

Appendix C: Cultural Heritage Report by ASi

Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment

Credit River Erosion Control Municipal Class Environmental Assessment

City of Mississauga Region of Peel, Ontario

Draft Report

Prepared for:

Aquafor Beech Limited
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Mississauga, ON L4W 5B2

Archaeological Services Inc. File: 22CH-181

April 2023 (Updated October 2023)



Executive Summary

Archaeological Services Inc. was contracted by Aquafor Beech Limited, on behalf of the City of Mississauga, to conduct a Cultural Heritage Report as part of the Credit River Erosion Control Municipal Class Environmental Assessment. The Credit River Erosion Control Municipal Class Environmental Assessment involves the rehabilitation of the Credit River between Dundas Street West and Highway 403 and proposed stabilization works within the river and improvement considerations, including reconstruction, relocation, and alternatives to surface material to the adjacent Culham Trail system. The project study area consists of the extents of the Credit River extending from Dundas Street West to Highway 403 for a total creek length of approximately 4000 metres. The study area also includes portions of the Culham Trail, Erindale Park, and Riverwood Park, all of which are adjacent to the river. The study area is generally bounded by residential subdivisions to the north, south, east, and northwest and the University of Toronto Mississauga campus at the southwest.

The purpose of this report is to present an inventory of known and potential built heritage resources (B.H.R.s) and cultural heritage landscapes (C.H.L.s), identify existing conditions of the project study area, provide a preliminary impact assessment, and propose appropriate mitigation measures.

The results of background historical research and a review of secondary source material, including historical mapping, indicate a study area with a rural land use history dating back to the early nineteenth century. A review of federal, provincial, and municipal registers, inventories, and databases revealed that there are 65 known B.H.R.s, one potential B.H.R. and four known C.H.L.s in the Credit River Erosion Control study area.



There is the potential for direct impacts to the Erindale Dam within C.H.L. 1 and C.H.L. 3 as a result of the proposed work. Potential vibration impacts as a result of the proposed work are anticipated to result in indirect impacts to structures within two C.H.L.s (C.H.L. 1 and C.H.L. 3). Based on the results of the assessment, the following recommendations have been developed:

1. Construction activities and staging should be suitably planned and undertaken to avoid unintended negative impacts to identified C.H.L.s. Avoidance measures may include, but are not limited to: erecting temporary fencing, establishing buffer zones, issuing instructions to construction crews to avoid identified features, etc.
2. Where the proposed limits of disturbance cannot be revised to avoid impacts, the depth and extent of grading should be limited to reduce impacts to C.H.L. 1 and C.H.L. 3 to the extent practical while still ensuring safe public use. Removal of trees and vegetation within the riverine setting should also be limited to the extent feasible. Where tree removals are required, post-construction rehabilitation with sympathetic plantings should be implemented. Also, post-construction rehabilitation to areas that were graded should be implemented. Consideration should be given to the use of sympathetic native species for grasses, shrubs, and vegetation. Consultation should be undertaken with a qualified arborist and local Indigenous communities to determine the most appropriate species for re-planting.
3. For the Erindale Dam, construction should be planned at a distance as far from the dam as possible. Excavation, grading, and staging activities should be planned and executed to limit impacts to the dam. Suitable mitigation, including establishing no-go zones with fencing and issuing instructions to construction crews to avoid the dam, should be considered to mitigate any unintended impacts to the dam. To mitigate the potential for direct impacts during construction, workers should be provided with awareness training to ensure no accidental impacts occur to the dam during construction. If indirect or direct impacts are anticipated as part of the preliminary design, a resource-specific heritage



impact assessment (H.I.A.) should be completed to assess impacts and provide suitable mitigation measures.

4. The Credit River Corridor C.H.L. and the Erindale Village and Erindale Park C.H.L. are recognized C.H.L.s by the City of Mississauga and there are properties within the Credit River Corridor C.H.L. and Erindale Village and Erindale Park C.H.L. that are listed or designated by the City of Mississauga. As there are direct impacts anticipated due to construction, resource-specific heritage impact assessments (H.I.A.s) should be completed as per the City of Mississauga Official Plan clauses 7.5.1.10 and 7.5.1.12 (City of Mississauga, 2022). These H.I.A.s should be completed by a qualified cultural heritage professional with recent and relevant experience as early in detailed design as possible. In this respect, H.I.A.s should be completed for the following properties and features:
 - Erindale Dam – Listed on the *Heritage Register for Mississauga*;
 - 1699 Dundas Street West – Listed on the *Heritage Register for Mississauga*; and
 - The Credit River.

5. Indirect impacts to structures within two C.H.L.s (C.H.L. 1 and C.H.L. 3) are possible as a result of their location adjacent to the proposed work. More specifically, the following properties within the C.H.L.s are within 50 metres of the proposed work:
 - 3686 Burnbrae Drive (within C.H.L. 1),
 - 3690 Burnbrae Drive (within C.H.L. 1),
 - 3694 Burnbrae Drive (within C.H.L. 1),
 - 1645 Dundas Street West (within C.H.L. 1 and C.H.L. 3), and
 - 1699 Dundas Street West (within C.H.L. 1 and C.H.L. 3).

To ensure the structures on these properties are not adversely impacted during construction, a baseline vibration assessment should be undertaken during detailed design. Should this advance assessment



conclude that any structures will be subject to vibrations, 1) a vibration monitoring plan should be prepared and implemented as part of the detailed design phase of the project to lessen vibration impacts related to construction; and where potential adverse vibration impacts cannot be avoided, and (2) a qualified engineer should include this property in the condition assessment of structures within the vibration zone of influence for this project.

6. Should future work require an expansion of the study area then a qualified heritage consultant should be contacted in order to confirm the impacts of the proposed work on potential B.H.R.s and C.H.L.s.
7. The report should be submitted to the City of Mississauga and the Ministry of Citizenship and Multiculturalism for review and comment, and any other local heritage stakeholders that may have an interest in this project. The final report should be submitted to the City of Mississauga for their records.

Report Accessibility Features

This report has been formatted to meet the Information and Communications Standards under the *Accessibility for Ontarians with Disabilities Act, 2005* (A.O.D.A.). Features of this report which enhance accessibility include: headings, font size and colour, alternative text provided for images, and the use of periods within acronyms. Given this is a technical report, there may be instances where additional accommodation is required in order for readers to access the report's information. If additional accommodation is required, please contact Annie Veilleux, Manager of the Cultural Heritage Division at Archaeological Services Inc., by email at aveilleux@asiheritage.ca or by phone 416-966-1069 ext. 255.



Project Personnel

- **Senior Project Manager:** Lindsay Graves, M.A., C.A.H.P., Senior Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division
- **Project Coordinator:** Jessica Bisson, B.F.A. (Hon.), Dipl. Heritage Conservation, Cultural Heritage Technician, Project Administrator – Cultural Heritage Division
- **Project Manager:** John Sleath, M.A., Cultural Heritage Specialist, Project Manager - Cultural Heritage Division
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- **Report Production:** Kirstyn Allam, B.A. (Hon), Advanced Dipl. Applied Museum Studies, Cultural Heritage Analyst, Technical Writer and Researcher - Cultural Heritage Division
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- **Report Reviewer(s):** Lindsay Graves and John Sleath



Qualified Persons Involved in the Project

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Senior Cultural Heritage Specialist, Assistant Manager - Cultural Heritage Division

The Senior Project Manager for this Cultural Heritage Report is **Lindsay Graves** (M.A., Heritage Conservation), Senior Cultural Heritage Specialist and Assistant Manager for the Cultural Heritage Division. She was responsible for: overall project scoping and approach; development and confirmation of technical findings and study recommendations; application of relevant standards, guidelines and regulations; and implementation of quality control procedures. Lindsay is academically trained in the fields of heritage conservation, cultural anthropology, archaeology, and collections management and has over 15 years of experience in the field of cultural heritage resource management. This work has focused on the assessment, evaluation, and protection of built heritage resources and cultural heritage landscapes. Lindsay has extensive experience undertaking archival research, heritage survey work, heritage evaluation and heritage impact assessment. She has also contributed to cultural heritage landscape studies and heritage conservation plans, led heritage commemoration and interpretive programs, and worked collaboratively with multidisciplinary teams to sensitively plan interventions at historic sites/places. In addition, she is a leader in the completion of heritage studies required to fulfill Class Environmental Assessment processes and has served as Project Manager for over 100 heritage assessments during her time at A.S.I. Lindsay is a member of the Canadian Association of Heritage Professionals.

John Sleath, M.A.

Cultural Heritage Specialist, Project Manager - Cultural Heritage Division

The Project Manager for this Cultural Heritage Report is **John Sleath** (M.A.), who is a Cultural Heritage Specialist and Project Manager within the Cultural Heritage Division with A.S.I. He was responsible for the day-to-day management activities, including scoping of research activities and site surveys and drafting of study



findings and recommendations. John has worked in a variety of contexts within the field of cultural heritage resource management for the past 14 years, as an archaeologist and as a cultural heritage professional. An exposure to both land-based and underwater archaeology and above ground cultural heritage assessments has provided John with a holistic understanding of heritage in a variety of contexts. In 2015 John began working in the Cultural Heritage Division researching and preparing a multitude of cultural heritage assessment reports and for which he was responsible for a variety of tasks including: completing archival research, investigating built heritage and cultural heritage landscapes, report preparation, historical map regression, and municipal consultation. Since 2018 John has been a project manager responsible for a variety of tasks required for successful project completion. This work has allowed John to engage with stakeholders from the public and private sector, as well as representatives from local municipal planning departments and museums. John has conducted hundreds of cultural heritage assessments across Ontario, with a focus on transit and rail corridor infrastructure including bridges and culverts.

Kirstyn Allam, B.A. (Hon), Adv. Dipl. in Applied Museum Studies, C.A.H.P. Intern Cultural Heritage Analyst, Technical Writer and Researcher - Cultural Heritage Division

The Cultural Heritage Technician for this project is **Kirstyn Allam** (B.A. (Hon.), Advanced Diploma in Applied Museum Studies), who is a Cultural Heritage Analyst and Technical Writer and Researcher within the Cultural Heritage Division. She was responsible for preparing and contributing to research and technical reporting. Kirstyn Allam's education and experience in cultural heritage, historical research, archaeology, and collections management has provided her with a deep knowledge and strong understanding of the issues facing the cultural heritage industry and best practices in the field. Kirstyn has experience in heritage conservation principles and practices in cultural resource management, including three years' experience as a member of the Heritage Whitby Advisory Committee. Kirstyn also has experience being involved with Stage 1-4 archaeological excavations in the Province of Ontario. Kirstyn is an intern member of C.A.H.P.



Glossary

Built Heritage Resource (B.H.R.)

Definition: "...a building, structure, monument, installation or any manufactured remnant that contributes to a property's cultural heritage value or interest as identified by a community, including an Indigenous community. Built heritage resources are located on property that may be designated under Parts IV or V of the *Ontario Heritage Act*, or that may be included on local, provincial, federal and/or international registers" (Ministry of Municipal Affairs and Housing, 2020, p. 41).

Cultural Heritage Landscape (C.H.L.)

Definition: "...a defined geographical area that may have been modified by human activity and is identified as having cultural heritage value or interest by a community, including an Indigenous community. The area may include features such as buildings, structures, spaces, views, archaeological sites or natural elements that are valued together for their interrelationship, meaning or association. Cultural heritage landscapes may be properties that have been determined to have cultural heritage value or interest under the *Ontario Heritage Act*, or have been included on federal and/or international registers, and/or protected through official plan, zoning by-law, or other land use planning mechanisms" (Ministry of Municipal Affairs and Housing, 2020, p. 42).

Known Built Heritage Resource or Cultural Heritage Landscape

Definition: A known built heritage resource or cultural heritage landscape is a property that has recognized cultural heritage value or interest. This can include a property listed on a Municipal Heritage Register, designated under Part IV or V of the *Ontario Heritage Act*, or protected by a heritage agreement, covenant or easement, protected by the *Heritage Railway Stations Protection Act* or the *Heritage Lighthouse Protection Act*, identified as a Federal Heritage Building, or located within a U.N.E.S.C.O. World Heritage Site (Ministry of Tourism, Culture and Sport, 2016).



Impact

Definition: Includes negative and positive, direct and indirect effects to an identified built heritage resource and cultural heritage landscape. Direct impacts include destruction of any, or part of any, significant heritage attributes or features and/or unsympathetic or incompatible alterations to an identified resource. Indirect impacts include, but are not limited to, creation of shadows, isolation of heritage attributes, direct or indirect obstruction of significant views, change in land use, land disturbances (Ministry of Tourism Culture and Sport, 2006b). Indirect impacts also include potential vibration impacts (See Section 2.5 for complete definition and discussion of potential impacts).

Mitigation

Definition: Mitigation is the process of lessening or negating anticipated adverse impacts to built heritage resources or cultural heritage landscapes and may include, but are not limited to, such actions as avoidance, monitoring, protection, relocation, remedial landscaping, and documentation of the cultural heritage landscape and/or built heritage resource if to be demolished or relocated (Ministry of Tourism Culture and Sport, 2006a).

