-in lid; interlocked seams; peanut butter tin; lid missing; used for target practice

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Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
31			1	144.2	Container	Metal	Iron	tin		corroded	complete	"Export A...Tobacco ..."	rolled; pressed	tobacco tin with lid; MacDonald's Export A Gold Standard tobacco; company established in 1858, now in partnership with Japan Tobacco to form JTI-Macdonald; brand produced to present
32			1	46.6	Container	Metal	iron	tin		bent; corroded	fragment	"...FEE..R..e g...G..."	rolled; pressed	coffee can, possibly Foldgers, regular grind
33			1	78.7	Container	Metal	Iron	tin		corroded	complete		rolled; pressed	two triangular punch marks on top

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34			1	916.5	Container	Metal	Iron	pot	white; blue	bent; corroded	complete		enameled	known as swirl or spatterware, graniteware has been in production since the mid 1800s; iron lugs riveted to pit below rim; base corroded out
35			1	109.2	Machinery	Metal	Iron	cover		bent; corroded	complete	"...OPRAY"	rolled; pressed	cover or housing for machinery (?); screws on; two holes on front
36			1	7.5	Container	metal	Iron	cap		corroded	complete		rolled; pressed	screwed on the original container finish, also metal, corroded away at the base of the cap
37	Test 2 inside barn		1	15.4	Architectural Object	Metal	Iron	nail		corroded	head; shank; point		extruded	round head
38	Extreme SW corner of barn		1	4.7	Architectural Object	Metal	Iron	nail		corroded	head; shank; point		extruded	round head

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Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
39	Extreme SW corner of barn		1	4.8	Container	Glass	Glass	jar	clear	chipped; scratched	base	"...RD..."	moulded	
40	WP 17		1	33.3	Misc Metal	Metal	Iron			corroded	complete		rolled; pressed	circular, domed metal cover(?) w/hole in centre, hole has 3 evenly spaced tabs projecting into hole
41	inside out building		1	42	Storage	Metal; Floral	Iron; Textile	belt; buckle		corroded; frayed	complete buckle	incised ship anchor on back	cast; woven	buckle riveted to web belt; loop w/serrated tooth "lock" to wind other end of belt thru then through small loop to hold end down; possibly for baling cargo
42-59	interior SW corner of barn		18	69.3	Architectural Object	Metal	Iron	nail		bent; corroded	head; shank; point		extruded	round head
60-92	interior SW corner of barn		33	134.4	Architectural Object	Metal	Iron	nail		corroded	head; shank; point		extruded	round head
93-98	interior SW corner of barn		6	1.7	Architectural Object	Metal	Iron	nail		corroded	shank		extruded	

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99-103	interior SW corner of barn		5	2.8	Architectural Object	Metal	Iron	nail		bent; corroded	shank; point		extruded	
104-110	interior SW corner of barn		7	5.9	Architectural Object	Metal	Iron	nail		bent; corroded	head; shank		extruded	round head
111-162	interior SW corner of barn		52	32.8	Architectural Object	Metal	Iron	nail		bent; corroded	head; shank; point		extruded	round head
163-182	interior SW corner of barn		20	12.8	Architectural Object	Metal	Iron	nail		corroded	head; shank; point		extruded	round head
183-185	interior SW corner of barn		3	22.8	Container	Glass	Glass	bottle	amber	bloom; chipped	body		moulded	
186	interior SW corner of barn		1	0.7	Architectural Object	Glass	Glass	windowpane	clear	chipped; scratched	sherd		rolled	
187	Rubble Pile		1	386	Architectural Object	Metal	Iron	hinge		bent; corroded	complete		cast?	two "V" shaped straps with centre pin
188	Rubble Pile		1	265.8	Architectural Object	Metal	Iron	door knob; backplate		bent; corroded	one doorknob only		cast	one complete doorknob with two backplates and screws.

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189	Rubble Pile		1	238.5	Container	Glass	Glass	beer bottle	amber	scratched	complete	"AW.II...<D> ...8...CANAD A"	moulded	Dominion Glass Company; dot on diamond at 8:30 doesn't correspond to any company, but, if misaligned, ma y at 9:00 (Point St Charles); stubby beer bottle 1962- 1983; crown cap finish; mould seams at side; all maker's marks body at base/body join
190	WP 118		1	4.7	Container	Glass	Glass	liner	clear	bloom; chipped	rim	"IM..."	moulded	canning sealer glass liner, probably part of 191-192; rim sherd; letter probably spell "improved"

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191	WP 118		1	8.5	Container	Glass	Glass	jar	clear	chipped; scratched	body	"...mprove... GE..."	moulded	embossed "Improved (script) Gem (uppercase)" canning sealer ; 2 pieces refit; probably part of 190 and 192
192	WP 118		1	5.4	Container	Glass	Glass	jar	clear	chipped	body	"..m..."	moulded	embossed script "m" part of Improved Gem canning sealer; probably part of 190-191
193	WP 118		1	17.5	Container	Glass	Glass	jar	clear	chipped	base	"C...<D>...7"	moulded	Dominion Glass Company, Redcliff AB, May-June, probably 1947; stippled base: pontil
194- 195	WP 29		2	6.9	Ornamental	Glass	Glass	mirror (?)		chipped	sherd		rolled	
196	S side of wood, outside wall		1	2.6	Container	Glass	Glass		clear	cracked; scratched	sherd		moulded	small lip of glass on one side; possibly corner
197	S side of wood, outside wall		1	25.4	Architectural Object	Glass	Glass	windowpane	clear	patinated	sherd		rolled	

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198	WP 30		1	396.5	Household Part	Ceramic	Earthenware	fixture	blue	chipped	sherd		moulded; fired; glazed	possibly ceramic bathroom fixture (sink or toilet)
199	WP 25		1	405.6	Architectural Object	Metal	Iron	hinge		corroded	complete	white paint	cast?	remnants of white paint on exterior surface; nuts and bolts included
200	WP 25		1	406.2	Architectural Object	Metal	Iron	hinge		corroded	complete	white paint	cast?	remnants of white paint on exterior surface; nuts and bolts included
201			1	2200	Architectural Object	Ceramic	Bole	brick		chipped; stained	complete		pressed	no makers mark in frog
202	WP 31		1	706.7	Architectural Object	Ceramic	Bole	brick		chipped	incomplete	"K210" incised	pressed	10-hole perforated brick; two edges textured, horizontal lines etched into brick
203		surface	1		Transportation	Metal	Iron	wagon wheel rim		bent; corroded	incomplete		cast?	includes a felloes plate

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Cat No	Waypoint/ Shovel Test	Depth (cm BS)	Qty	Wgt (gm)	Size (cm)	Animal Class	Bone Observation	Portion	Side	Age	Comments
375	House West	surface	1	2.3	0-3	Lg. Mammal	sawn?; calcined	longbone	Indt	Indt	longbone shaft fragment
376	House East	surface	1	12.3	3-9	Lg. Mammal	sawn; weathered	scapula	Indt	Indt	blade
377	House East	surface	1	3.6	0-3	Lg. Mammal	sawn; weathered	longbone	Indt	Indt	shaft fragment
378	House East	surface	1	8.2	3-9	Lg. Mammal		rib	Indt	Indt	prox end broken just under head; re-ex
379	North Quadrant	surface	1	46.2	>15	Bos	cut; gnawed	rib	right	fused	prox end plus shaft; tubercle incomplete
380	North Quadrant	surface	1	1.2	0-3	Lg. Mammal	sawn	longbone	Indt	Indt	shaft fragment
381	West wall	surface	1	14.7	3-9	Bos	sawn	femur	Indt	Indt	outside depression; tubular shaft, approx 1/2 inch in wide; 0.5 cm cortical thickness.

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Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
6-8	House West	surface	3	8.2	Dinnerware	Ceramic	Earthenware		white	chipped	body		moulded; fired; glazed	west of house mound; highly
9-11	House West	surface	3	20.5	Dinnerware	Ceramic	Earthenware		white	chipped; crazed	body		moulded; fired; glazed	west of house mound
12	House West	surface	1	3.1	Dinnerware	Ceramic	Earthenware	plate	white	chipped	rim		moulded; fired; glazed	west of house mound; highly
13	House West	surface	1	6.9	Dinnerware	Ceramic	Earthenware	plate	white	chipped; crazed	rim		moulded; fired; glazed	
14	House West	surface	1	8.2	Dinnerware	Ceramic	Earthenware	saucer	white	scratched	rim		moulded; fired; glazed	
15	House West	surface	1	4.6	Dinnerware	Ceramic	Earthenware	plate; bowl	white	chipped; scratched	rim		moulded; fired; glazed	
16	House West	surface	1	1.2	Dinnerware	Ceramic	Earthenware	plate?	white; green	chipped; crazed	body	floral transfer print	moulded; fired; glazed	
17	House West	surface	1	1.8	Dinnerware	Ceramic	Earthenware		white; green	crazed	body	floral transfer print	moulded; fired; glazed	not round but bent, too thick walled to be cup
18	House West	surface	1	5.4	Dinnerware	Ceramic	Earthenware	plate?	white; blue	chipped; scratched	base; footring	floral transfer print	moulded; fired; glazed	flow blue; highly vitrified.
19	House West	surface	1	4.9	Dinnerware	Ceramic	Earthenware	plate	white	chipped; spalled	base; footring		moulded; fired; glazed	
20	House West	surface	1	11.9	Dinnerware	Ceramic	Earthenware	cup	white	chipped	base; footring		moulded; fired; glazed	highly vitrified