Potential Built Heritage Resource or Cultural Heritage Landscape

Definition: A potential built heritage resource or cultural heritage landscape is a property that has the potential for cultural heritage value or interest. This can include properties/project area that contain a parcel of land that is the subject of a commemorative or interpretive plaque, is adjacent to a known burial site and/or cemetery, is in a Canadian Heritage River Watershed, or contains buildings or structures that are 40 or more years old (Ministry of Tourism, Culture and Sport, 2016).

Significant

Definition: With regard to cultural heritage and archaeology resources, significant means “resources that have been determined to have cultural heritage value or interest. Processes and criteria for determining cultural heritage value or interest are established by the Province under the authority of the *Ontario Heritage Act*.



While some significant resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation” (Ministry of Municipal Affairs and Housing, 2020, p. 51).

Vibration Zone of Influence

Definition: Area within a 50-metre buffer of construction-related activities in which there is potential to affect an identified built heritage resource or cultural heritage landscape. A 50-metre buffer is applied in the absence of a project-specific defined vibration zone of influence based on existing secondary source literature and direction (Carman et al., 2012; Crispino & D’Apuzzo, 2001; P. Ellis, 1987; Rainer, 1982; Wiss, 1981). This buffer accommodates the additional threat from collisions with heavy machinery or subsidence (Randl, 2001).



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1.0 Introduction

Archaeological Services Inc. was contracted by Aquafor Beech Limited, on behalf of the City of Mississauga, to conduct a Cultural Heritage Report as part of the Credit River Erosion Control Municipal Class Environmental Assessment. The purpose of this report is to present an inventory of known and potential built heritage resources and cultural heritage landscapes, identify existing conditions of the project study area, provide a preliminary impact assessment, and propose appropriate mitigation measures.

1.1 Project Overview

The Credit River Erosion Control Municipal Class Environmental Assessment involves the rehabilitation of the Credit River between Dundas Street West and Highway 403 and proposed stabilization works within the river and improvement considerations, including reconstruction, relocation, and alternatives to surface material to the adjacent Culham Trail system. The project study area consists of the extents of the Credit River from Dundas Street West to Highway 403 for a total creek length of approximately 4000 metres. The study area also includes portions of the Culham Trail, Erindale Park, and Riverwood Park, all of which are adjacent to the river. The study area is generally bounded by residential subdivisions to the north, south, east, and northwest and the University of Toronto Mississauga campus at the southwest.

1.2 Description of Study Area

This Cultural Heritage Report will focus on the project study area that includes the extents of the Credit River from Dundas Street West to Highway 403 for a total creek length of approximately 4000 metres, and associated portions of the Culham Trail, Erindale Park, and Riverwood Park adjacent to the river (Figure 1). This project study area has been defined as inclusive of those lands that may contain built heritage resources (B.H.R.s) or cultural heritage landscapes (C.H.L.s) that may be subject to direct or indirect impacts as a result of the proposed

undertaking. Properties within the study area are located in the City of Mississauga.

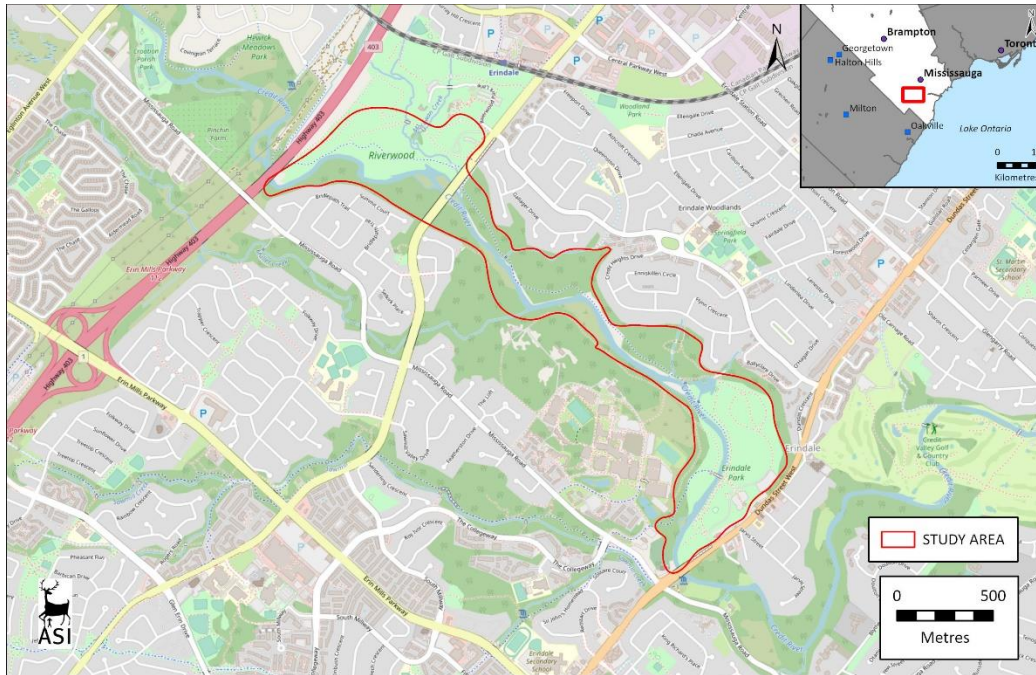


Figure 1: Location of the study area (Base Map: ©OpenStreetMap and contributors, Creative Commons-Share Alike License (C.C.-By-S.A.))

2.0 Methodology

The following sections provide a summary of regulatory requirements and municipal and regional heritage policies that guide this cultural heritage assessment. In addition, an overview of the process undertaken to identify known and potential built heritage resources (B.H.R.s) and cultural heritage landscapes (C.H.L.s) is provided, along with a description of how the preliminary impact assessment will be undertaken.

2.1 Regulatory Requirements

The *Ontario Heritage Act* (O.H.A.) (Ontario Heritage Act, R.S.O. c. O.18, 1990 [as Amended in 2022], 1990) is the primary piece of legislation that determines policies, priorities and programs for the conservation of Ontario's heritage. There



are many other provincial acts, regulations and policies governing land use planning and resource development that support heritage conservation, including:

- The *Planning Act* (Planning Act, R.S.O. 1990, c. P.13, 1990), which states that “conservation of features of significant architectural, cultural, historical, archaeological or scientific interest” is a “matter of provincial interest”. The *Provincial Policy Statement* (Ministry of Municipal Affairs and Housing, 2020), issued under the *Planning Act*, links heritage conservation to long-term economic prosperity and requires municipalities and the Crown to conserve significant built heritage resources and cultural heritage landscapes.
- The *Environmental Assessment Act* (Environmental Assessment Act, R.S.O. c. E.18, 1990), which defines “environment” to include cultural conditions that influence the life of humans or a community. Cultural heritage resources, which includes archaeological resources, built heritage resources and cultural heritage landscapes, are important components of those cultural conditions.

The Ministry of Citizenship and Multiculturalism (hereafter “The Ministry”) is charged under Section 2.0 of the O.H.A. with the responsibility to determine policies, priorities, and programs for the conservation, protection, and preservation of the heritage of Ontario. The *Standards and Guidelines for Conservation of Provincial Heritage Properties* (Ministry of Tourism Culture and Sport, 2010) (hereinafter “*Standards and Guidelines*”) apply to properties the Government of Ontario owns or controls that have “cultural heritage value or interest” (C.H.V.I.). The *Standards and Guidelines* provide a series of guidelines that apply to provincial heritage properties in the areas of identification and evaluation; protection; maintenance; use; and disposal. For the purpose of this report, the *Standards and Guidelines* provide points of reference to aid in determining potential heritage significance in identification of built heritage resources and cultural heritage landscapes. While not directly applicable for use in properties not under provincial ownership, the *Standards and Guidelines* are



regarded as best practice for guiding heritage assessments and ensure that additional identification and mitigation measures are considered.

Similarly, the *Ontario Heritage Tool Kit* (Ministry of Culture, 2006) provides a guide to evaluate heritage properties. To conserve a B.H.R. or C.H.L., the *Ontario Heritage Tool Kit* states that a municipality or approval authority may require a heritage impact assessment and/or a conservation plan to guide the approval, modification, or denial of a proposed development.

2.2 Municipal/Regional Heritage Policies

The study area is located within the City of Mississauga, in the Region of Peel. Policies relating to B.H.R.s and C.H.L.s were reviewed from the following sources:

- *City of Mississauga Official Plan* (2022)
- *Peel Region Official Plan* (Office Consolidation 2018)
- *Our Future Mississauga Strategic Plan* (City of Mississauga, 2009)
- *2019 Culture Master Plan* (City of Mississauga, 2019)
- *Credit River Parks Strategy* (Schollen & Company Inc et al., 2013)

2.3 Identification of Built Heritage Resources and Cultural Heritage Landscapes

This Cultural Heritage Report follows guidelines presented in the *Ontario Heritage Tool Kit* (Ministry of Culture, 2006) and *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* (Ministry of Tourism, Culture and Sport, 2016). The objective of this report is to present an inventory of known and potential B.H.R.s and C.H.L.s, and to provide a preliminary understanding of known and potential built heritage resources and cultural heritage landscapes located within areas anticipated to be directly or indirectly impacted by the proposed project.



In the course of the cultural heritage assessment process, all potentially affected B.H.R.s and C.H.L.s are subject to identification and inventory. Generally, when conducting an identification of built heritage resources and cultural heritage landscapes within a study area, three stages of research and data collection are undertaken to appropriately establish the potential for and existence of built heritage resources and cultural heritage landscapes in a geographic area: background research and desktop data collection; field review; and identification.

Background historical research, which includes consultation of primary and secondary source research and historical mapping, is undertaken to identify early settlement patterns and broad agents or themes of change in a study area. This stage in the data collection process enables the researcher to determine the presence of sensitive heritage areas that correspond to nineteenth- and twentieth-century settlement and development patterns. To augment data collected during this stage of the research process, federal, provincial, and municipal databases and/or agencies are consulted to obtain information about specific properties that have been previously identified and/or designated as having cultural heritage value. Typically, resources identified during these stages of the research process are reflective of particular architectural styles or construction methods, associated with an important person, place, or event, and contribute to the contextual facets of a particular place, neighbourhood, or intersection.

A field review is then undertaken to confirm the location and condition of previously identified B.H.R.s and C.H.L.s. The field review is also used to identify potential B.H.R.s and C.H.L.s that have not been previously identified on federal, provincial, or municipal databases or through other appropriate agency data sources.

During the cultural heritage assessment process, a property is identified as a potential B.H.R. or and C.H.L. based on research, the Ministry screening tool, and professional expertise and best practice. In addition, use of a 40-year-old benchmark is a guiding principle when conducting a preliminary identification of



B.H.R.s and C.H.L.s. While identification of a resource that is 40 years old or older does not confer outright heritage significance, this benchmark provides a means to collect information about resources that may retain heritage value. Similarly, if a resource is slightly younger than 40 years old, this does not preclude the resource from having cultural heritage value or interest.

2.4 Background Information Review

To make an identification of previously identified known or potential B.H.R.s and C.H.L.s within the study area, the following sections present the resources that were consulted as part of this Cultural Heritage Report.

2.4.1 Review of Existing Heritage Inventories

A number of resources were consulted in order to identify previously identified B.H.R.s and C.H.L.s within the study area. These resources, reviewed on 15 and 16 March, 2023, include:

- The *Heritage Register for Mississauga* (City of Mississauga, 2018);
- *Cultural Landscape Inventory* (The Landplan Collaborative Ltd., 2005);
- The *Ontario Heritage Act Register* (Ontario Heritage Trust, n.d.b);
- The *Places of Worship Inventory* (Ontario Heritage Trust, n.d.c);
- The inventory of Ontario Heritage Trust easements (Ontario Heritage Trust, n.d.a);
- The Ontario Heritage Trust's *An Inventory of Provincial Plaques Across Ontario*: a PDF of Ontario Heritage Trust Plaques and their locations (Ontario Heritage Trust, 2023);
- The Ontario Heritage Trust's *An Inventory of Ontario Heritage Trust-owned properties across Ontario*: a PDF of properties owned by the Ontario Heritage Trust (Ontario Heritage Trust, 2019);
- Inventory of known cemeteries/burial sites in the Ontario Genealogical Society's online databases (Ontario Genealogical Society, n.d.);



- Canada’s Historic Places website: available online, the searchable register provides information on historic places recognized for their heritage value at the local, provincial, territorial, and national levels (Parks Canada, n.d.a);
- Directory of Federal Heritage Designations: a searchable on-line database that identifies National Historic Sites, National Historic Events, National Historic People, Heritage Railway Stations, Federal Heritage Buildings, and Heritage Lighthouses (Parks Canada, n.d.b);
- Canadian Heritage River System: a national river conservation program that promotes, protects and enhances the best examples of Canada’s river heritage (Canadian Heritage Rivers Board and Technical Planning Committee, n.d.); and,
- United Nations Educational, Scientific and Cultural Organization (U.N.E.S.C.O.) World Heritage Sites (U.N.E.S.C.O. World Heritage Centre, n.d.).