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21	House West	surface	1	12.8	Dinnerware	Ceramic	Earthenware	plate	white; green; brown	chipped	base; footring	floral hand painted	moulded; fired; glazed	overglaze
22	House West	surface	1	2.7	Dinnerware	Ceramic	Earthenware	cup; bowl	white; polychrome	chipped	rim	floral hand painted overglaze	moulded; fired; glazed	overglaze gold stripe on rim;
23	House West	surface	1	8.7	Dinnerware	Ceramic	Earthenware	cup	white; gold	chipped	body	hand painted	moulded; fired; glazed	overglaze gold stripe and monogram(?) on body
24	House West	surface	1	5.5	Dinnerware	Ceramic	Earthenware	plate	white; gold; brown	crazed; spalled	body	transfer print	moulded; fired; glazed	"Greek key" geometric design in gold and brown within ribbon; refits to #162
25	House West	surface	1	1.2	Dinnerware	Ceramic	Earthenware	plate; saucer	white; grey; pink; green	chipped	body	floral hand painted overglaze	moulded; fired; glazed	overglaze; similar to cat no 21
26	House West	surface	1	9.2	Dinnerware	Ceramic	Earthenware	crock	tan	chipped	body		moulded; fired; glazed	vertical incised line
27- 29	House West	surface	3	8	Dinnerware	Glass	Milk Glass		white	chipped	body		moulded	slightly translucent along edges
30- 32	House West	surface	3	4.6	Ornamental	Glass	Milk Glass	lamp shade?	white	chipped	body	embossed	moulded	very opaque; may be part of
33	House West	surface	1	11.7	Ornamental	Glass	Milk Glass?		white	chipped	body	embossed	moulded	creamy/yello w in colour, milk glass?

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34	House West	surface	1	1.7	Container	Glass	Glass		clear	bloom; chipped	body		moulded	
35	House West	surface	1	16.1	Container	Glass	Glass		clear	chipped	body		moulded	square shape; impressed to form numerous raised rectangles panels
36	House West	surface	1	23.3	Container	Glass	Glass		clear	bloom; chipped	finish	embossed "...A..."	moulded	crow's foot mould seam up the neck to finish; horizontal mould seam under finish; neck stippled/oran ge peel texture; embossed letter on neck close to shoulder; other embossed letter possibly "C" or "G"

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Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
37	House West	surface	1	1.8	Container	Glass	Glass		purple	bloom; chipped	base	embossed "...H..."	moulded	manganese glass; ca. 1880-1914
38	House West	surface	1	103.6	Container	Glass	Glass	bottle	clear	bloom; cracked	base	embossed " COCA- COLA LTD"	moulded	also Dominion Glass Company makers mark; Redcliff AB plant, Sept-Oct; post 1953
39	House West	surface	1	3.4	Container	Glass	Glass	bottle	purple	chipped; patinated	body		moulded	manganese glass; ca. 1880-1914
40	House West	surface	1	20	Container	Glass	Glass	bottle	purple	bloom; chipped	base	embossed	moulded	manganese glass; ca. 1880-1914; vertical small ribs; two pieces refit
41	House West	surface	2	1.9	Architectural Object	Glass	Glass	windowpane	clear	bloom; chipped	sherd		rolled	
42	House West	surface	1	16.9	Container	Metal	Iron	can		bent; corroded	lid		rolled; pressed	
43	House West	surface	1	8.3	Detritus	Metal	Iron	strapping?		bent; corroded	fragment		rolled	

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44	House West	surface	1	11	Container	Glass	Glass	bottle	olive green	chipped	body		moulded	mould seam; faint wiggly horizontal impressions, possibly from mould
45	House West	surface	1	1	Container	Glass	Glass	bottle	olive green	chipped	body		moulded	
46	House West	surface	1	2.5	Clothing	Fauna	Leather	strap	brown	cracked; dried	fragment		tanned	
47	House West	surface	1	14.1	Dinnerware	Ceramic	Earthenware	plate	white; green	chipped; scratched	rim	floral transfer print	moulded; fired; glazed	
48	House West	surface	1	2.2	Dinnerware	Ceramic	Earthenware	plate	white; green	chipped; scratched	rim	floral (?) transfer print	moulded; fired; glazed	
49- 50	House West	surface	2	7.5	Dinnerware	Ceramic	Earthenware	plate	white	chipped; crazed	rim		moulded; fired; glazed	
51	House West	surface	1	1.3	Dinnerware	Ceramic	Earthenware	saucer	white; pink; gold	cracked	rim	hand painted	moulded; fired; glazed	gold stripe on rim; geometric design handpainted
52	House West	surface	1	27	Dinnerware	Ceramic	Earthenware	saucer	white	scratched	rim; base; footring		moulded; fired; glazed	
53	House West	surface	1	5.3	Dinnerware	Ceramic	Earthenware	cup	white	chipped	rim		moulded; fired; glazed	highly vitrified
54	House West	surface	1	1.6	Dinnerware	Ceramic	Earthenware		white; blue	exfoliated	sherd	floral (?) transfer print	moulded; fired; glazed	
55	House West	surface	1	0.2	Dinnerware	Ceramic	Earthenware		white; blue	exfoliated	sherd	transfer print	moulded; fired; glazed	

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56	House West	surface	1	1.1	Dinnerware	Ceramic	Earthenware	plate	white; green	chipped; crazed	sherd	transfer print maker's mark "NSON...N ..."	moulded; fired; glazed	maker's mark, Johnson Bros. England 1883-present
57	House West	surface	1	2.3	Dinnerware	Ceramic	Earthenware	saucer	white; pink; green	chipped; spalled	body	floral lithographed decal	moulded; fired; glazed	overglaze
58	House West	surface	1	1.4	Dinnerware	Ceramic	Earthenware	plate	white; green	chipped	body	floral transfer print	moulded; fired; glazed	
59-60	House West	surface	2	3.7	Dinnerware	Ceramic	Earthenware		white	chipped	sherd		moulded; fired; glazed	highly vitrified
61	House West	surface	1	17.4	Dinnerware	Ceramic	Earthenware	cup; mug	white	chipped	rim; body; handle		moulded; fired; glazed	highly vitrified
62	House West	surface	1	1.8	Dinnerware	Ceramic	Earthenware	cup	white	chipped	handle		moulded; fired; glazed	
63	House West	surface	1	5.6	Dinnerware	Ceramic	Earthenware		white	chipped	sherd		moulded; fired; glazed	
64	House West	surface	1	11.3	Dinnerware	Glass	Milk Glass	cup	white	chipped	base; footring		moulded	
65-66	House West	surface	2	5.3	Dinnerware	Glass	Milk Glass		white	chipped	body		moulded	
67-69	House West	surface	3	7.5	Dinnerware	Glass	Milk Glass		white	chipped	body		moulded	more opaque than above
70	House West	surface	1	1.4	Architectural Object	Glass	Glass	windowpane	clear	bloom; scratched	sherd		rolled	
71-73	House West	surface	3	13.3	Container	Glass	Glass	bottle	brown	bloom; chipped	body		moulded	

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74	House West	surface	1	35.8	Container	Glass	Glass	bowl	purple	bloom; chipped	base; footring		moulded	manganese glass; ca. 1880-1914; heavy thick walled bowl
75	House West	surface	1	7.7	Container	Glass	Glass		purple	bloom; scratched	body		moulded	manganese glass; ca. 1880-1914
76	House West	surface	1	2.9	Ornamental	Glass	Glass		purple	bloom; chipped	rim		moulded	manganese glass; ca. 1880-1914; lampshade?
77	House West	surface	1	12.8	Ornamental	Glass	Glass		clear	bloom; chipped	body	embossed	moulded	horizontal embossed ribs with embossed diamond (incomplete); mould seam
78	House West	surface	1	9.7	Container	Glass	Glass		clear	bloom; scratched	body		moulded	raised seam
79	House West	surface	1	6.7	Container	Glass	Glass		clear	bloom; scratched	body		moulded	mould seam; ridged in cross section
80-81	House West	surface	2	3.8	Container	Metal	Iron	can		bent; corroded	body		rolled; pressed	

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Cat No	Waypoint/ Surface Find	Depth	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
82	House West	surface	1	27.2	Detritus	Synthetic	Bakelite/Vulcanite		black	cracked	fragment	embossed	moulded?	geometric border ridges, internal depressed small "hobnail" surface
83	House East	surface	1	6.3	Ammunition	Metal	Brass; Paper	shotshell		bent; oxidized	base	"DOMINION CANUCK 12"	cast	12 gauge shot shell, centrefire; Dominion Cartridge Company 1886-1955; base and paper; dia=2.24cm
84	House East	surface	1	15.6	Ammunition	Metal	Brass	cartridge		bent; oxidized	complete	"DA 58"	cast	.303 military issue; Dominion Arsenal, Montreal Canada, 1871-1964
85	House East	surface	1	0.5	Container	Ceramic	Earthenware		brown	spall	sherd		moulded; fired; glazed	
86	House East	surface	1	6.1	Dinnerware	Ceramic	Earthenware	plate	white	chipped; crazed	base; footring		moulded; fired; glazed	
87	House East	surface	1	16.6	Dinnerware	Ceramic	Earthenware	plate	white	chipped; crazed	rim		moulded; fired; glazed	