2.4.2 Review of Previous Heritage Reporting

Additional cultural heritage studies undertaken within parts of the study area were also reviewed. These include:

- Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 (ASI, 2022a)
- Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 2 (ASI, 2022b)
- Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 3 (ASI, 2022c)
- Erindale Village Dam – Heritage Structural Condition and Recommendations Report (Stantec, 2016)
- Memorandum – Heritage Structure Report – St. Peter’s Anglican Church, Erindale (City of Mississauga, 1978)



2.4.3 Community Information Gathering

The following individuals, groups, and/or organizations were contacted to gather information on known and potential B.H.R.s and C.H.L.s, active and inactive cemeteries, and areas of identified Indigenous interest within the study area:

- Paula Wubbenhorst, Senior Heritage Coordinator, City of Mississauga (email communication 21 and 28 March 2023). Email correspondence confirmed the location of previously identified B.H.R.s and C.H.L.s and staff provided information on St. Peter's Church, Cemetery, and Erindale Park. Staff also confirmed that many of the properties are listed because they are within the Credit River Corridor C.H.L. and/or the Erindale Village C.H.L.
- The Ministry (email communication 21 and 23 March 2023). Email correspondence confirmed that there are no properties designated by the Minister and that they were not aware of any Provincial Heritage Properties within the study area.
- The Ontario Heritage Trust (email communications 21 March and 4 April 2023). A response indicated that there are no conservation easements or Trust-owned properties within the study area.
- At project start-up in March 2023, Archaeological Services Incorporated made a request to the proponent that any engagement with Indigenous communities undertaken as part of this project include a discussion about known or potential B.H.R.s or C.H.L.s that are of interest to the respective communities. The proponent provided copies of letters and notices of project commencement about the Credit River Erosion Control project which were sent on 1 December 2022 to the Haudenosaunee Development Institute, Huron-Wendat First Nation, Mississaugas of the Credit First Nation, and Six Nations of the Grand River. The Mississaugas of the Credit First Nation responded on 8 December 2022 that they would be interested in reviewing the Stage 1 Archaeological Assessment for the project. No other feedback or responses from the other communities was received by the time of report submission.

2.5 Preliminary Impact Assessment Methodology

To assess the potential impacts of the undertaking, identified B.H.R.s and C.H.L.s are considered against a range of possible negative impacts, based on the *Ontario Heritage Tool Kit InfoSheet #5: Heritage Impact Assessments and Conservation Plans* (Ministry of Tourism Culture and Sport, 2006b). These include:

Direct impacts:

- Destruction of any, or part of any, significant heritage attributes or features; and
- Alteration that is not sympathetic, or is incompatible, with the historic fabric and appearance.

Indirect impacts:

- Shadows created that alter the appearance of a heritage attribute or change the viability of a natural feature or plantings, such as a garden;
- Isolation of a heritage attribute from its surrounding environment, context or a significant relationship;
- Direct or indirect obstruction of significant views or vistas within, from, or of built and natural features;
- A change in land use such as rezoning a battlefield from open space to residential use, allowing new development or site alteration to fill in the formerly open spaces; and
- Land disturbances such as a change in grade that alters soils, and drainage patterns that adversely affect an archaeological resource.

Indirect impacts from construction-related vibration have the potential to negatively affect B.H.R.s and C.H.L.s depending on the type of construction methods and machinery selected for the project and proximity and composition of the identified resources. Potential vibration impacts are defined as having potential to affect an identified B.H.R.s and C.H.L.s where work is taking place



within 50 metres of features on the property. A 50-metre buffer is applied in the absence of a project-specific defined vibration zone of influence based on existing secondary source literature (Carman et al., 2012; Crispino & D'Apuzzo, 2001; P. Ellis, 1987; Rainer, 1982; Wiss, 1981). This buffer accommodates any additional or potential threat from collisions with heavy machinery or subsidence (Randl, 2001).

Several additional factors are also considered when evaluating potential impacts on identified B.H.R.s and C.H.L.s. These are outlined in a document set out by the Ministry of Culture and Communications (now Ministry of Citizenship and Multiculturalism) and the Ministry of the Environment entitled *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (1992). While this document has largely been superseded in some respects by more current policies and legislation, the guidance provided that continues to be of relevance to this specific project includes the following definitions:

- Magnitude: the amount of physical alteration or destruction which can be expected;
- Severity: the irreversibility or reversibility of an impact;
- Duration: the length of time an adverse impact persists;
- Frequency: the number of times an impact can be expected;
- Range: the spatial distribution, widespread or site specific, of an adverse impact; and
- Diversity: the number of different kinds of activities to affect a heritage resource.

The proposed undertaking should endeavor to avoid adversely affecting known and potential B.H.R.s and C.H.L.s and interventions should be managed in such a way that identified features are conserved. When the nature of the undertaking is such that adverse impacts are unavoidable, it may be necessary to implement alternative approaches or mitigation strategies that alleviate the negative effects on identified B.H.R.s and C.H.L.s. Mitigation is the process of lessening or negating



anticipated adverse impacts and may include, but are not limited to, such actions as avoidance, monitoring, protection, relocation, remedial landscaping, and documentation of the B.H.R. or C.H.L. if to be demolished or relocated.

Various works associated with infrastructure improvements have the potential to affect B.H.R.s and C.H.L.s in a variety of ways, and as such, appropriate mitigation measures for the undertaking need to be considered.

3.0 Summary of Historical Development Within the Study Area

This section provides a brief summary of historical research. A review of available primary and secondary source material was undertaken to produce a contextual overview of the study area, including a general description of physiography, Indigenous land use, and Euro-Canadian settlement.

3.1 Physiography

The study area is situated within the Iroquois Plain physiographic region of southern Ontario which is a lowland region bordering Lake Ontario. This region is characteristically flat, and formed by lacustrine deposits laid down by the inundation of Lake Iroquois, a body of water that existed during the late Pleistocene. This region extends from the Trent River, around the western part of Lake Ontario, to the Niagara River, spanning a distance of 300 kilometres. The old shorelines of Lake Iroquois include cliffs, bars, beaches and boulder pavements. The old sandbars in this region are good aquifers that supply water to farms and villages. The gravel bars are quarried for road and building material, while the clays of the old lake bed have been used for the manufacture of bricks (Chapman & Putnam, 1984).

Between Hamilton and Toronto, along the north edge of the Iroquois plain physiographic region the ancient Lake Iroquois shoreline creates a distinct bluff of varying rocks and shales commonly known as the escarpment. The land between



the ancient shoreline and the modern shoreline, which was the former bed of Lake Iroquois, is comprised of sandy soil in the Clarkson area as well as neighbouring communities from Aldershot to Humber Bay. These sandy soils were preferred over the adjoining areas which have clay and combined with being protected from frost because of the proximity to Lake Ontario and having good road and railway facilities, this two mile width of land became important for horticulture. The season was shorter in this area than on the south side of Lake Ontario which distinguished the crops grown which included apples, pears, bush fruits, strawberries and vegetables (Chapman and Putnam 1984).

After almost 100 years of farming, the physiography of this area supported its impressive and quick change to residential, commercial and industrial uses, replacing the more than 15,000 acres of farms that existed in 1941 so that by the 1980s the whole of the Iroquois plain between Hamilton and Toronto was built up. The gravels were used for construction, the sand plains are excellent housing sites and the flat lake plain with bedrock is good for industrial uses which were established south of the study area. This can be seen in the area of Clarkson which was once highly agricultural and is now residential, commercial, and industrial in use (Chapman and Putnam 1984).

The Credit River watershed drains an area of approximately 860 square kilometres from its headwaters in Orangeville, Erin, and Mono, passing through part of the Niagara Escarpment and the Oak Ridges Moraine, and draining into Lake Ontario at the town of Port Credit (Credit Valley Conservation, 2009). The river was named "*Mis.sin.ni.he*" or "*Mazinigae-zeebi*" by the Mississaugas, and surveyor Augustus Jones believed this signified "the trusting creek" or could also be translated as "to write or give and make credit", while the French name used when the river was first mapped in 1757 was "*Riviere au Credit*". These names refer to the fur trading period, when the French, British, and Indigenous traders would meet along this river (Gibson, 2002, p. 177; Jameson, 1838, pp. 73–74; Rayburn, 1997, p. 84; Robb et al., 2003, p. 6; Scott, 1997, p. 182; Smith, 1987, pp. 255–257). The Credit River was historically considered to be one of the best potential power sources for milling in all of southern Ontario, which led to the development of early of saw and grist mill industries, and later textile mills,



distilleries, bottling plants, and hydro-electric plants spawned communities throughout the river valley, typically close to the Niagara Escarpment (Town of Caledon, 2009, p. 7.1).

3.2 Indigenous Land Use and Settlement

Southern Ontario has been occupied by human populations since the retreat of the Laurentide glacier approximately 13,000 years ago, or 11,000 Before the Common Era (B.C.E.) (Ferris, 2013).¹ During the Paleo period (c. 11,000 B.C.E. to 9,000 B.C.E.), groups tended to be small, nomadic, and non-stratified. The population relied on hunting, fishing, and gathering for sustenance, though their lives went far beyond subsistence strategies to include cultural practices including but not limited to art and astronomy. Fluted points, beaked scrapers, and gravers are among the most important artifacts to have been found at various sites throughout southern Ontario, and particularly along the shorelines of former glacial lakes. Given the low regional population levels at this time, evidence concerning Paleo period groups is very limited (C. J. Ellis & Deller, 1990).

Moving into the Archaic period (c. 9,000 B.C.E. to 1,000 B.C.E.), many of the same roles and responsibilities continued as they had for millennia, with groups generally remaining small, nomadic, and non-hierarchical. The seasons dictated the size of groups (with a general tendency to congregate in the spring/summer and disperse in the fall/winter), as well as their various sustenance activities, including fishing, foraging, trapping, and food storage and preparation. There were extensive trade networks which involved the exchange of both raw materials and finished objects such as polished or ground stone tools, beads, and notched or stemmed projectile points. Furthermore, mortuary ceremonialism was

¹ While many types of information can inform the precontact settlement of Ontario, such as oral traditions and histories, this summary provides information drawn from archaeological research conducted in southern Ontario over the last century.



evident, meaning that there were burial practices and traditions associated with a group member's death (C. J. Ellis et al., 2009; C. J. Ellis & Deller, 1990).

The Woodland period (c. 1,000 B.C.E. to 1600 C.E.) saw several trends and aspects of life remain consistent with previous generations. Among the more notable changes, however, was the introduction of pottery, the establishment of larger occupations and territorial settlements, incipient horticulture, more stratified societies, and more elaborate burials. Later in this period, settlement patterns, foods, and the socio-political system continued to change. A major shift to agriculture occurred in some regions, and the ability to grow vegetables and legumes such as corn, beans, and squash ensured long-term settlement occupation and less dependence upon hunting and fishing. This development contributed to population growth as well as the emergence of permanent villages and special purpose sites supporting those villages. Furthermore, the socio-political system shifted from one which was strongly kinship based to one that involved tribal differentiation as well as political alliances across and between regions (Birch et al., 2021; Dodd et al., 1990; C. J. Ellis & Deller, 1990; Williamson, 1990).

The arrival of European trade goods in the sixteenth century, Europeans themselves in the seventeenth century, and increasing settlement efforts in the eighteenth century all significantly impacted traditional ways of life in Southern Ontario. Over time, war and disease contributed to death, dispersion, and displacement of many Indigenous peoples across the region. The Euro-Canadian population grew in both numbers and power through the eighteenth and nineteenth centuries and treaties between colonial administrators and First Nations representatives began to be negotiated.

The study area is within Treaty 13a, signed on August 2, 1805, by the Mississaugas and the British Crown in Port Credit at the Government Inn. A provisional agreement was reached with the Crown on August 2, 1805, in which the Mississaugas ceded 70,784 acres of land bounded by the Toronto Purchase of 1787 in the east, the Brant Tract in the west, and a northern boundary that ran six



miles back from the shoreline of Lake Ontario. The Mississaugas also reserved the sole right of fishing at the Credit River and were to retain a one-mile strip of land on each of its banks, which became the Credit Indian Reserve. On September 5, 1806, the signing of Treaty 14 confirmed the Head of the Lake Purchase between the Mississaugas of the Credit and the Crown (Mississauga of the New Credit First Nation, 2001; Mississaugas of the Credit First Nation, 2017).

3.3 Historical Euro-Canadian Township Survey and Settlement

The first Europeans to arrive in the area were transient merchants and traders from France and England, who followed Indigenous pathways and set up trading posts at strategic locations along the well-traveled river routes. All of these occupations occurred at sites that afforded both natural landfalls and convenient access, by means of the various waterways and overland trails, into the hinterlands. Early transportation routes followed existing Indigenous trails that typically followed the highlands adjacent to various creeks and rivers (Archaeological Services Inc., 2006). Early European settlements occupied similar locations as Indigenous settlements as they were generally accessible by trail or water routes and would have been in locations with good soil and suitable topography to ensure adequate drainage.

Historically, the study area is located in the former Township of Toronto, County of Peel, in part of Lots 3 – 6, Range 4 North of Dundas Street (N.D.S.), Lots 4 – 6, Range 3 N.D.S., Lots 5 – 6, Range 2 N.D.S., Lots 3 – 6, Range 1 N.D.S., and Lots 3- 4, Range 1 South of Dundas Street.

3.3.1 Township of Toronto and the City of Mississauga

The City of Mississauga is comprised of the historical communities of Clarkson, Cooksville, Dixie, Erindale, Lakeview, Lorne Park, Malton, Meadowvale Village, Port Credit and Streetsville, which formed part of the Township of Toronto.



The Township of Toronto was originally surveyed in 1806 and 1807 by Samuel Wilmot, the Deputy Surveyor of Upper Canada. The first settler in this Township was Colonel Thomas Ingersoll. Philip Cody was an early settler who opened an inn Sydenham, later known as Fonthill and then as Dixie. The whole population of the Township in 1808 consisted of seven families, scattered along Dundas Street. The number of inhabitants gradually increased until the War of 1812 broke out, which gave considerable check to its progress. When the war was over, the Township's growth revived, and the rear part of the Township was surveyed and called the "New Survey." The greater part of the New Survey was granted to a colony of Irish settlers from New York City, who suffered persecution during the war (Archaeological Services Inc., 2020; Pope, 1877).

The Credit River and numerous creeks provided for the establishment of saw and grist mills. Communities began to emerge, usually along the river or at crossroads along Dundas Street, which developed into the villages of Clarkson, Cooksville, Dixie, Erindale, Malton, Meadowvale Village, Port Credit and Streetsville, as well as the hamlet of Lakeview and numerous other settlements which later disappeared. In 1821 the township's population was 803. By 1851 over 7,500 people lived in the township and more than 36,000 acres were being farmed to produce barley, wheat, oats, vegetables and fruit. Small industries were located throughout the township, manufacturing products ranging from hosiery to ploughshares (Archaeological Services Inc., 2020).

The Hamilton and Toronto Railway was formed in 1852, and in 1855, completed its lake shore route across the south end of Lot 11. In 1871, the railway was amalgamated with the Great Western Railway, which in turn, was amalgamated in 1882, with the Grand Trunk Railway. The Grand Trunk Railway was amalgamated in 1923, with Canadian National Railway (Andreae, 1997, pp. 126–127).

During the second half of the nineteenth century, railways were built and the markets shifted. Water-powered industries in the rural areas could no longer compete with those in larger centres which were run by electricity. By 1901 the



township's population had dropped considerably to 4,690. The economy did not recover until the 1950s, when new industries moved into the township and spurred massive growth. When the Township of Toronto became the Town of Mississauga in 1968, it had a population of 107,000 and covered 70,598 acres. It grew very quickly and the rural township transformed into an urban area, with over 1,200 industries locating in Mississauga by the 1970s. In 1974 the towns of Port Credit, Streetsville and Mississauga were amalgamated to become the City of Mississauga (Mika & Mika, 1981).

3.3.2 Erindale

The study area along the Credit River is located within the former village of Erindale. The village of Erindale was established in 1822 after Thomas Racey constructed a sawmill on the Credit River, just south of Dundas Street. By 1824, a village site was laid out, first called Toronto, Credit, Springfield, Springfield-on-the-Credit, and finally Erindale in the early 1900s (Heritage Mississauga, 2009). The village was a stopping place for stagecoach travelers between Dundas and York (now Hamilton and Toronto), along Dundas Street. Early settlers included Emerson Taylor, who operated the Royal Exchange Hotel; John McGill, the first flour miller; Dr. Beaumont Dixie, an early physician, Duncan Turpel, a blacksmith, notary and stagecoach operator; John Barker, the postmaster and storekeeper; and Edwin Turner and Christopher Boyes, who were prominent merchants; and General Peter Adamson, who held early Anglican church services in his home until St. Peter's Anglican Church was built in 1826. This was the only Anglican Church west of Toronto, later rebuilt in 1887, and still stands today. The village saw a period of decline when it was bypassed by the Great Western Railway, despite the Credit Valley Railway station being built in 1879. In the early 1900s Erindale was the centre of a large hydroelectric project which brought growth in the village until a devastating fire in 1919. Erindale amalgamated with other villages in Toronto Township in 1968 to form the Town of Mississauga. The town became the City of Mississauga in 1974 (Heritage Mississauga, 2009).



3.3.3 Erindale Hydroelectric Dam

Beginning in 1898, plans to harness the natural water resources of the Credit River for hydroelectricity were being discussed. In 1901 the endeavour focused on the bend on the Credit River at Erindale. Construction on the dam began in 1904 under the direction of the Southern Light and Power Company. The Company went bankrupt in 1906, with the project still incomplete. The hydro development commenced again under the direction of the Erindale Power Company in 1909. In March of 1910, the last 150-foot section in the middle portion of the dam was being filled in, and the powerhouse was transmitting power. On March 7, 1910, a 35-foot-high centre portion of the nearly completed dam collapsed, as the water behind the dam had risen to dangerous levels due to a sudden spring thaw. The massive spring flood washed out a large section of Dundas Street and the Dundas Street Bridge over the Credit River. This was not repaired until the summer of 1910. By August of 1910, the dam had been patched and the operation was back up and running (Figure 2, Figure 3).

The dam on the Credit River (in what is today Erindale Park) created a head pond (known locally as “Lake Erindale”) that covered 125 acres. The water was conveyed through a tunnel from the lake, running under Dundas Street, and dropping down into the Powerhouse via large pipes to turn the turbines which were directly connected to generators. The water then exited the powerhouse via the tail race and rejoined the river on the south side of Erindale Village (Wilkinson, 2021).

When it was fully operational, which was seldom, the Hydroelectric Station of the Erindale Power Company provided electricity via a wood-pole transmission line to substations in West Toronto supplying power to North Toronto, New Toronto, Swansea, Islington, Erindale, Cooksville, Dixie, Long Branch, Mimico and Lambton, through a common grid system (Wilkinson, 2021).

The newly formed Ontario Hydro-Electric Power Commission purchased the facility in 1916, and in 1917 the powerhouse caught fire. It was out of operation



for a short time, reopening in the late fall of 1917. On April 6, 1921, a smaller dam upstream failed, and a tremendous spring flood occurred which washed out a 10-foot-tall centre portion of the dam, reducing the height of water in the lake. Repaired again, the dam failed once more in 1923, collapsing part of the repaired centre section and sluiceway and reducing the water level in the head pond. The facility operated until mid-1923 when the Chippewa plant in Niagara was opened. After the facility closed, maintenance on the dam declined. Another flood in 1935 threatened to undermine the dam. Between 1938 and 1940 the hydro pond ("Lake Erindale") was drained, and the dam was finally demolished in 1941 after major safety concerns were raised by nearby residents. The remnants of the powerhouse were removed in 1977 (Wilkinson, 2021).



Figure 2: Lake Erindale hydro pond, circa 1915 (Heritage Mississauga, 2021)



Figure 3: Erindale dam, circa 1920 (Heritage Mississauga, 2021)

3.4 Review of Historical Mapping

The 1859 *Tremaine's Map of the County of Peel* (Tremaine, 1859) and the 1877 *Illustrated Historical Atlas of the County of Peel* (Pope, 1877), were examined to determine the presence of historical features within the study area during the nineteenth century (Figure 4 and Figure 5). Historically, the study area is located in part of Lots 3 – 6, Range 4 North of Dundas Street (N.D.S.), Lots 4 – 6, Range 3 N.D.S., Lots 5 – 6, Range 2 N.D.S., Lots 3 – 6, Range 1 N.D.S., and Lots 3- 4, Range 1 South of Dundas Street.

It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases. For instance, they were often financed by subscription limiting the level of detail provided on the maps. Moreover, not every feature of interest would have been within the scope of the atlases. The use of historical map sources to reconstruct or predict the location of former features within the modern landscape generally begins by using common reference points between the various sources. The historical maps are geo-referenced to provide the most accurate determination of the location of any property on a modern map. The results of this exercise can often be imprecise or

even contradictory, as there are numerous potential sources of error inherent in such a process, including differences of scale and resolution, and distortions introduced by reproduction of the sources.

The 1859 map (Figure 4) depicts the study area in an agricultural context to the north of the village of Springfield. Most of the study area is subdivided into lots and the village of Springfield is illustrated with darker shading indicating dense community settlement with a grist mill depicted on the southern side of the Credit River in the village. The Credit River meanders through the study area in a general northwest-southeast course that turns more to the southwest to the north of Springfield. Two islands within the river are depicted in Lot 5, Range 3 NDS and a residence is illustrated on the larger of the two islands. Two tributaries of the Credit River intersect with the study area, near the middle and southern end of the study area on the west side. Dundas Street West, Burnhamthorpe Road West are historically surveyed roads which follow northeast-southwest alignments, and a third road near the middle of the study area also follows a similar alignment. Mississauga Road is also a historically surveyed road, following a general northwest-southeast alignment. Near Springfield, another road intersecting Dundas Street West curves southward into the village of Springfield going to the south of the Credit River.

The 1877 map (Figure 5) illustrates the study area in a very similar context to earlier mapping. A post office is now labelled on the mapping in Springfield near to the grist mill on the south side of the river. A church is illustrated on the northern corner of the intersection of Dundas Street Road West and Mississauga Road. Within Lot 5, Range 4 N.D.S., a residence is depicted. Only one of the two islands are illustrated within the Credit River. Dundas Street West now diverts to the south to travel through Springfield. The unnamed road which intersected the study area near the middle is now a proposed road as indicated by the dashed lines.

In addition to nineteenth-century mapping, historical topographic mapping and aerial photographs from the twentieth century were examined. This report



presents maps and aerial photographs from 1909, 1954, and 1994 (Figure 6 to Figure 9).

The 1909 topographic map (Figure 6) continues to depict the study area within a larger agricultural context to the north of Erindale (previously Springfield). Erindale has expanded and now includes a hotel, two blacksmiths, and several wooden and stone or brick buildings (indicated by black and red squares respectively). Much of the study area is illustrated as forested along the Credit River. The Credit River has less of a meandering course in the northern portion of the study area and no islands are illustrated, though tributaries are depicted on the east side of the river. Burnhamthorpe Road West, Dundas Street West, and Mississauga Road are all depicted as unmetalled roadways. An iron bridge carries Dundas Street West over the river and two bridges carry Burnhamthorpe Road West over the bridge, with one of the bridges labelled as a foot bridge. The previously mentioned residences are no longer illustrated in the study area. The 1942 topographic map (Figure 7) shows the study area much the same as the 1909 mapping. On this map Dundas Street West is now labelled and more residential buildings are within the southern perimeter of the study area. The Credit River maintains a similar alignment as the 1909 topographic map with the exception of a larger pool of water north of Dundas Street West, Lake Erindale, with structures along the southern side of the lake. Burnhamthorpe Road West is no longer depicted as crossing the Credit River on the mapping.

The 1954 aerial photograph (Figure 8) shows the Credit River meandering through the study area. The straightened route in the northern portion is no longer extant, though much of the forested area along the watercourse are apparent. Lake Erindale has been drained and converted to fields. The Erindale Dam is visible across the Credit River near the southwestern corner of the study area.

The 1994 topographic map (Figure 9) depicts the study area within a developed residential context in the City of Mississauga. The study area itself remains mostly as greenspace along the Credit River. The alignment of the Credit River in the southern portion of the study area has been modified and is curved smoothly. The



Erindale dam is now labelled on the mapping. Dundas Crescent at the southern end is now illustrated as the area around it is developed. The dashed line on the northeast side of the Credit River represents the path of the recreational Credit Valley Trail. Several bridges are depicted crossing the Credit River within the study area. Erindale Park is labelled at the southern portion of the study area. Burnhamthorpe Road West once again crosses the Credit River. Erindale College, now the University of Toronto Mississauga campus is just outside of the southwestern portion of the study area.



Figure 4: The study area overlaid on the 1859 *Tremaine's Map of the County of Peel*. Base Map: (Tremaine, 1859).



Figure 5: The study area overlaid on the 1877 *Illustrated Historical Atlas of the County of Peel*. Base Map: (Pope, 1877).

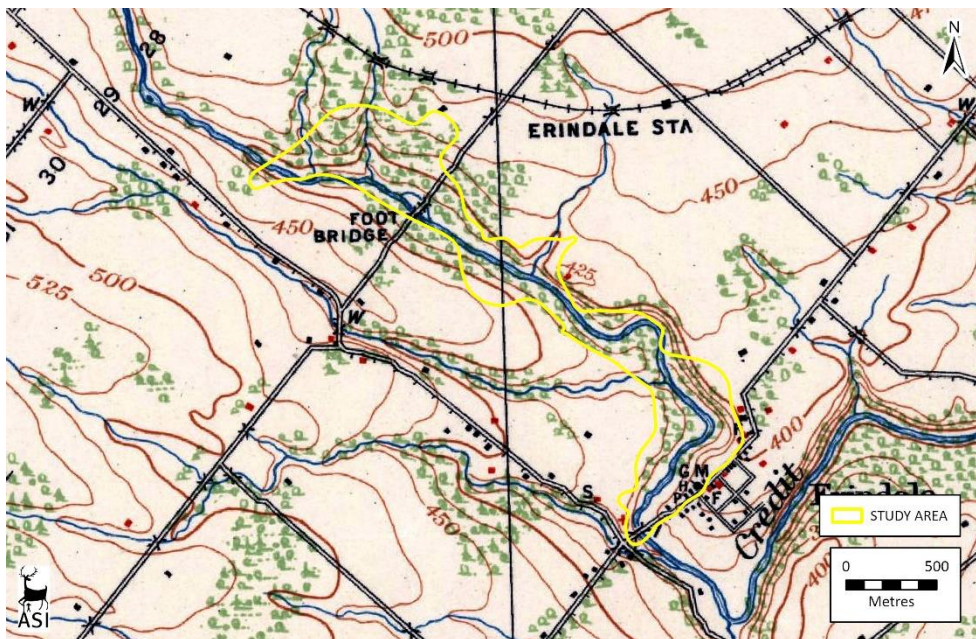


Figure 6: The study area overlaid on the 1909 topographic map of Brampton. Base Map: (Department of Militia and Defence, 1909).