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88	House East	surface	1	3.5	Dinnerware	Ceramic	Earthenware	cup	white	spalled	rim		moulded; fired; glazed	
89	House East	surface	1	7.1	Dinnerware	Ceramic	Earthenware	cup; mug	white	burned; chipped	rim		moulded; fired; glazed	
90	House East	surface	1	4.2	Dinnerware	Ceramic	Earthenware	plate	white; green	chipped; scratched	rim	floral transfer print	moulded; fired; glazed	red stripe
91	House East	surface	1	0.9	Dinnerware	Ceramic	Earthenware	plate	white; red	crazed	body	floral transfer print	moulded; fired; glazed	
92	House East	surface	1	2.2	Dinnerware	Ceramic	Earthenware	cup	white; red	chipped	body	transfer print	moulded; fired; glazed	
93	House East	surface	1	1.1	Dinnerware	Ceramic	Earthenware		white; blue	scratched	sherd	transfer print	moulded; fired; glazed	
94	House East	surface	1	0.2	Dinnerware	Ceramic	Earthenware		white; blue	spall	sherd	transfer print	moulded; fired; glazed	
95	House East	surface	1	0.3	Dinnerware	Ceramic	Earthenware		white; blue	spall	sherd	transfer print	moulded; fired; glazed	
96	House East	surface	1	1.4	Dinnerware	Ceramic	Earthenware		white; blue	crazed	rim	transfer print	moulded; fired; glazed	vertical ridge with series of small bumps
97	House East	surface	1	0.6	Dinnerware	Ceramic	Earthenware		white; blue	chipped; spalled	rim	transfer print	moulded; fired; glazed	ridged with row of bumps following rim
98	House East	surface	1	8.2	Dinnerware	Ceramic	Earthenware	plate	white; blue	chipped; crazed	base; footring	transfer print maker's mark	moulded; fired; glazed	maker's mark reclining animal front legs (lion?) and shield with cross

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99	House East	surface	1	11.6	Container	Glass	Glass	bottle	olive green	chipped	base		moulded	base with kick up
100- 102	House East	surface	3	5.5	Container	Glass	Glass		purple	bloom; chipped	body		moulded	manganese glass; ca. 1880-1914
103	House East	surface	1	8.7	Container	Ceramic	Stoneware	crock	tan; brown	chipped	body	salt glazed	moulded; fired; glazed	tan exterior, brown interior
104	House East	surface	1	0.4	Container	Ceramic	Earthenware		brown	scratched	body		moulded; fired; glazed	
105	House East	surface	1	1.8	Dinnerware	Ceramic	Earthenware	plate	white	scratched	body		moulded; fired; glazed	
106	House East	surface	1	3	Dinnerware	Ceramic	Earthenware	plate	white	chipped; crazed	base; footring		moulded; fired; glazed	
107	House East	surface	1	1.9	Dinnerware	Ceramic	Earthenware	plate	white	chipped; crazed	rim	handpainted; scalloped edge	moulded; fired; glazed	gold stripe painted approx 3/4 inch from rim
108	House East	surface	1	1.5	Dinnerware	Ceramic	Earthenware		white; brown; pink	chipped	body	floral transfer print; handpainted	moulded; fired; glazed	overglaze pink paint
109	House East	surface	1	2	Dinnerware	Ceramic	Earthenware		white; pink; green	chipped	body	floral lithographed decal	moulded; fired; glazed	overglaze decal
110	House East	surface	1	5.2	Dinnerware	Ceramic	Earthenware	plate	white; green	chipped; crazed	rim	geometric transfer print	moulded; fired; glazed	same pattern as rec no 154
111	House East	surface	1	5.8	Dinnerware	Ceramic	Earthenware	plate	white; brown	chipped; crazed	rim	floral transfer print	moulded; fired; glazed	slight scallop to edge

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112	House East	surface	1	0.9	Dinnerware	Ceramic	Earthenware	cup	white; blue	chipped; crazed	rim	floral transfer print	moulded; fired; glazed	floral
113	House East	surface	1	2.7	Dinnerware	Ceramic	Earthenware	cup	white; blue	chipped	rim	floral transfer print; embossed on edge	moulded; fired; glazed	floral; embossed dots in a line just below rim
114	House East	surface	1	1.8	Dinnerware	Ceramic	Earthenware	plate	white; blue	scratched	body	floral transfer print	moulded; fired; glazed	
115	House East	surface	1	0.8	Dinnerware	Ceramic	Earthenware	plate	white; green	chipped; spalled	body	floral transfer print	moulded; fired; glazed	
116	House East	surface	1	0.8	Dinnerware	Ceramic	Earthenware	plate	white; blue	chipped; spalled	body	floral transfer print	moulded; fired; glazed	
117	House East	surface	1	0.8	Dinnerware	Ceramic	Earthenware	plate	white; green	scratched	body	transfer print "...INE"	moulded; fired; glazed	
118	House East	surface	1	2	Dinnerware	Ceramic	Earthenware		white	chipped	rim		moulded; fired; glazed	highly vitrified
119	House East	surface	1	1.6	Dinnerware	Ceramic	Earthenware		white	chipped	body		moulded; fired; glazed	highly vitrified
120	House East	surface	1	0.2	Dinnerware	Ceramic	Earthenware		white; gold	crazed	rim	hand painted gold stripe on rim	moulded; fired; glazed	possibly embossed but too small sherd to be certain
121	House East	surface	1	29.9	Architectural Object	Ceramic	Bole	brick	red		fragment		moulded; fired	
122	House East	surface	1	7.3	Container	Glass	Glass	bottle	olive green	chipped; scratched	sherd		moulded	
123	House East	surface	1	6.1	Container	Glass	Glass	bottle	clear	patinated	body		moulded	pale green tinge

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124	House East	surface	1	2.3	Container	Glass	Glass	bottle	clear	bloom; chipped	body	embossed stipple and bumps	moulded	
125	House East	surface	1	2.5	Container	Glass	Glass	bottle	purple	bloom; chipped	body		moulded	manganese glass; ca. 1880-1914
126	House East	surface	1	2.7	Container	Glass	Glass	bottle	purple	chipped	rim		moulded	manganese glass; ca. 1880-1914
127- 130	House East	surface	4	13.5	Container	Glass	Glass	bottle	clear	bloom; chipped	body		moulded	
131	House East	surface	1	4	Container	Glass	Glass	bottle	olive green	chipped; scratched	body		moulded	rectangular shape; mould seam
132	House East	surface	1	9	Container	Glass	Glass		olive green	burned	sherd		moulded	
133	House East	surface	1	2.9	Container	Glass	Glass	jar	clear	bloom; chipped	finish; neck; shoulder		moulded	flanged lip
134	House East	surface	1	9.9	Container	Glass	Glass	bottle	olive green	melted	finish		moulded	possibly flattened side lip but melting has distorted shape somewhat; no mould seams

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135	House East	surface	1	38.1	Container	Glass	Glass	bottle	clear	bloom; chipped	finish; neck		moulded	two vertical mould seam up neck to finish; horizontal mould seam under lip; threaded finish
136- 140	House East	surface	5	8.5	Architectural Object	Glass	Glass	windowpane	clear	bloom; chipped; cracked	sherd		rolled	
141	House East	surface	1	63.2	Architectural Object	Metal	Iron			corroded		threaded	cast?	metal tube, bore dia=2.46 cm; height=3.48 cm; approx half threaded; flanged on inside
142	North Quadrant	surface	1	20.4	Architectural Object	Metal	Iron	hinge		bent; corroded	strap		cast?	pierced by hole at end; broken at other hole
143	North Quadrant	surface	1	1.5	Detritus	Metal	Iron			bent; corroded	fragment		rolled; pressed	
144	North Quadrant	surface	1	3.3	Detritus	Metal	Iron			bent; corroded	fragment		rolled; pressed	

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145	North Quadrant	surface	1	11.6	Ammunition	Metal	Brass	cartridge		oxidized	complete	"DA 56..."	cast	.303 military issue; Dominion Arsenal, Montreal Canada, 1871-1964; more on headstamp but unable to read; centrefire; dia=1.35 cm
146	North Quadrant	surface	1	11.4	Ammunition	Metal	Brass	cartridge		bent; oxidized	complete	"DA 56...DA...M K..."	cast	.303 military issue; Dominion Arsenal, Montreal Canada, 1871-1964; more on headstamp but unable to read; centrefire; dia=1.39 cm length=5.59 cm
147	North Quadrant	surface	1	1.6	Container	Glass	Glass	bottle	brown	bloom; scratched	body		moulded	