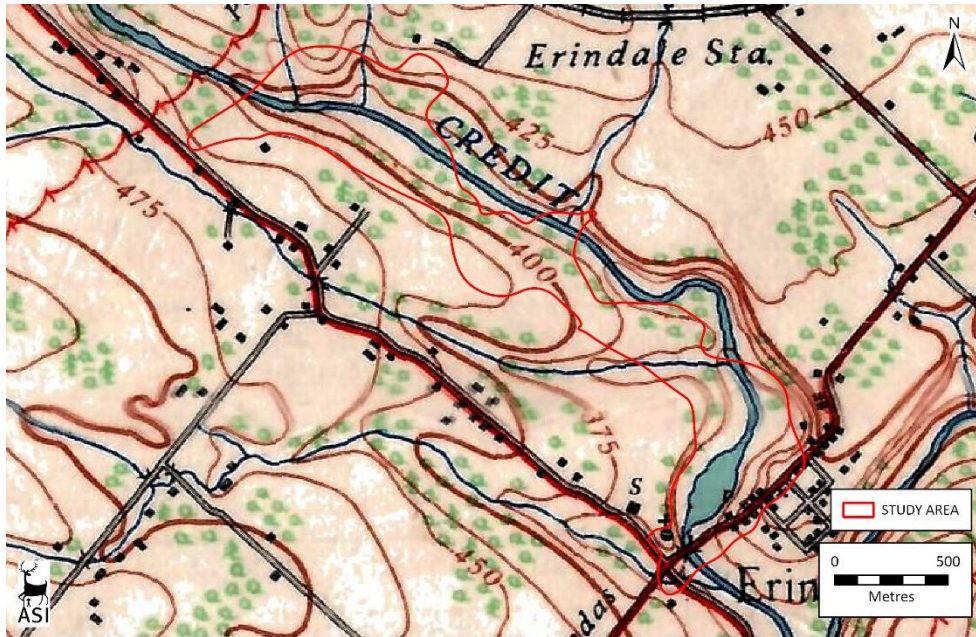


Figure 7: The study area overlaid on the 1942 topographic map of Brampton. Base Map: (Department of National Defence, 1942).

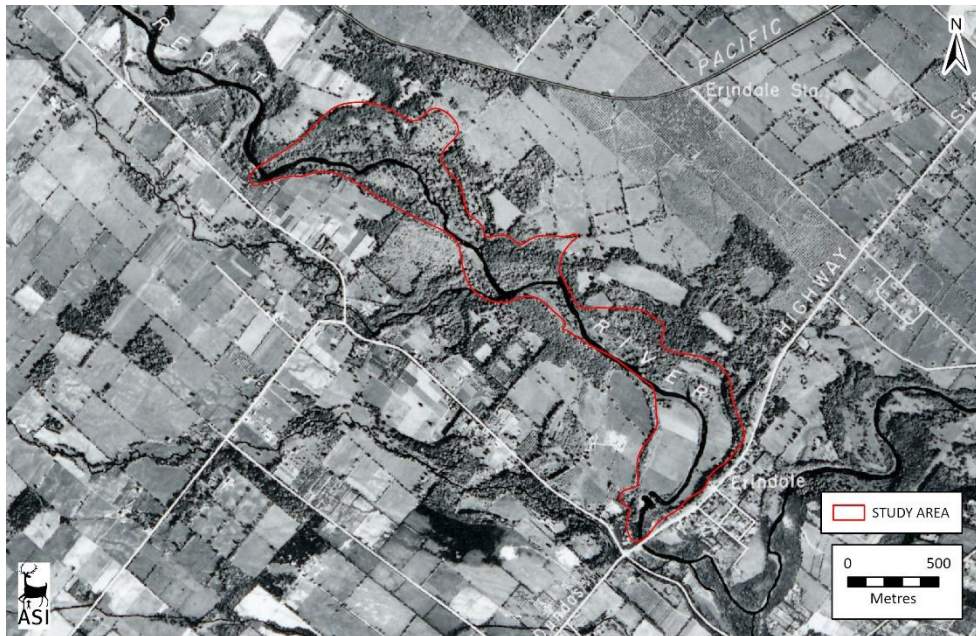


Figure 8: The study area overlaid on the 1954 aerial photograph of Southern Ontario. Base Map: (Hunting Survey Corporation Limited, 1954).

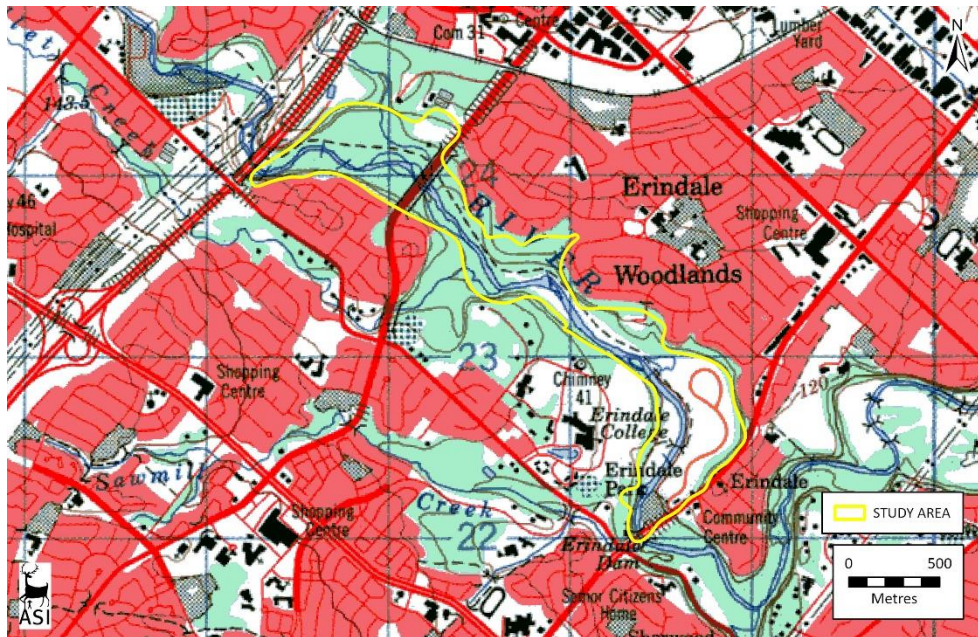


Figure 9: The study area overlaid on the 1994 topographic map of Brampton. Base Map: (Department of Energy, Mines and Resources, 1994)

4.0 Existing Conditions

A field review of the study area was undertaken by Lindsay Graves of Archaeological Services Inc., on 3 April 2023 to document the existing conditions of the study area from existing rights-of-way. The existing conditions of the study area are described below and captured in Plate 1 to Plate 13.

4.1 Description of Field Review

The study area extends to the top of the Credit River valley from Dundas Street West to Highway 403 for a total watercourse length of approximately 4000 metres. The Credit River generally meanders from the northwest to southeast through most of the study area. Through human intervention it has been straightened in the southern portion of the study area where it curves and re-orientates to the southwest. Along the river there have been erosion protection measures implemented to protect the adjacent trail, including armourstone banks, rock vane features, and gabion baskets, along with an ice control structure.

The study area also includes portions of the Culham Trail, Erindale Park, and Riverwood Park, all of which are adjacent to the river. The Culham Trail is a recreational trail in the City of Mississauga that follows the Credit River for 13.5 kilometres beginning in Erindale Park (City of Mississauga, 2023a). The trail is a hard packed surface recreational trail and within the study area is located mostly along the eastern bank of the river. Erindale Park is located on the eastern side of the Credit River at the southern end of the study area and features recreational trails, picnic areas, and forested areas along the river. The park also features a pedestrian bridge across the Credit River and the remains of the Erindale Dam. Riverwood Park is a park located at the northern end of the study area on the east side of the Credit River. The park includes recreational trails and different natural features such as ravines, forest, and meadows. The park also includes the Riverwood Conservancy and MacEwan Terrace Garden (City of Mississauga, 2023b).

The study area is generally bounded by residential subdivisions to the north, south, east, and northwest. The historic village of Erindale to the south of the study area. The University of Toronto Mississauga campus is to the southwest of the study area. Burnhamthorpe Road West intersects with the northern portion of the study area and is carried over the river by a three-span bridge.²

² Based on a review of aerial photographs of Mississauga, the bridge was constructed between 1980 and 1985 and was not considered to have potential cultural heritage value or interest.





Plate 1: View of the Credit River (A.S.I., 2023)



Plate 2: View of the Credit River across Dundas Street West, looking south (A.S.I., 2023)



Plate 3: View of the river, armourstone banks, and Culham Trail (A.S.I., 2023)



Plate 4: View of the river at the remains of the dam (A.S.I., 2023)



Plate 5: View of trail washout along the Credit River (A.S.I., 2023)



Plate 6: View of erosion along the Culham Trail (A.S.I., 2023)



Plate 7: View of the ice control structure (A.S.I., 2023)



Plate 8: Pedestrian bridge crossing the river in Erindale Park (A.S.I., 2023)



Plate 9: Remains of the Erindale Dam in the park (A.S.I., 2023)



Plate 10: Chappell House, now the Riverwood Conservancy (A.S.I., 2023)



Plate 11: Representative view of the residential neighbourhood along the east side of the Credit River (A.S.I., 2023)



Plate 12: View of buildings in the former Erindale village (A.S.I., 2023)



Plate 13: View of the University of Toronto Mississauga campus (A.S.I., 2023)

4.2 Identification of Known and Potential Built Heritage Resources and Cultural Heritage Landscapes

Based on the results of the background research and field review, 65 known built heritage resources (B.H.R.s), one potential B.H.R., and four known cultural heritage landscapes (C.H.L.s) were identified within the study area. These include: five properties designated under Part IV of the *Ontario Heritage Act*, 61 properties listed on the *Heritage Register for Mississauga*, one property listed on the Ontario Heritage Trust *Places of Worship Inventory*, and three C.H.L.s identified in the *Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3* (ASI, 2022a, 2022b, 2022c). There are also two Ontario Heritage Trust plaques within the study area. For ease of understanding in this report, these previously identified B.H.R.s are presented below in Section 4.2.1 to 4.2.4 and are all organized into C.H.L. 1. See Figure 10 to Figure 13 for mapping showing the location of identified B.H.R.s and C.H.L.s.

4.2.1 Description of Cultural Heritage Landscape – C.H.L. 1

Name/Address/Location

Credit River Corridor C.H.L.

The C.H.L. includes the Credit River itself and all adjacent properties within the City of Mississauga.

Type of Cultural Heritage Landscape

Natural Landscape with Historic Neighbourhoods and Villages

Level of Heritage Recognition

Known C.H.L. – Identified as a Significant C.H.L. in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c)

Individual properties and features within this known natural landscape include:

- Known B.H.R.s:
 - Designated under Part IV of the *Ontario Heritage Act* (Three properties)
 - Listed (61 properties)
- Potential B.H.R.s:
 - Ontario Heritage Trust Places of Worship (one property)
- Two Ontario Heritage Trust plaques

Known and Potential C.H.L.s within this known natural landscape include:

- One Significant C.H.L. in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c) (Erindale Village C.H.L., C.H.L. 3)

- One C.H.L. requiring further research in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c) (University of Toronto Mississauga C.H.L., C.H.L. 2)

Cultural Heritage Landscape Description

The Credit River Corridor C.H.L. is 58 miles (93.34 kilometres) in length and meanders through the City of Mississauga, beginning at the border with Brampton and draining in Lake Ontario. The known heritage attributes include the river's role as a transportation corridor, as a hunting, fishing, and gathering area, and for influencing settlement patterns by Indigenous peoples for thousands of years. Euro-Canadian settlers used the river for similar purposes, and also used it for milling and development and for its recreational opportunities (The Landplan Collaborative Ltd., 2005). The Credit River also has been identified as contributing to an understanding of a community or culture, "as it has played and continues to play a significant role in the Mississaugas of the Credit First Nation community with fishing, hunting, gathering, and spiritual activities" (ASI, 2022c, pp. 37–38). Potential attributes of the river which could hold significance include place-making locations such as rapids and natural formations, such as large rock formations which could be sacred sites. According to the *Cultural Landscape Inventory*, the Credit River is the most significant natural features remaining in the City of Mississauga and it was identified in part for its scenic and visual quality (The Landplan Collaborative Ltd., 2005).

Flowing through the City of Mississauga, the river has shaped the land in both a physical and cultural sense for the past 10,000 years (ASI, 2022c). The Credit River generally follows a similar course as it did in 1859 (Figure 4), although human intervention in the early- and mid-twentieth century did straighten the southern portion of the Credit River within the study area after the introduction and later removal of the Erindale Dam and Lake Erindale (Figure 7 and Figure 8). The Credit River does remain within a mostly natural setting within the City of Mississauga into the late-twentieth century (Figure 9).