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148	North Quadrant	surface	1	6.9	Container	Glass	Glass		aqua	chipped; scratched	body		moulded	orange peel texture on exterior surface
149-150	North Quadrant	surface	2	7.1	Container	Glass	Glass		purple	bloom; chipped	body		moulded	manganese glass; ca. 1880-1914
151	North Quadrant	surface	1	2.9	Container	Glass	Glass	bottle	clear	bloom; chipped	body		moulded	bubbles; rectangular bottle; edge between side and front panel
152	North Quadrant	surface	1	10.8	Container	Glass	Glass	jar	clear	bloom; chipped	shoulder; neck		moulded	rounded shoulder with small portion of neck; vertical striations
153	North Quadrant	surface	1	3	Architectural Object	Glass	Glass	windowpane	clear	bloom; chipped	sherd		rolled	
154	North Quadrant	surface	1	13.1	Dinnerware	Ceramic	Earthenware	plate	white; green	crazed; scratched	rim	floral transfer print	moulded; fired; glazed	same pattern as rec no 110
155	North Quadrant	surface	1	0.3	Dinnerware	Ceramic	Earthenware		white; green	chipped	rim	floral transfer print	moulded; fired; glazed	
156	North Quadrant	surface	1	1	Dinnerware	Ceramic	Earthenware		white; red	chipped; crazed	rim	floral transfer print	moulded; fired; glazed	
157	North Quadrant	surface	1	2.3	Container	Ceramic	Earthenware		blue	chipped	body	floral and geometric embossed	moulded; fired; glazed	interior glaze shiny; paste is blue

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158	North Quadrant	surface	1	7.4	Dinnerware	Ceramic	Earthenware	plate	white; red	scratched	body	transfer print maker's mark "...J..B...TR ADE M..."	moulded; fired; glazed	partial shield
159	North Quadrant	surface	1	20.8	Dinnerware	Ceramic	Earthenware	plate	white; blue	crazed	rim	floral transfer print	moulded; fired; glazed	incised scalloped line following pattern near to rim edge; same pattern as #172
160	North Quadrant	surface	1	3	Dinnerware	Ceramic	Earthenware		white	chipped; crazed	rim		moulded; fired; glazed	
161	North Quadrant	surface	1	1.4	Dinnerware	Ceramic	Earthenware		white; green	crazed; spalled	base; footring	floral transfer print	moulded; fired; glazed	possible bowl
162	North Quadrant	surface	1	5.9	Dinnerware	Ceramic	Earthenware	plate	white; gold; brown; pink	chipped; crazed	rim	transfer print; hand painted	moulded; fired; glazed	overglaze gold stripes on rim; "Greek key" geometric design in gold and brown with pink flower? Within ribbon of design; refits to 24
163	North Quadrant	surface	1	19.1	Container	Ceramic	Earthenware		red	chipped	body		moulded; fired	

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164	North Quadrant	surface	1	4.8	Container	Glass	Milk Glass		white	chipped	body		moulded	
165	North Quadrant	surface	1	17.2	Container	Ceramic	Earthenware		red	chipped	rim		moulded; fired	reminiscent of flower pot; wheel striations on exterior surface; folded lip
166	North Quadrant	surface	1	4.4	Container	Ceramic	Stoneware	crook	tan; brown	chipped	rim	salt glazed	moulded; fired; glazed	tan exterior, brown interior
167	North Quadrant	surface	1	0.2	Dinnerware	Ceramic	Earthenware		white	scratched	body		moulded; fired; glazed	
168	North Quadrant	surface	1	2.8	Dinnerware	Ceramic	Earthenware		white; brown	chipped; scratched	body	overglaze painted	moulded; fired; glazed	possibly floral
169	North Quadrant	surface	1	3.3	Dinnerware	Ceramic	Earthenware		white	chipped; crazed	brink		moulded; fired; glazed	
170	North Quadrant	surface	1	6.5	Dinnerware	Ceramic	Earthenware	plate	white; green; brown	chipped; scratched	base; footring	overglaze painted	moulded; fired; glazed	floral pattern; highly
171	North Quadrant	surface	1	7.4	Dinnerware	Ceramic	Earthenware	plate	white	chipped; crazed	base; footring		moulded; fired; glazed	
172	North Quadrant	surface	1	2.8	Dinnerware	Ceramic	Earthenware	cup; mug	white; blue	chipped	rim	floral transfer print	moulded; fired; glazed	same pattern as # 159
173	North Quadrant	surface	1	19.1	Dinnerware	Ceramic	Earthenware		white; brown	chipped; crazed	body	geometric and floral transfer print	moulded; fired; glazed	zig-zag band with frond beside; rust stain; possibly pitcher?

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174	North Quadrant	surface	1	18.8	Container	Glass	milk Glass	bottle?	white	chipped	base; body		moulded	mould seam; bottle shape
175	North Quadrant	surface	1	3.9	Container	Glass	Glass		clear	scratched	body		moulded	mould seam; ridged in cross section
176	North Quadrant	surface	1	0.9	Container	Glass	Glass		olive green	chipped	body		moulded	
177	North Quadrant	surface	1	2.5	Architectural Object	Glass	Glass	windowpane	clear	bloom; chipped	sherd		rolled	
178	North Quadrant	surface	1	11.7	Ammunition	Metal	Brass	cartridge		oxidized	complete	"DA 56 CDN MK A(?)"	cast	.303 military issue; Dominion Arsenal, Montreal Canada, 1871-1964; dia=1.36 cm; length=5.58 cm
179	North Quadrant	surface	1	3.3	Container	Metal	Iron	crown cap		bent; corroded	complete		rolled; pressed	remnants of cork liner; crown caps developed in 1885; cork used as liner until 1955

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180	West Wall	surface	1	0.8	Dinnerware	Ceramic	Earthenware		white; green	chipped; crazed	body	floral transfer print	moulded; fired; glazed	west wall of building, outside depression (applies to all artifacts labeled as West Wall)
181	West Wall	surface	1	4.2	Dinnerware	Ceramic	Earthenware	plate	white; green	crazed	rim	floral transfer print; embossed on edge	moulded; fired; glazed	raised scalloped edge just below rim edge
182	West Wall	surface	1	4.51	Dinnerware	Ceramic	Earthenware		white	chipped	rim		moulded; fired; glazed	handle broken off; perhaps pitcher?
183	West Wall	surface	1	10.1	Dinnerware	Ceramic	Earthenware	plate	white	chipped	body		moulded; fired; glazed	
184	West Wall	surface	1	3.1	Dinnerware	Ceramic	Earthenware	plate	white	chipped	base; footring		moulded; fired; glazed	
185	West Wall	surface	1	8	Dinnerware	Ceramic	Earthenware	plate	white; gold	chipped	base; footring	hand painted	moulded; fired; glazed	geometric design painted on bottom just below brink; almost worn away
186	West Wall	surface	1	8.5	Dinnerware	Ceramic	Earthenware	cup	white	stained	base; footring		moulded; fired; glazed	

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187	West Wall	surface	1	12.7	Dinnerware	Ceramic	Earthenware	bowl	white	chipped	base; footring		moulded; fired; glazed	
188	West Wall	surface	1	7.8	Dinnerware	Ceramic	Earthenware	bowl	white	scratched	rim		moulded; fired; glazed	
189	West Wall	surface	1	2.6	Dinnerware	Ceramic	Earthenware	handle	white	scratched	handle	hand painted	moulded; fired; glazed	gold stripe painted on outside of handle
190- 192	West Wall	surface	3	6.6	Dinnerware	Ceramic	Earthenware		white	chipped	body		moulded; fired; glazed	highly vitrified
193	West Wall	surface	1	1	Dinnerware	Ceramic	Earthenware		white	chipped; crazed	body		moulded; fired; glazed	
194- 197	West Wall	surface	4	7.3	Dinnerware	Ceramic	Earthenware		white	crazed; spalled	body		moulded; fired; glazed	
198- 199	West Wall	surface	2	23.5	Ornamental	Glass	milk Glass		white	chipped	rim	embossed	moulded	geometric design embossed on band below rim and above ridge; possible lamp shade
200	West Wall	surface	1	12.9	Container	Glass	Milk Glass	cup	white	cracked	base; footring		moulded	mould seam
201	West Wall	surface	1	2.2	Container	Glass	Milk Glass		white	chipped	body		moulded	
202	West Wall	surface	1	0.3	Container	Glass	Milk Glass		white	chipped	body		moulded	
203	West Wall	surface	1	0.1	Container	Glass	Glass		clear	bloom; chipped	body		moulded	very thin; curved
204- 205	West Wall	surface	2	4.8	Container	Glass	Glass		clear	burned	sherd		moulded	

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206	West Wall	surface	1	6.1	Container	Glass	Glass	bottle	amber	bloom; chipped	finish; neck		moulded	continuous threaded lip; bead string rim; horizontal mould seam under string rim; vertical mould seam to top of finish
207	West Wall	surface	1	4.8	Container	Glass	Glass	bottle	brown	chipped	body		moulded	mould seam
208	West Wall	surface	1	3.6	Container	Glass	Glass		clear	chipped; bloom	body		moulded	
209	West Wall	surface	1	22.7	Container	Glass	Glass	jar	clear	bloom; cracked	base	"diamond D"	moulded	Dominion Glass Company; valve mark; mould seam for base on body of bottle; 1910-1940s
210	West Wall	surface	1	9.6	Architectural Object	Glass	Glass	windowpane	clear	bloom; cracked	sherd		rolled	
211	House West	surface	1	7.2	Container	Glass	Glass		clear	bloom; scratched	body		moulded	
212	House East	surface	1	2.3	Container	Metal	Iron	can		bent; corroded	body		rolled; pressed	
213	West Wall	surface	1	39.2	Container	Metal	Iron	can		bent; corroded	fragment		rolled; pressed	

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214	West Wall	surface	1	69.1	Container	Metal	Iron	can		bent; corroded	fragment		rolled; pressed	interlocked side seams; cap-on top and base
215	West Wall	surface	1	7	Detritus	Metal	Lead	sprue		bent	fragment		poured	
216	West Wall	surface	1	140.1	Machinery	Metal	Iron			corroded	complete	"35413...67"	cast	spring and gear mounted to T-shaped metal that bolts on each arm of T; small metal handle(?) that cranks gear

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217	W Wall outside Foundatio n	1 mm below sod	1	351.5	Container	Glass	Glass	bottle	clear	bloom; scratched	complete	embossed "H. J. HEINZ CO....255..P ATD..." , also diamond D	moulded	Owen's scar on base, 1905-mid 1920s; mould seam from base to finish; bead string rim; continuous thread; panels from shoulder down; tapered neck; "ketchup bottle"

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218	Inside Foundation		1	335.9	Container	Glass	Glass	bottle	clear	bloom; cracked	complete	embossed "PRODUCT EURS SUCRE ERABLE QUEBEC MADE IN CANADA"..." R.D. 1936"	moulded	post mould with separate base plate ca. 1875-turn of 20th century; Maple Syrup Producers of Quebec originated in 1925; R.D. possibly registered in 1936
219	Inside Foundation		1	43	Container	Glass	Glass	jar	clear	chipped	body	embossed rectangles	moulded	looks like Bicks pickle barrel style jar; mould seam
220	Inside Foundation		1	9.9	Dinnerware	Ceramic	Earthenware	saucer	white	chipped	rim		moulded; fired; glazed	
221	Inside Foundation		1	13.1	Container	Glass	Glass	bottle	clear	burned	finish; neck		moulded	mould seam to top of lip; patent lip?

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347	North Quadrant		1	538.7	Container	Metal	Iron	can	polychromatic	corroded	complete	painted label "Empress chunk style peanut butter"	rolled; pressed	plug-in lid; interlocked seams; peanut butter tin with lid; weight not indicative, contains soil(?) that can't be removed
348	North Quadrant	surface	1	6	Container	Ceramic	Earthenware	plate	white	crazed; scratched	rim		moulded; fired; glazed	
349- 371	West Wall		23	28.6	Architectural Object	Glass	Glass	windowpane	clear	bloom; cracked	sherd		rolled	
372	West of House	surface	1	10.3	Flora			Coal						
373	North Quadrant	surface	1	1.1	Flora			Coal						
374	North Quadrant	surface	1	6.7	Detritus	Detritus	Scrap	clinker						

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Cat No	Waypoint/ Shovel Test	Depth (cm BS)	Qty	Wgt (gm)	Size (cm)	Animal Class	Bone Observation	Portion	Side	Age	Comments
382	N/S Trench		1	32.4	3-9	Bos	hack; gnawed	Rib	Indt	Indt	large rib shaft frag near proximal end
383	E/W Exterior Trench		1	0.6	3-9	Squirrel		Femur	Right	Unfused	
384	E/W Exterior Trench		1	23	3-9	Bos		Rib	Right	Indt	shaft plus prox end; head and tubercle broken off
385	E/W Interior Trench	10	1	1.6	3-9	Aves		Skull	Left	Indt	found on west side

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222	N/S Trench	0-30	1	0.7	Detritus	Synthetic	Plastic		yellow; red	torn	fragment			
223	N/S Trench	0-30	1	12.8	Container	Ceramic	Earthenware	Cup	white; gold	chipped; scratched	rim	gold handpainted stripe	moulded; fired; glazed	handpainted overglaze gold stripe on top of lip and on side approx 3/4 in from rim
224	N/S Trench	0-30	1	2.4	Dinnerware	Ceramic	Earthenware	plate	white; gold	scratched	rim	gold handpainted stripe	moulded; fired; glazed	handpainted overglaze gold stripe inside lip
225	N/S Trench	0-30	1	12.2	Dinnerware	Ceramic	Earthenware	cup	white; gold	chipped	rim	gold handpainted stripe	moulded; fired; glazed	handpainted overglaze gold stripe on outside of rim, approx 3/4 inch from rim
226	N/S Trench	0-30	1	1	Dinnerware	Ceramic	Earthenware	saucer	white; gold	chipped	rim	gold handpainted stripe	moulded; fired; glazed	handpainted overglaze gold stripe on inside of rim
227	N/S Trench	0-30	1	38.8	Dinnerware	Ceramic	Earthenware	cup	white	scratched; stained	body; handle; rim		moulded; fired; glazed	
228	N/S Trench	0-30	1	16.6	Dinnerware	Ceramic	Earthenware	mug; cup	white	chipped; scratched	rim		moulded; fired; glazed	
229	N/S Trench	0-30	1	3.2	Dinnerware	Ceramic	Earthenware	plate	white	chipped	rim		moulded; fired; glazed	
230-231	N/S Trench	0-30	2	13	Dinnerware	Ceramic	Earthenware		white	chipped	body		moulded; fired; glazed	

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232	N/S Trench	0-30	1	4.8	Dinnerware	Ceramic	Earthenware		white	chipped	body		moulded; fired; glazed	
233	N/S Trench	0-30	1	7.1	Dinnerware	Ceramic	Earthenware	bowl	white	chipped	body		moulded; fired; glazed	
234	N/S Trench	0-30	1	1.4	Dinnerware	Ceramic	Earthenware	plate	white; gold	spalled	rim	gold handpainted stripe	moulded; fired; glazed	scalloped edge with two overglaze handpainted lines on inside of rim
235	N/S Trench	0-30	1	1.7	Dinnerware	Ceramic	Earthenware	plate	white; green	crazed	rim	transfer print	moulded; fired; glazed	scalloped edge; geometric and floral patterns and a bow transfer print
236	N/S Trench	0-30	1	10	Dinnerware	Ceramic	Earthenware	plate	white; green	scratched	rim	floral transfer print	moulded; fired; glazed	#236-239 part of same pattern
237	N/S Trench	0-30	1	1	Dinnerware	Ceramic	Earthenware	plate	white; green	crazed; spalled	rim	floral transfer print	moulded; fired; glazed	#236-239 part of same pattern
238	N/S Trench	0-30	1	3.9	Dinnerware	Ceramic	Earthenware	plate	white; green	crazed; spalled	brink	floral transfer print	moulded; fired; glazed	#236-239 part of same pattern
239	N/S Trench	0-30	1	5.4	Dinnerware	Ceramic	Earthenware	plate	white; green	chipped; crazed	brink	floral transfer print	moulded; fired; glazed	#236-239 part of same pattern
240	N/S Trench	0-30	1	10.6	Dinnerware	Ceramic	Earthenware	plate	white; brown	scratched; spalled	rim	floral transfer print	moulded; fired; glazed	edge scalloped

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241	N/S Trench	0-30	1	13.4	Dinnerware	Ceramic	Earthenware	saucer	polychrome	chipped	rim; base; footring	lithographed decal; handpainted	moulded; fired; glazed	overglaze decoration; handpainted gold stripe on rim and colour added to decal
242	N/S Trench	0-30	1	11.8	Dinnerware	Ceramic	Earthenware	plate	polychrome	chipped	base; footring	handpainted	moulded; fired; glazed	overglaze handpainted
243	N/S Trench	0-30	1	17.8	Agricultural Object	Ceramic	Earthenware	insulator	white	chipped	fragment	"THOMAS"	moulded; fired	tubular ceramic insulator
244	N/S Trench	0-30	1	25.8	Container	Glass	Glass	jar	clear	scratched	base	"[triangl]) C...8...285...1 2..."	moulded	inverted triangle with C- Consumer Glass Company, Ville St. Pierre, Montreal, inverted triangle from 1917-1961
245	N/S Trench	0-30	1	11.8	Container	Glass	Glass	liner	aqua	bloom; chipped	liner	embossed sunburst	moulded	embossed sunburst with diamond in middle on the under side of the liner
246-254	N/S Trench	0-30	9	51.4	Architectural Object	Glass	Glass	windowpan e	clear	boom; chipped	fragment		rolled	

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255	N/S Trench	0-30	1	3.7	Ornamental	Glass	Milk glass		green	chipped	sherd	painted	moulded	milkglass object painted pale green on exterior
256	N/S Trench	0-30	1	8.9	Ornamental	Glass	Milk glass		white; green	chipped	sherd	painted	moulded	milkglass object painted pale green on exterior
257	N/S Trench	0-30	1	4.4	Container	Glass	Glass		purple	bloom; chipped	sherd		moulded	manganese glass; ca. 1880- 1914; possibly shoulder of jar
258	N/S Trench	0-30	1	1.9	Ornamental	Glass	Glass		clear	bloom; chipped	sherd	embossed	moulded	ridged on one side but finely ridged on opposite; flat glass
259-261	N/S Trench	0-30	3	37.2	Ornamental	Glass	Milk glass		white	chipped; scratched	sherd	embossed	moulded	ridges embossed on exterior surfaces