The properties within the C.H.L. boundaries within the study area are primarily residential with the exception of the University of Toronto Mississauga campus and the two parks (Erindale Park and Riverwood Park).

This landscape consists of a number of previously identified individual B.H.R.s (included below) and other features, including C.H.L.s. While each individual resource is important in and of itself, the relationships between the constituent elements, each element's contribution, and the setting of the area as a whole is also important.

Individual properties and features within the C.H.L. include:

- 1485 Ashington Court – Listed on the *Heritage Register for Mississauga*
- 1491 Ashington Court – Listed on the *Heritage Register for Mississauga*
- 1495 Ashington Court – Listed on the *Heritage Register for Mississauga*
- 1499 Ashington Court – Listed on the *Heritage Register for Mississauga*
- 1501 Ashington Court – Listed on the *Heritage Register for Mississauga*
- 1502 Ashington Court – Listed on the *Heritage Register for Mississauga*
- 3596 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3597 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3600 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3610 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3618 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3621 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3626 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3634 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3640 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3648 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3658 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3668 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3678 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3682 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*

- 3686 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3690 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 3694 Burnbrae Drive – Listed on the *Heritage Register for Mississauga*
- 1447, 1455, 1461, 1465, 1475, and 1477 Burnhamthorpe Road West – Designated under Part IV of the *Ontario Heritage Act* (By-Law # 505-2004, available via this [link](#)) (C.H.L. 4)
- 1469 Burnhamthorpe Road West – Listed on the *Heritage Register for Mississauga*
- 3328 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3336 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3342 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3398 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3404 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3412 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3416 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3422 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3428 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3434 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 3440 Credit Heights Drive – Listed on the *Heritage Register for Mississauga*
- 1378 Conliffe Court – Listed on the *Heritage Register for Mississauga*
- 1384 Conliffe Court – Listed on the *Heritage Register for Mississauga*
- 1386 Conliffe Court – Listed on the *Heritage Register for Mississauga*
- 1387 Conliffe Court – Listed on the *Heritage Register for Mississauga*
- 1390 Conliffe Court – Listed on the *Heritage Register for Mississauga*
- 1415 Dundas Crescent – Listed on the *Heritage Register for Mississauga*
- 1427 Dundas Crescent – Listed on the *Heritage Register for Mississauga*
- 1445 Dundas Crescent – Listed on the *Heritage Register for Mississauga*
- 1555 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1563 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1615 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1645 Dundas Street West – Listed on the *Heritage Register for Mississauga*



- 1695 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1699 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1745 Dundas Street West (St. Peter’s Anglican Church) – Ontario Heritage Trust Places of Worship
- 1443 Miraya Court – Listed on the *Heritage Register for Mississauga*
- 1449 Miraya Court – Listed on the *Heritage Register for Mississauga*
- 1455 Miraya Court – Listed on the *Heritage Register for Mississauga*
- 1459 Miraya Court – Listed on the *Heritage Register for Mississauga*
- 3057 Mississauga Road (Visual Arts Mississauga Headquarters) – Designated under Part IV of the *Ontario Heritage Act* (By-Law # 662-83, available via this [link](#))
- 3359 Mississauga Road (Lislehurst) – Designated under Part IV of the *Ontario Heritage Act* (By-Law # 879-85, available via this [link](#))
- 3870 Promontory Crescent – Listed on the *Heritage Register for Mississauga*
- 3428 The Credit Woodlands – Listed on the *Heritage Register for Mississauga*
- 3430 The Credit Woodlands – Listed on the *Heritage Register for Mississauga*
- 3436 The Credit Woodlands – Listed on the *Heritage Register for Mississauga*
- 1388 Winglos Court – Listed on the *Heritage Register for Mississauga*
- 1392 Winglos Court – Listed on the *Heritage Register for Mississauga*
- 1393 Winglos Court – Listed on the *Heritage Register for Mississauga*
- Erindale Dam – Listed on the *Heritage Register for Mississauga*
- University of Toronto Mississauga C.H.L. - Identified as a requiring further research in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c) (C.H.L. 2)
- Erindale Village C.H.L. - Identified as a Significant C.H.L. in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c) (C.H.L. 3)

- Charlotte Schreiber Plaque – Ontario Heritage Trust plaque
- Reverend James Magrath Plaque – Ontario Heritage Trust plaque

Photographs



Plate 14: View of the Credit River (A.S.I. 2023).



Plate 15: View of Erindale Dam remains on the opposite bank of the Credit River (A.S.I. 2023).

4.2.2 Description of Cultural Heritage Landscape – C.H.L. 2

Name/Address/Location

University of Toronto Mississauga C.H.L.

3359 Mississauga Road

Type of Cultural Heritage Landscape

University campus

Level of Heritage Recognition

Known C.H.L. – Identified as a requiring further research in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c)

Individual properties and features within this known campus include:

- Known B.H.R.s:
 - Designated under Part IV of the *Ontario Heritage Act* (Two properties)
- One Ontario Heritage Trust plaque

Cultural Heritage Landscape Description

The University of Toronto Mississauga C.H.L. is located at 3359 Mississauga Road, though is a large 225-acre campus adjacent to the Credit River (ASI, 2022b). Originally the campus was known as Erindale College when it opened in 1967 after Reginald Watkins sold the property to the University of Toronto and has since grown significantly in terms of buildings and student population since then. The known heritage attributes include several architecturally important buildings, such as Lislehurst and Alumni House, its natural environment, and its landscape design (ASI, 2022b; The Landplan Collaborative Ltd., 2005).



The streets, buildings, and grounds identified as part of this C.H.L. form part of an evolved twentieth-century university campus within a natural setting.

The properties within the C.H.L. boundaries are primarily institutional with commercial and residential properties located generally outside the boundaries of the campus.

Individual properties and features within the C.H.L. include:

- 3057 Mississauga Road (Visual Arts Mississauga Headquarters) – Designated under Part IV of *the Ontario Heritage Act* (By-Law # 662-83, available via this [link](#))
- 3359 Mississauga Road (Lislehurst) – Designated under Part IV of the *Ontario Heritage Act* (By-Law # 879-85, available via this [link](#))
- Charlotte Schreiber Plaque – Ontario Heritage Trust plaque

This C.H.L. is within the Credit River Corridor C.H.L. (C.H.L. 1)

Photographs



Plate 16: View of the University of Toronto Mississauga campus (A.S.I. 2023).



Plate 17: View of Lislehurst, the President's Residence on the university campus (A.S.I. 2023).

4.2.3 Description of Cultural Heritage Landscape – C.H.L. 3

Name/Address/Location

Erindale Village and Erindale Park C.H.L.

Dundas Street West between Mississauga Road and The Credit Woodlands; and Erindale Park on the north side of Dundas Street West

Type of Cultural Heritage Landscape

Residential Neighbourhood and Park

Level of Heritage Recognition

Known C.H.L. – Identified as a Significant C.H.L. in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c)

Individual properties and features within this known residential neighbourhood include:

- Known B.H.R.s:
 - Listed (Seven properties)
- Potential B.H.R.:
 - Ontario Heritage Trust Places of Worship (One property)
- One Ontario Heritage Trust plaque

Cultural Heritage Landscape Description

The Erindale Village C.H.L. is located along Dundas Street West between Mississauga Road and The Credit Woodlands with the Erindale Park C.H.L. to the north of the historic village. The village C.H.L. retains both commercial and residential elements of a historic village of one of the older Euro-Canadian settlements in Mississauga. The park C.H.L. is one of the largest parks in Mississauga and is known for its views of the Credit River, trail system, its setting for both active and passive recreation, and its industrial history. The known heritage attributes of the village include its landscape environment, built environment, historical associations, and historical and archaeological interest. The known heritage attributes of the park are similar to the village and also include its outstanding features/interest. The park is recognized for preserving cultural heritage artifacts while also providing a balance between the availability of recreational opportunities and protecting features of the natural environment (ASI, 2022c)

Individual properties and features within the C.H.L. include:

- 1555 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1563 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1615 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1645 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1695 Dundas Street West – Listed on the *Heritage Register for Mississauga*

- 1699 Dundas Street West – Listed on the *Heritage Register for Mississauga*
- 1745 Dundas Street West (St. Peter’s Anglican Church) – Ontario Heritage Trust Places of Worship
- Erindale Dam – Listed on the *Heritage Register for Mississauga*
- Reverend James Magrath Plaque – Ontario Heritage Trust plaque

This C.H.L. is within the Credit River Corridor C.H.L. (C.H.L. 1)

Photographs



Plate 18: View of St. Peter’s Anglican Church in Erindale (A.S.I. 2023).



Plate 19: View of pedestrian bridge and covered picnic area within Erindale Park (A.S.I. 2023).

4.2.4 Description of Cultural Heritage Landscape – C.H.L. 4

Name/Address/Location

Riverwood

1447, 1455, 1461, 1465, 1475, and 1477 Burnhamthorpe Road West

Type of Cultural Heritage Landscape

Former Residence and Park

Level of Heritage Recognition

Known C.H.L. – Designated under Part IV of the *Ontario Heritage Act* (By-law # 505-2004, available via this [link](#))

Cultural Heritage Landscape Description

Riverwood Park is located on the north side of Burnhamthorpe Road West, to the east of the Credit River. Riverwood was initially settled by the McDougall and McGrath families in the 1830s (The Landplan Collaborative Ltd., 2005), today it is now a 150-acre park (City of Mississauga, 2023b). The Parker family purchased the property in 1913 and between 1917 and 1918, the family commissioned Mathers and Halenby Architects to design a house on a prominent point of land between two tributaries of the Credit River. The house was completed in 1919 in the Arts and Crafts style. The Chappells purchased the property during the 1950s and owned it until they sold it to the City in 1990 (The Landplan Collaborative Ltd., 2005). The property also features several other buildings and landscape elements which contribute to its cultural heritage value, including the MacEwan Field Station and MacEwan Bar, and the Terrace Garden (City of Mississauga, 2023b). According to the *Cultural Landscape Inventory*, the significance of the property is that it retains attributes of its rural farm layout, important heritage buildings, and demonstrates elements of an opulent lifestyle of early twentieth century rural estate living (The Landplan Collaborative Ltd., 2005).

This C.H.L. is within the Credit River Corridor C.H.L. (C.H.L. 1)



Photographs



Plate 20: View of the Chappell House (A.S.I. 2023).

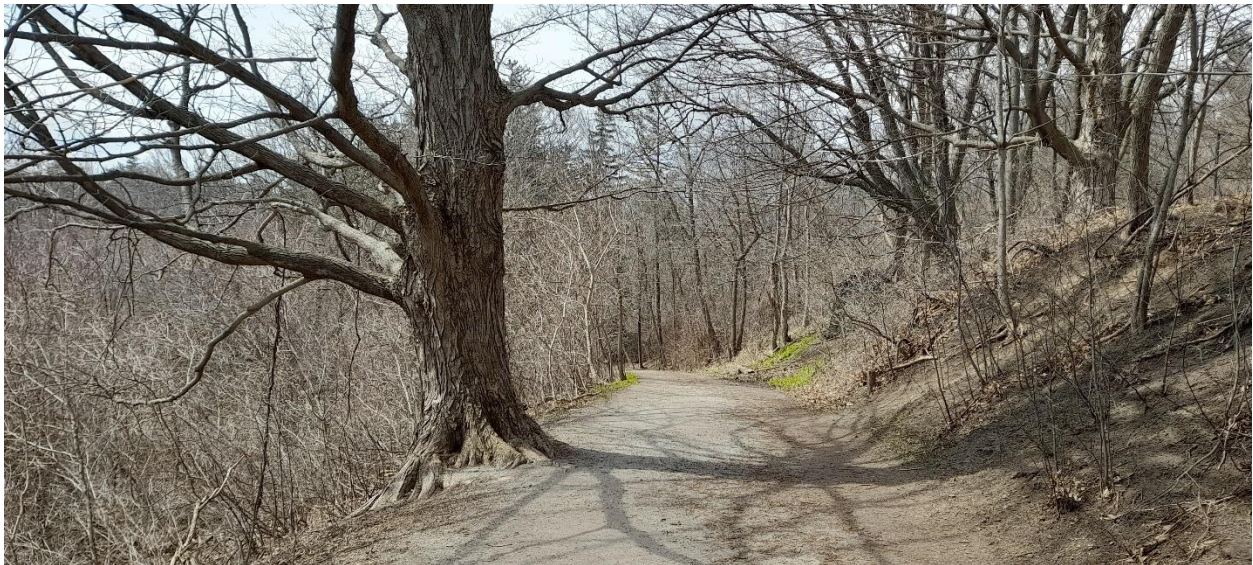


Plate 21: View of trail within Riverwood Park (A.S.I. 2023).