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262	N/S Trench	0-30	1	43.2	Container	Glass	Glass	bottle	clear	chipped; patinated	finish; neck	"GARY...[invert ed horseshoe]"	moulded	stippled finish on exterior neck, embossed lettering on neck close to shoulder; suspect from Calgary Brewing and Malting Company est. 1892
263	N/S Trench	0-30	1	38	Container	Glass	Glass	bottle	clear	patinated	body	stippled	moulded	probably part of # 262
264	N/S Trench	0-30	1	3.5	Container	Glass	Glass	bottle	clear	patinated	body	stippled	moulded	probably part of # 263
265	N/S Trench	0-30	1	22.6	Dinnerware	Ceramic	Earthenware	plate	white; gold	chipped	base; footring	"MADE IN JAPAN"	moulded; fired; glazed	handpainted gold stylized flower; makers mark in use between 1921- 1941 and post WWII
266	N/S Trench	0-30	1	3.8	Container	Metal	Iron	cap		bent; corroded	cap		rolled; pressed	crown cap
267	N/S Trench	0-30	1	4.2	Container	Metal; Floral	Iron; Cork	cap		bent; corroded	cap		rolled; pressed	crown cap with cork and lead liner

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268	N/S Trench	0-30	1	16.2	Container	metal	Iron	tin		bent; corroded	top		rolled; pressed	solder top cap ca. turn of century
269	N/S Trench	0-30	1	25.8	Container	metal	Iron	tin		bent; corroded	base; sides		rolled; pressed	
270	N/S Trench	0-30	1	8.8	Detritus	metal	Iron			bent; corroded	fragment		rolled; pressed	
271	N/S Trench	0-30	1	3.3	Architectural Object	metal	Iron	nail		corroded	head; shank; point		extruded	
272	N/S Trench	0-30	1	459.3	Machinery	metal	Iron			corroded	complete		cast?	dagger-like in overall shape; point is triangular with a slit in the back to slip over a piece of metal(?) the hilt is perforated
273	N/S Trench	0-30	1	799.5	Architectural Object	Ceramic	Bole	brick	red	chipped	fragment	"...RD"	moulded; pressed; fired	
274	N/S Trench	0-30	1	25.5	Architectural Object	Ceramic	Bole	brick		chipped	fragment		moulded; pressed; fired	
275	E/W Exterior Trench	0-30	1	925.8	Architectural Object	Ceramic	Bole	brick		chipped	fragment	"P & O..."	moulded; pressed; fired	
276	E/W Exterior Trench	0-30	1	4	Dinnerware	Ceramic	Earthenware		white	chipped	sherd		moulded; fired; glazed	not glazed on interior

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277	E/W Exterior Trench	0-30	1	6.2	Dinnerware	Ceramic	Earthenware	plate	white	chipped	rim		moulded; fired; glazed	
278-288	E/W Exterior Trench	0-30	11	65.5	Architectural Object	Glass	Glass	windowpane	clear	cracked; patinated	sherd		rolled	
289-290	E/W Exterior Trench	0-30	2	20	Architectural Object	Metal	Iron	nail		bent; corroded	head; shank; point		extruded	round head
291	E/W Exterior Trench	0-30	1	2.6	Architectural Object	Metal	Iron	nail		bent; corroded	head; shank; point		extruded	finishing nail
292	E/W Exterior Trench	0-30	1	7.3	Architectural Object	Metal	Iron	nail		bent; corroded	shank; point		extruded	carriage bolt?
293-296	E/W Exterior Trench	0-30	4	4.4	Detritus	Metal	Iron	scrap		bent; corroded	fragment		rolled; pressed	
297	E/W Exterior Trench	0-30	1	23	Container	Metal	Iron	can		bent; corroded	fragment		rolled; pressed	seams
298-300	E/W Interior Trench	0-30	3	6.6	Architectural Object	Synthetic	Asphalt	shingle?		dried; cracked	fragment		rolled	
301-302	E/W Interior Trench	0-30	2	5.6	Architectural Object	Glass	Glass	windowpane	clear	bloom; cracked	sherd		rolled	
303	E/W Interior Trench	0-30	1	2.3	Container	Glass	Glass	bottle	clear	bloom; chipped	body		moulded	

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304	E/W Interior Trench	0-30	1	2.9	Container	Glass	Glass	bottle	green	chipped	body		moulded	
305	E/W Interior Trench	0-30	1	78	Container	Metal	Iron	can		bent; corroded	base; body		rolled; pressed	complete but top missing
306-309	E/W Interior Trench	0-30	3	17.3	Container	Metal	Iron	can		bent; corroded	body		rolled; pressed	seams
310	E/W Interior Trench	0-30	1	3	Container	metal; Synthetic	Iron; plastic	cap		bent; corroded	cap		rolled; pressed	plastic lined
311	E/W Interior Trench	0-30	1	166.8	Agricultural Object	Metal	Iron	barbed wire		bent; corroded	fragment		extruded	

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312	E/W Interior Trench	0-30	1	321.1	Machinery	Metal	Iron	bar; nuts; bolts		corroded	complete		cast?; extruded?	L-shaped bar with two holes on each arm; two nuts and bolts on long arm; long arm slightly waisted at one end and remaining bar is slightly rounded; nuts and bolts heavily corroded, difficult to tell manufacturing type
313	Surface Finds	surface	1	248	Container	Glass	Glass	bottle	amber	bloom; scratched	complete	:...H2 [diamond]D...4 ...CANADA	moulded	stubby beer bottle; embossing appears on body at body- base junction; dot under Dominion Glass Company "D" is at 8:30
314	Surface Finds	surface	1	2.2	Dinnerware	Ceramic	Earthenware	cup	white; green	chipped; crazed	rim	transfer print	moulded; fired; glazed	floral; geometric and bow pattern

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315	Surface Finds	surface	1	1.8	Dinnerware	Ceramic	Earthenware		white; green	chipped	body	handpainted	moulded; fired; glazed	overglaze painted; pattern indeterminate
316	Surface Finds	surface	1	2.5	Dinnerware	Ceramic	Earthenware	cup	white; gold	chipped	handle	handpainted	moulded; fired; glazed	gold overglaze painted line on outside of handle
317	Surface Finds	surface	1	0.5	Dinnerware	Ceramic	Earthenware		white; blue	chipped; crazed	rum	transfer print	moulded; fired; glazed	
318	Surface Finds	surface	1	13.8	Ornamental	Glass	Glass		clear	bloom; chipped	body	embossed	moulded	mould seam; series of horizontal ridges bounded by two vertical ridges
319	Back Dirt Pile	surface	1	299.1	Container	Glass	Glass	bottle	amber	scratched	complete	"MADE IN CANADA...[BO X]...[DIAMOND] D...8...2377... W.S...4"	moulded	found north in back dirt; long neck beer bottle
320-322	Shovel Test 2		3	208.1	Container	Ceramic	Stoneware	crook	brown; tan	chipped	base		moulded; fired; glazed	exterior looks almost metallic
386	E/W Interior Trench	0-30	1	17.9	Dinnerware	Ceramic	Earthenware	plate	white	chipped; crazed	rim		moulded; fired; glazed	east side
387	E/W Interior Trench	0-30	1	58.4	Container	Glass	Glass	bottle; jar	clear	bloom; chipped	base	"...824..."	moulded	near centre

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388	E/W Interior Trench	0-30	1	2.8	Architectural Object	Glass	Glass	windowpan e	clear	bloom; cracked	sherd		rolled	

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323	monitoring	1	404.1	Container	Glass	Glass	Bottle	clear	bloom	complete	Applied colour label: Front:" Crush" Back:" CONTENTS 10 FL. OZS. BOTTLED UNDER AUTHORITY CRUSH INTERNATIONAL LIMITED TORONTO, CANADA DESIGN REG'D 1956" embossed on base " 3...2...2318...[diam ondID_box date"	moulded	painted label and information; long neck bottle; Dominion Glass Company, Mar- Apr; ghost seam

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324	monitoring	1	416.7	Container	Glass	Glass	Bottle	green	scratched	complete	Applied colour label: Front:" Kickapoo Joy Juice...10 FL. OZ....Kickapoo Joy Juice...1965 Capp Enterprises, Inc" Back:"Kickapoo Joy Juice...10 FL OZ....Kickapoo Joy Juice...The original Dogpatch Recipe...LICENSE D BY KICKAPOO JOY JUICE LIMITED TORONTO ONTARIO, CANADA." Embossed on base " 1...6.....[diamond]	moulded	painted label and information; "Mae West" bottle; design registered 1956; Dominion Glass Company, Jan-Feb.

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325	monitoring	1	237.9	Container	Glass	Glass	Bottle	clear	bloom	complete	Embossed on base "EST 222...14222...box date...[triangle]C... 5...8"	moulded	Consumers Bottling; dot at 12:00 above round edged triangle; July- Aug; discontinuous thread ; paneled on body, over shoulder and part way up neck; mould
326	monitoring	1	412	Container	Glass	Glass	Bottle	green	scratched	complete	Embossed on base "C. B. C....1...8"	moulded	
327	monitoring	1	225.5	Container	Glass	Glass	Bottle	clear	bloom	complete	embossed on base "box date...[diamond]D ...3...3"	moulded	Dominion Glass Company, Redcliff Alberta; Sept-Oct; parison mould base on machine made bottle; square half pint milk bottle; cap seat bore; embossed raised dots around rim underneath lip; mould seams on corners

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Cat No	Waypoint/ Surface Find	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
328	monitoring	1	87	Container	Glass	Milk Glass	Jar	White	stained	complete	Applied colour label: Front: "Woodbury MEN'S STICK DEODORANT...Net wt. 1 oz." Side: "Stops odor instantly. Safe for normal skin or fabric. Crisp, masculine fragrance." Side: "Contains hexachlorophene Jergens, Cincinnati, Ohio. Made in U.S.A."	moulded; rolled; pressed	white milk glass with red painted label; red metal screw cap; jar concave on all sides; base parison mold; embossed A in a circle on base - Armstrong Cork Company Glass Division 1938-1969, bought by Kerr in 1965.
329	monitoring	1	454.7	Container	Glass	Glass	Bottle	green	bloom	complete	Embossed "NO DEPOSIT...NO RETURN...28 FL OZ" around shoulder; Base: "NOT TO BE REFILLED box date...[diamond]D ...4...7...4177"	moulded	dominion Glass Company, Redcliff Alberta; Sept-Oct; stippling from base up body, appears again at shoulder below embossed writing

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330	monitoring	1	414.6	Container	Glass	Glass	Jar	clear	scratched	complete	Embossed "FL.16 OZ" on shoulder; base "1...box date...[diamond]D... 1228"	moulded	Dominion Glass Company, Sept- Oct; tall, cylindrical jar; remnants of screw cap at lip; continuous thread; base mould markings smear

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331	monitoring	1	71.2	Container	Glass	Glass	Bottle	clear	bloom	complete	Embossed side: "3 " edge "...1..2..3... on vertical line" opposite edge "...20...40...CG" base: "box date....[diamond]D ...4...V-227-A"	moulded	Dominion Glass Co, Sept-Oct, Redcliff AB; Box date 1953 ff, "V" before mould no 1945- mid 1950s; 3 oz medicine bottle; paneled shoulder-neck, rect, round sided bottle, 1 side slightly depressed; 1 edge 3 oz measurement marks, opposite edge measures to 40 CG.; threaded lip interrupted on side measurement marks, for

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Cat No	Waypoint/ Surface Find	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
332	monitoring	1	73.3	Container	Glass	Glass	Bottle	clear	bloom	complete	Embossed " L- 850...51...anchor with H superimposed over it...3"	moulded	Anchor Molding Corporation, Winchester Indiana (from impressed "3"); small, narrow rectangular bottle; horizontal ridges on short sides; continuous threaded lip; lip bore is covered in glass with only a small opening in the middle. Cf. to after-shave bottles, perhaps cologne bottles

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333	monitoring	1	120.8	Container	Glass	Glass	Bottle	clear		complete	Embossed " FL 4 OZ" base: " 2...5...317...box date [diamond]D"	moulded	Dominion Glass Company, Redcliff Alberta; Jan-Feb. Square bottle with embossing at shoulder on opposite sides; continuous thread lip; mould seams on edges from base to lip
334	monitoring	1	81.4	Container	Glass	Glass	Bottle	clear	corroded	complete	Embossed" side: "THE BAYER CO LTD" , opposite side: "ASPIRIN", base: box date...18...6?...dia mond[D]"	moulded	Dominion Glass Company, Hamilton Ontario, Nov- Dec; metal screw cap present, threaded lip; ovoid shaped with flat sides, short neck
335	monitoring	1	9.6	Dinnerware	Ceramic	Earthenwar e	Plate	white; green; pink	crazed	base; footring	floral decal	moulded; fired; glazed	
336	monitoring	1	19.3	Dinnerware	Ceramic	Earthenwar e	Plate; bowl	blue	chipped; stained	rim		moulded; fired; glazed	blue glaze

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Cat No	Waypoint/ Surface Find	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
337	monitoring	1	266.6	Dinnerware	Ceramic	Earthenware	Mug	white; gold	chipped; crazed		decal; embossed "USA" on base; hand painted stripe	moulded; fired; glazed	antique car decal "Cadillac Automobile 1903"; complete minus handle; hand painted gold stripe around lip
338	monitoring	1	200.6	Container	Glass	Glass	Bottle	clear	scratched	complete	Embossed base" 4...6...3751...box date...[diamond]D"	moulded	Dominion Glass Company, Redcliff Alberta, Jan-Feb; cylindrical jar slightly flaring outward towards base; mould seams from base to lip; continuous threaded lip
339	monitoring	1	85.5	Container	Glass	Glass	Jar	clear		base	Embossed "CORN SYRUP C...LBS...ET WT...D CO...D.1960...6... box date [diamond]D...3"	moulded	Dominion Glass Company Point St. Charles

Alberta Community Development
Heritage Resource Management Branch
Historic Artifact Catalogue

Site: EgPI 12 Monitoring
Project: Calgary Airport Authority

Cat No	Waypoint/ Surface Find	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
340	monitoring	1	1300	Container	Glass	Glass	Carboy	clear	corroded	complete	Embossed shoulder: "FL 160 OZ" base: "MADE IN CANADA ...[diamond]D...220 6"	moulded	Dominion Glass Company; carboy with handle at neck; screw cap threaded; mould seam to lip and ghost seam on sides
341	monitoring	1	699.6	Container	Glass	Glass	Decanter	clear	stained	complete	Embossed starburst on two sides; incised on finial; "1969" on base	moulded	square decanter with camfered corners base and shoulders; neck embossed with scallops; glass stopper has cord shank ending in plastic, starburst incised on top of stopper; "1969" only marks on base, date or bottle mould number?; mould seams from base to lip

Alberta Community Development
Heritage Resource Management Branch
Historic Artifact Catalogue

Site: EgPI 12 Monitoring
Project: Calgary Airport Authority

Cat No	Waypoint/ Surface Find	Qty	Wgt (gm)	Function	Material	Material Type	Object Name	Colour	Condition	Portion	Decoration	Method of Manufacture	Comments
342	monitoring	1	369.9	Container	Ceramic	Stoneware	Tea pot	brown	chipped	body	Embossed base "MADE IN CANADA"	moulded; fired; glazed	handle missing, no lid; mottled brown
343	monitoring	1	306.8	Container	Metal	Iron	Coffee pot	black	bent; corroded	body	Graniteware	rolled; pressed; enameled	handle missing, no lid; black enamel
344	monitoring	1	58.3	Container	Metal	Iron	Lid	blue	corroded	lid	Graniteware	rolled; pressed; enameled	blue swirl coffee pot lid
345	monitoring	1	261.7	Container	Metal	chrome	coffee pot		bent; corroded	pot; filter		rolled; pressed	with glass fragment (#346) lodged in pot; handle missing but fastenings for it present; no lid
346	monitoring	1	n/a	Container	Glass	Glass	Bottle	clear; white	chipped	sherd	Applied colour label "QUALITY"	moulded	wedged in coffee pot (#345) therefore weight for 345 for glass sherd also
375	monitoring	1		Agricultural Object	Metal	Iron	Scythe		corroded	blade		cast?	complete scythe blade without handle
375	monitoring	1		Agricultural Object	Metal	Iron			corroded	fragment	"DEERE...217"	cast	large piece from machinery; unknown portion; John Deere manufacturer

Appendix C

Fedirchuk McCullough &
Associates Ltd. 2006.
Paelaeontological Overview
Functional Planning Study

PALAEONTOLOGICAL OVERVIEW

**Calgary Airport Authority
Functional Planning Study
Sections 14 and 24-25-1 W5M**

FMA1956.PL07

**Prepared For
Calgary Airport Authority
364 Kipling Street SE
Medicine Hat, Alberta**

**Prepared By
FMA Heritage Resources Consultants Inc.
200, 1719 Tenth Avenue S.W.
Calgary, Alberta**

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Project Personnel

REPORT AUTHOR : Emily Frampton, M.Sc.

REVIEWER : Lisa Bohach, Ph.D.

GIS ANALYST : Keith Wilford, B.A.

INTRODUCTION

The Calgary Airport Authority is conducting a functional planning study of lands in the NW ¼ of Section 14, the SW ¼ of Section 24 and part of the NW ¼ of Section 24-25-1 W5M to assess predevelopment historical resource requirements. These land parcels are north of the Calgary International Airport, along the west and north branch of Nose Creek (Figure 1).

There are no LSDs in Sections 14 or 24-25-1 W5M that have Historical Resource Values included in the Alberta Tourism, Parks, Recreation and Culture *Listing of Significant Historical Sites and Areas* (7th Edition, updated March, 2007). Palaeontological potential was instead assessed in this desktop overview using 1:50 000 topographic and surficial geology maps (Moran 1986), a 1:1 500 000 bedrock geology map (Cooper 2000) and the Royal Tyrrell Museum database (RTMP 2007).