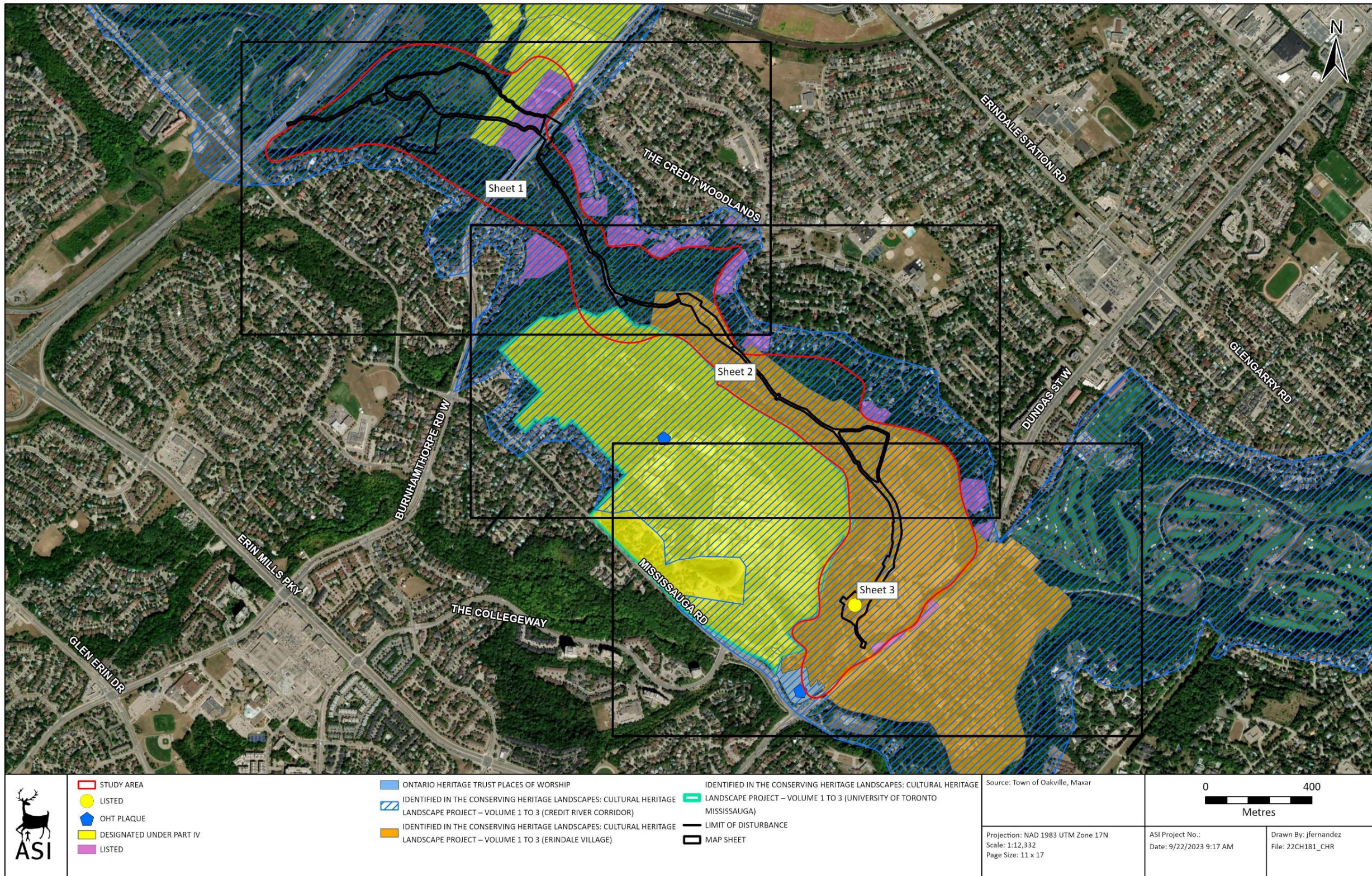


Figure 10: Location of Identified Built Heritage Resources (B.H.R.) and Cultural Heritage Landscapes (C.H.L.) in the Study Area (Key Sheet)

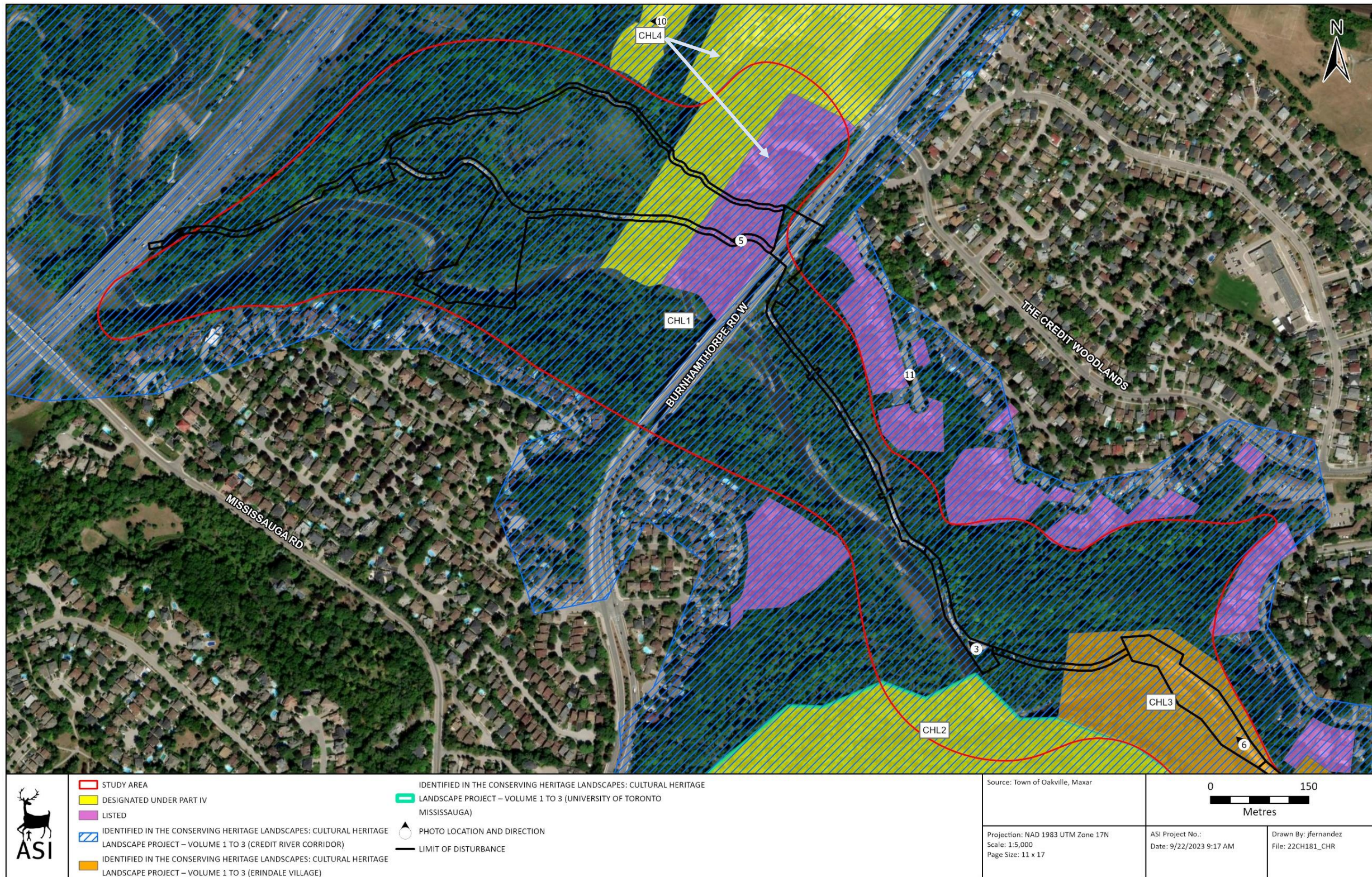


Figure 11: Location of Identified Built Heritage Resources (B.H.R.) and Cultural Heritage Landscapes (C.H.L.) in the Study Area (Sheet 1)

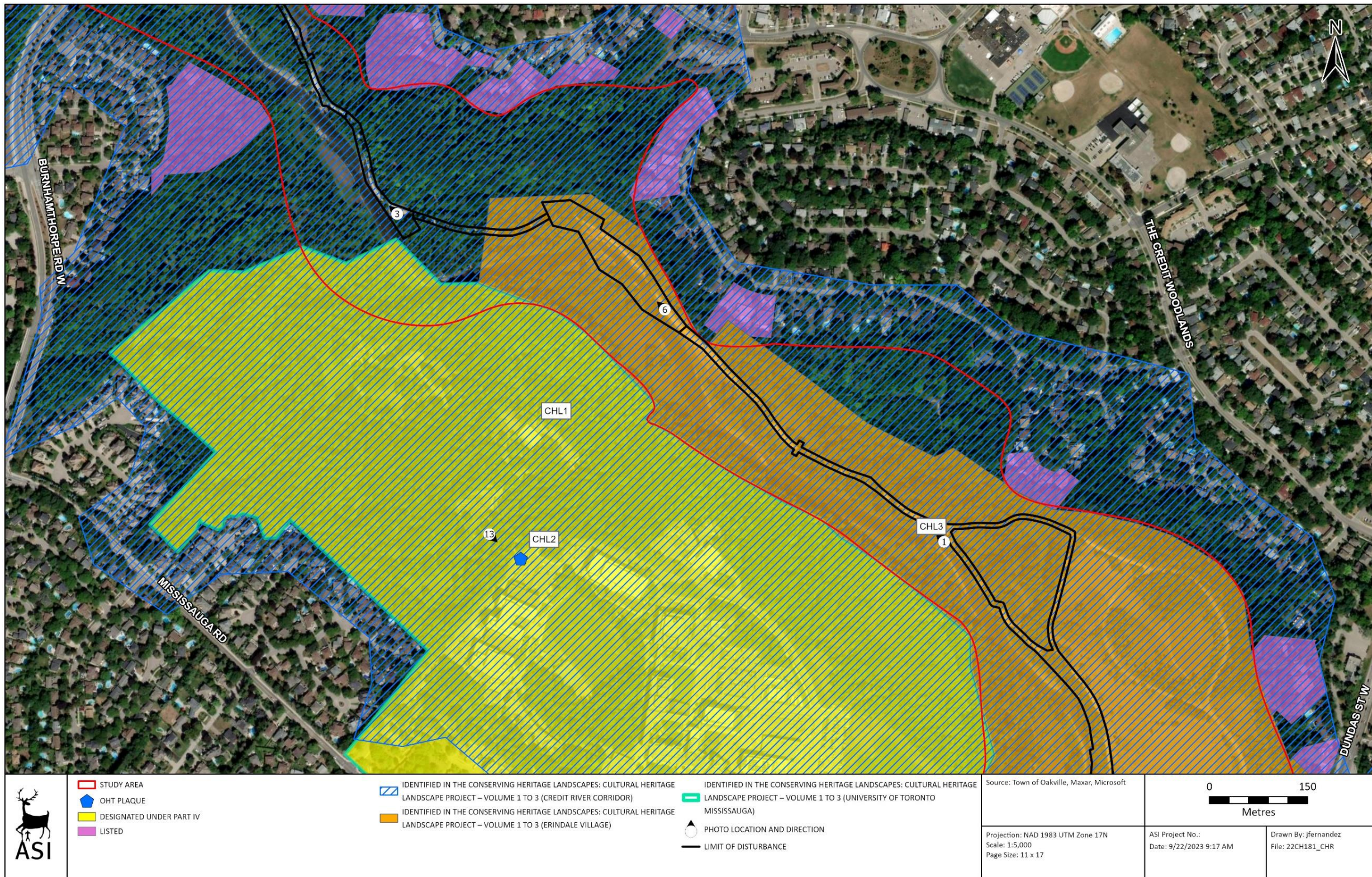


Figure 12: Location of Identified Built Heritage Resources (B.H.R.) and Cultural Heritage Landscapes (C.H.L.) in the Study Area (Sheet 2)