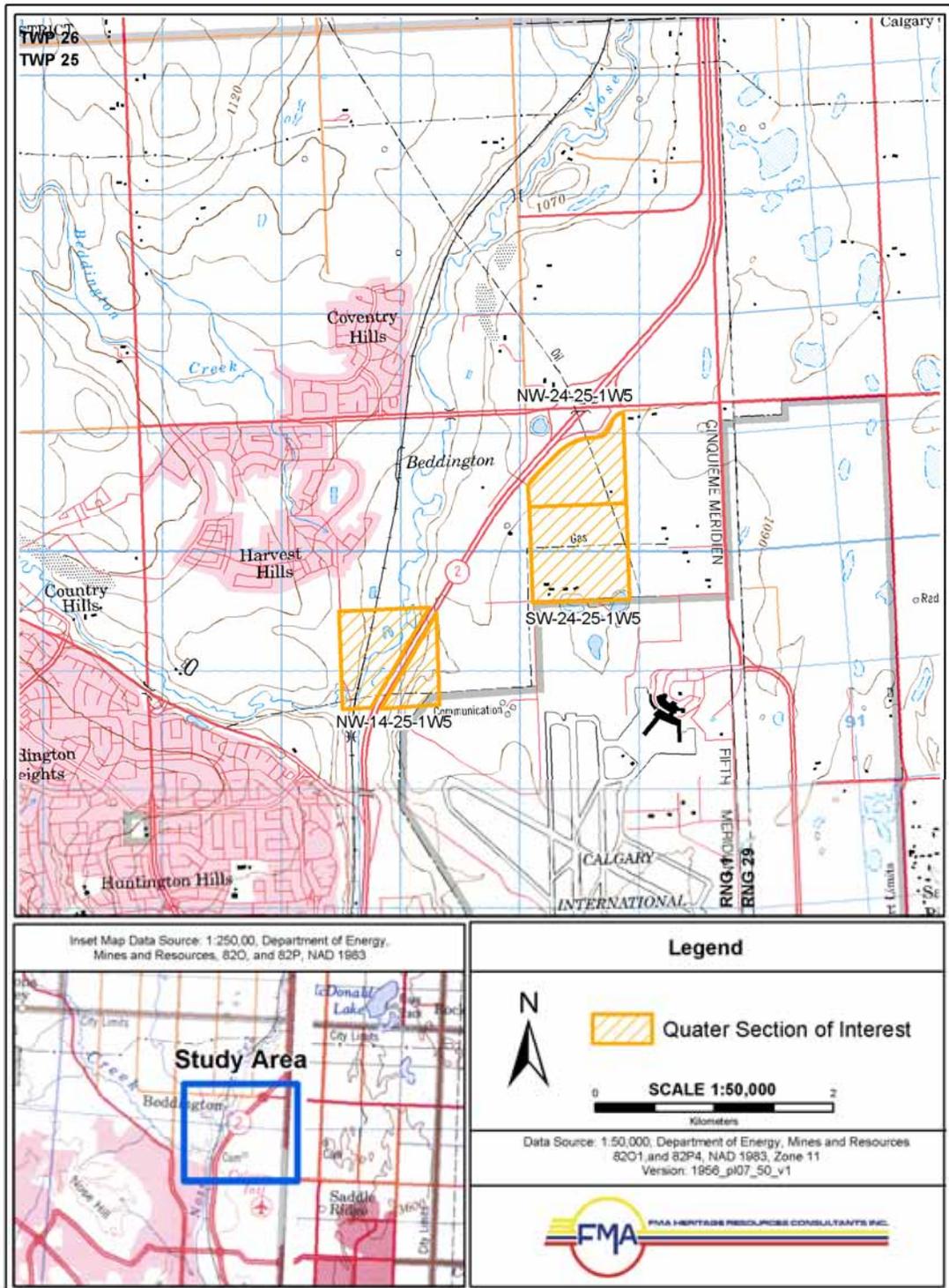


Figure 1 Location of the Calgary Airport Authority Land Parcels

REGIONAL STRATIGRAPHY AND PALAEOLOGY

PASKAPOO FORMATION

The Paleocene Paskapoo Formation was deposited during uplift of the Rocky Mountains. It consists mainly of coarse cliff-forming sandstone, recessive mudstone and shale. Conglomerate and conglomeratic sandstone can be found in the foothills and minor limestone beds on the plains. Coal seams are generally thin, but can be economically viable, such as in the Obed-Marsh area near Hinton (Glass 1997).

Demchuck and Hills (1991) divided the Paskapoo Formation into three members:

- Haynes Member: massive cliff-forming, buff-weathering sandstone with minor conglomerate and fine-grained layers that occur along the Red Deer River at Ardley Bend and Dry Island Buffalo Jump
- Lacombe Member: interbedded siltstone, mudstone, shale and coal with minor sandstone and conglomerate that occur in the Red Deer-Lacombe area and northwest to the foothills
- Dalehurst Member: interbedded sandstone, siltstone, mudstone and shale with economically viable coal that occur only in the foothills near Hinton

The lower contact with the Scollard Formation is erosional (Lerbekmo et al. 1990) and the upper contact with overlying Quaternary deposits is also erosional. The Paskapoo Formation is laterally equivalent with the Porcupine Hills Formation in southern Alberta. Both formations were deposited in a variety of alluvial fan environments (Jerzykiewicz 1997).

Demchuk and Hills (1991) provided an overview of fossils found in each member of the Paskapoo Formation and listed the relevant literature. Fossils from the Paskapoo Formation mainly include early mammals, plants, molluscs and other invertebrates. The Joffre Bridge Roadcut locality (Lacombe Member) along the Red Deer River yielded an extensive assemblage of early mammals, plants (28 taxa, including seedlings in growth position), fish (3 species), crustaceans and insects (e.g., Hoffman and Stockey 1999; Wilson 1996; Fox 1990). The Blindman River near Blackfalds has yielded approximately 50 species of early mammals (Fox 1988, 1990) and the Swan Hills in north-central Alberta has also yielded 23 species of mammals (Fox 1990).

The Calgary area is rich in fossil sites from the Paskapoo Formation. Two highly fossiliferous mammal sites were found along the Bow River just east of Cochrane. These Cochrane sites have yielded various multituberculates, condylarths, marsupicarnivores, dermopterans, primates, plesiadapiform primates, carnivora, and creodonts (Fox 1988, 1990; Krause 1978; Scott et al. 2002). A borehole at Balzac yielded an incomplete *Prothryptacodon albertensis* dentary and a site east of Carstairs yielded an articulated but incomplete dog-sized mammal that could not be identified (Fox 1990). Within the City of Calgary, extensive early mammal fossils including various multituberculates, lipotyphlans, dermopterans (flying lemurs), plesiadapiform primates, condylarths, carnivores, pantodontans and a mammalian trackway have been recovered from four fossil localities (Fox 1988, 1990; Krause 1978; McCrea et al. 2004; Scott 2003). The richest of these sites is the Who Nose? Locality. This site occurs along the west branch of Nose Creek, near the

confluence with the north branch of Nose Creek (Section 14-25-1 W5M) and is the focus of an on-going research project on fossils mammals (RTMP Database, 2007; Scott 2003; Scott and Fox 2005; Spivak 2007 pers. comm.).

SURFICIAL GEOLOGY

In the W ½ of Section 24-25-1 W5M, till is the main surficial deposit. The till is composed of silt and sand with minor pebble gravel that is between 4 and 6 m thick (Moran 1986) and is non-fossiliferous. Other surficial deposits in that area include recent poorly sorted silt, sand, clay and organic material.

In the NW ¼ of Section 14-25-1 W5M, along the north branch of Nose Creek, Balzac Drift occurs (Moran 1986). This surficial deposit consists of approximately 2 m of draped, discontinuous non-fossiliferous till composed of silt, sand and minor pebble gravel. On the west side of this section, glaciofluvial gravel with minor sand occurs. Similar deposits have yielded ice-age mammals including bison, caribou, mammoth, camel and horse from the Calgary and Cochrane areas (Churcher 1968; Wilson and Churcher 1978).

RESULTS

The SW $\frac{1}{4}$ and part of the NW $\frac{1}{4}$ of Section 24-25-1 W5M are on the uplands west of the Nose Creek valley and north of the Calgary International Airport. This area is underlain by thick deposits of surficial till that are non-fossiliferous. Bedrock exposures are not expected in this section due to the thickness of the surficial deposits.

The NW $\frac{1}{4}$ of Section 14-25-1 W5M encompasses the slopes and creek valley of the north and west branches of Nose Creek near their confluence. Surficial deposits in this section consist of a veneer of glacial till that can be up to 2 m thick. The till is discontinuous, with strata of the Paskapoo Formation likely exposed at the surface. The Who Nose? Locality, a palaeontological site currently under study in this section, has yielded extensive Paleocene mammals fossils. There is also the potential for ice-age mammals from this section, as glaciofluvial gravels are mapped on the west side of the section.

CONCLUSION AND RECOMMENDATIONS

Any development in the SW $\frac{1}{4}$ and part of the NW $\frac{1}{4}$ of Section 24-25-1 W5M will only disturb surficial deposits with low palaeontological potential. Bedrock will not be disturbed and no impacts to palaeontological resources are expected. No further palaeontological work or monitoring is recommended for this section.

In the NW $\frac{1}{4}$ of Section 14-25-1 W5M, the surficial cover is thin and discontinuous. Exposures of the Paskapoo Formation occur at the surface, and Paleocene-aged mammal fossils from the Who Nose? Locality has been recorded from this section. Potentially fossiliferous glaciofluvial gravel is also present in this area.

Both bedrock and glaciofluvial gravel may be disturbed by development and the potential to affect significant palaeontological resources is considered high. Avoidance of the Who Nose? Locality (LSDs 5 and 12-14-25-1 W5M) is recommended (Spivak 2007 pers. comm.) and a field assessment for the remainder of the NW $\frac{1}{4}$ of Section 14-25-1 W5M is recommended to determine the local palaeontological potential of the area before development occurs.

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