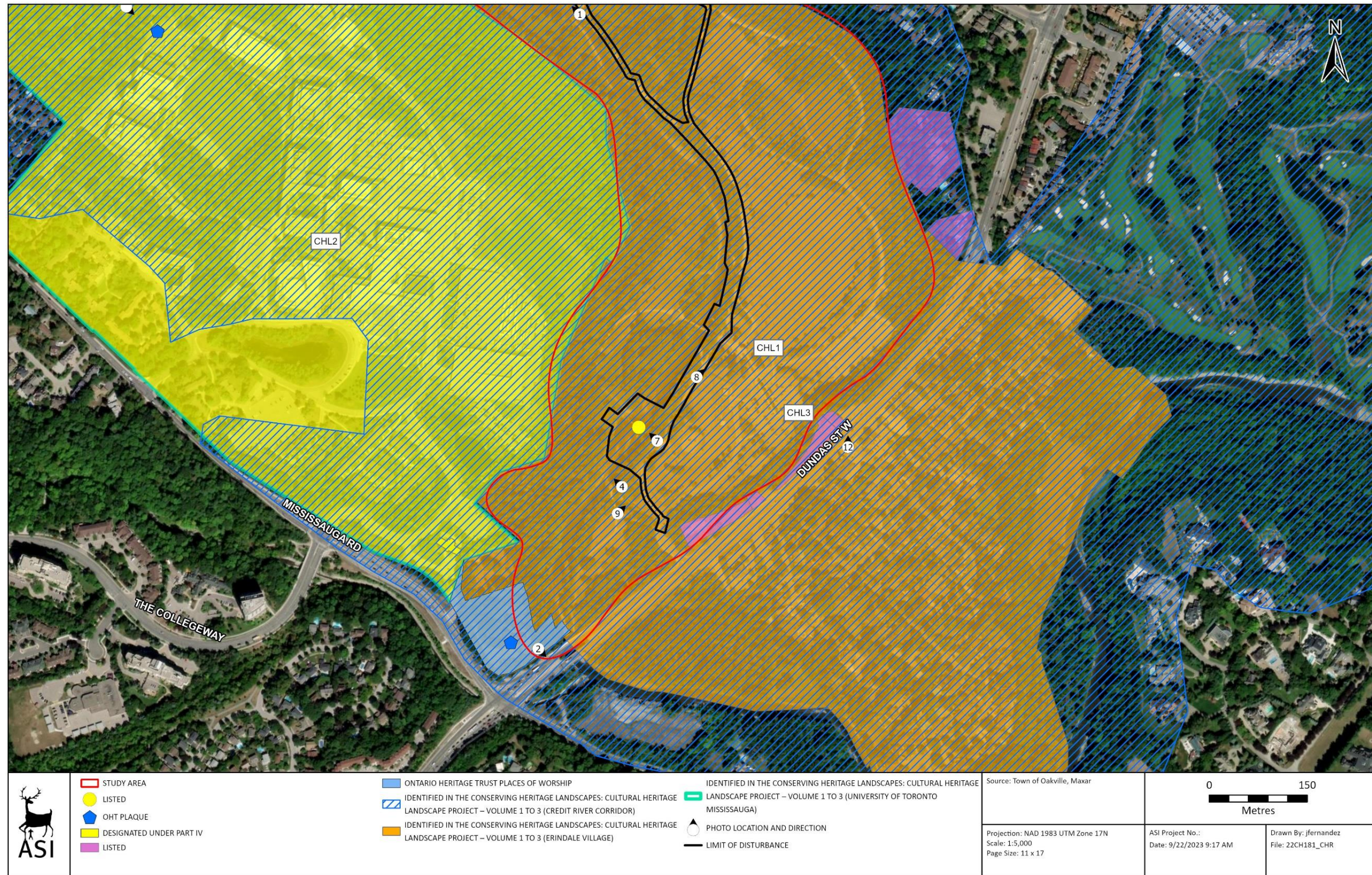


Figure 13: Location of Identified Built Heritage Resources (B.H.R.) and Cultural Heritage Landscapes (C.H.L.) in the Study Area (Sheet 3)

5.0 Preliminary Impact Assessment

The following sections provide more detailed information regarding the proposed project undertaking and analysis of the potential impacts on identified cultural heritage landscapes (C.H.L.s).

5.1 Description of Proposed Undertaking

The proposed undertaking for the Credit Erosion Control will include eight erosion restoration projects focused on areas of failed channel treatments, slope instabilities, as well as deteriorated segments of the multi-use trail. Preliminary preferred design alternatives include elements such as replacement of deteriorated erosion protection works with armourstone walls and vegetated buttresses. Trail restoration opportunities include realignment (decommissioning of existing trail segments), replacement with raised gravel trails, and replacement with boardwalks.

The estimated areas of disturbance include planned construction access routes and staging areas in order to facilitate the proposed works at each project site. These off-path areas would be cleared of trees/vegetation and grading may occur in order to create an accessible route for equipment. Areas for this will be selected with favourable topography that would minimize the grading required to establish the access routes. The limits of disturbance are mapped in Figure 10 to Figure 13.

5.2 Analysis of Potential Impacts

Table 1 outlines the potential impacts on all C.H.L.s within the study area.



Table 1: Preliminary Impact Assessment and Recommended Mitigation Measures

Feature I.D.	Location/Name	Heritage Status and Recognition	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
C.H.L. 1	Credit River Corridor C.H.L. The C.H.L. includes the Credit River itself and all adjacent properties within the City of Mississauga.	Known C.H.L. – Identified as a Significant C.H.L. in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c) Please see Section 4.2.1 for additional information regarding heritage recognitions within this C.H.L.	<p>There is the potential for direct adverse impacts to the Erindale Dam within C.H.L. 1 as it is located within the Credit River within the limits of the disturbance.</p> <p>Indirect impacts to C.H.L. 1 are anticipated to include grading, erosion restoration activities, and trail restoration activities. The construction of the access routes and establishment of staging areas will also indirectly impact C.H.L. 1.</p> <p>Indirect adverse impacts due to construction related vibrations are possible as there are structures within this C.H.L. that sit within 50 metres of the proposed work. These impacts are anticipated to be limited and temporary.</p> <p>No additional indirect impacts, such as isolation of a heritage attribute, or obstruction of significant views to or from the property are anticipated.</p>	<p>Recommended Mitigation: Where feasible, the proposed construction activities should be designed in a manner that avoids all impacts to C.H.L. 1.</p> <p>Where the proposed limits of disturbance cannot be revised to avoid impacts, the depth and extent of grading should be limited to reduce impacts to C.H.L. 1 to the extent practical while still ensuring safe public use of the trails.</p> <p>Removal of trees and vegetation within the riverine setting should also be limited to the extent feasible. Where tree removals are required, post-construction rehabilitation with sympathetic plantings should be implemented. Also, post-construction rehabilitation to areas that were graded should be implemented. Consideration should be given to the use of sympathetic native species for grasses, shrubs, and vegetation. Consultation should be undertaken with a qualified arborist and local Indigenous communities to determine the most appropriate species for re-planting.</p> <p>For the Erindale Dam, construction should be planned at a distance as far from the dam as possible. Excavation, grading, and staging activities should be planned and executed to limit impacts to the dam. Suitable mitigation, including establishing no-go zones with fencing and issuing instructions to construction crews to avoid the dam, should be considered to mitigate any unintended impacts to the dam. To mitigate the potential for direct impacts during construction, workers should be provided with awareness training to ensure no accidental impacts occur to the dam during construction. If indirect or direct adverse impacts are anticipated as part of the preliminary design, a resource-specific heritage impact assessment (H.I.A.) should be completed to assess impacts and provide suitable mitigation measures.</p>

Feature I.D.	Location/Name	Heritage Status and Recognition	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
				<p>As the Credit River Corridor C.H.L. is a recognized C.H.L. by the City of Mississauga and there are properties within the Credit River Corridor C.H.L. that are listed or designated by the City of Mississauga, and there are direct impacts anticipated due to construction, a resource-specific H.I.A. should be completed as per the City of Mississauga Official Plan clauses 7.5.1.10 and 7.5.1.12 (City of Mississauga, 2022). A total of 66 individual properties and features within C.H.L. 1 would require an H.I.A. based on adjacency to the proposed construction activities, and are listed in Section 4.2.1.</p> <p>For the properties located adjacent to the proposed work, it is recommended that the City of Mississauga consider waiving the requirement for a H.I.A. in these cases if suitable mitigation measures including post-construction rehabilitation with sympathetic planting can be implemented.</p> <p>Resource-specific H.I.A.s are recommended for:</p> <ul style="list-style-type: none"> • Erindale Dam – Listed on the <i>Heritage Register for Mississauga</i>; • 1699 Dundas Street West – Listed on the <i>Heritage Register for Mississauga</i>; and • The Credit River. <p>These H.I.As. should be completed by a qualified cultural heritage professional with recent and relevant experience as early in detailed design as possible.</p> <p>To address the potential for indirect impacts due to construction related vibration, undertake a baseline vibration assessment during detail design to determine potential vibration impacts for all structures located within 50 metres of the proposed work within the Credit River Corridor C.H.L.</p>

Feature I.D.	Location/Name	Heritage Status and Recognition	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
C.H.L. 2	University of Toronto Mississauga C.H.L. 3359 Mississauga Road	Known C.H.L. – Identified as a requiring further research in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c) Please see Section 4.2.2 for additional information regarding heritage recognitions within this C.H.L.	It is understood that the limits of the proposed work will be confined to properties adjacent to C.H.L. 2. As the proposed work is located more than 50 metres from the structures within the C.H.L., no indirect adverse impacts are anticipated. No additional indirect impacts, such as isolation of a heritage attribute, or obstruction of significant views to or from the property are anticipated.	No further work required.
C.H.L. 3	Erindale Village and Erindale Park C.H.L. Dundas Street West between Mississauga Road and The Credit Woodlands; and Erindale Park on the north side of	Known C.H.L. – Identified as a Significant C.H.L. in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project – Volume 1 to 3 (ASI, 2022a, 2022b, 2022c) Please see Section 4.2.3 for additional information regarding	There is the potential for direct adverse impacts to the Erindale Dam within C.H.L. 3 as it is located within the Credit River within the limits of the disturbance. Indirect impacts to C.H.L. 3 are anticipated to include grading, erosion restoration activities, and trail restoration activities. The construction of the access routes and establishment of staging areas will also indirectly impact C.H.L. 3.	Recommended Mitigation: Where feasible, the proposed construction activities should be designed in a manner that avoids all impacts to C.H.L. 3. Where the proposed limits of disturbance cannot be revised to avoid impacts, the depth and extent of grading should be limited to reduce impacts to C.H.L. 3 to the extent practical while still ensuring safe public use of the trails. Removal of trees and vegetation within the riverine setting should also be limited to the extent feasible. Where tree removals are required, post-construction rehabilitation with sympathetic plantings should be implemented. Also, post-construction rehabilitation to areas that were graded should be implemented. Consideration should be given to the use of sympathetic native species for grasses, shrubs, and vegetation. Consultation should be undertaken with a

Feature I.D.	Location/Name	Heritage Status and Recognition	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
	Dundas Street West	heritage recognitions within this C.H.L.	<p>Indirect adverse impacts due to construction related vibrations are possible as there are structures within this C.H.L. that sit within 50 metres of the proposed work. These impacts are anticipated to be limited and temporary.</p> <p>No additional indirect impacts, such as isolation of a heritage attribute, or obstruction of significant views to or from the property are anticipated.</p>	<p>qualified arborist and local Indigenous communities to determine the most appropriate species for re-planting.</p> <p>For the Erindale Dam, construction should be planned at a distance as far from the dam as possible. Excavation, grading, and staging activities should be planned and executed to limit impacts to the dam. Suitable mitigation, including establishing no-go zones with fencing and issuing instructions to construction crews to avoid the dam, should be considered to mitigate any unintended impacts to the dam. To mitigate the potential for direct impacts during construction, workers should be provided with awareness training to ensure no accidental impacts occur to the dam during construction. If indirect or direct impacts are anticipated as part of the preliminary design, a resource-specific H.I.A. should be completed to assess impacts and provide suitable mitigation measures.</p> <p>As the Erindale Village and Erindale Park C.H.L. is a recognized C.H.L. by the City of Mississauga, and there are properties within the Erindale Village and Erindale Park C.H.L. that are listed or designated by the City of Mississauga and there are indirect impacts anticipated due to construction, a resource-specific H.I.A. should be completed as per the City of Mississauga Official Plan clauses 7.5.1.10 and 7.5.1.12 (City of Mississauga, 2022). The following properties and features within C.H.L. 3 would require an H.I.A.:</p> <ul style="list-style-type: none"> • 1555 Dundas Street West – Listed on the <i>Heritage Register for Mississauga</i> • 1563 Dundas Street West – Listed on the <i>Heritage Register for Mississauga</i> • 1615 Dundas Street West – Listed on the <i>Heritage Register for Mississauga</i> • 1645 Dundas Street West – Listed on the <i>Heritage Register for Mississauga</i> • 1695 Dundas Street West – Listed on the <i>Heritage Register for Mississauga</i> • 1699 Dundas Street West – Listed on the <i>Heritage Register for Mississauga</i> • Erindale Dam – Listed on the <i>Heritage Register for Mississauga</i>



Feature I.D.	Location/Name	Heritage Status and Recognition	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
				<p>For the properties located adjacent to the proposed work, it is recommended that the City of Mississauga consider waiving the requirement for a H.I.A. in these cases if suitable mitigation measures including post-construction rehabilitation with sympathetic planting can be implemented.</p> <p>Resource-specific H.I.A.s are recommended for:</p> <ul style="list-style-type: none"> • Erindale Dam – Listed on the Heritage Register for Mississauga; • 1699 Dundas Street West – Listed on the <i>Heritage Register for Mississauga</i>; and • The Credit River. <p>As these are the same properties within C.H.L. 1 that would require an H.I.A., only one H.I.A. would be required for them.</p> <p>To address the potential for indirect impacts due to construction related vibration, undertake a baseline vibration assessment during detail design to determine potential vibration impacts for all structures located within 50 metres of the proposed work within the Erindale Village and Erindale Park C.H.L.</p>

Feature I.D.	Location/Name	Heritage Status and Recognition	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
C.H.L. 4	Riverwood 1447, 1455, 1461, 1465, and 1477 Burnhamthorpe Road West	Known C.H.L. – Designated under Part IV of the <i>Ontario Heritage Act</i> (By-law # 505-2004, available via this link)	<p>Indirect impacts to C.H.L. 4 are anticipated to include grading, erosion restoration activities, and trail restoration activities. These impacts are anticipated to be limited and temporary as the existing trail within the C.H.L. will be rehabilitated and the park-like setting will be returned following construction.</p> <p>As the proposed work is located more than 50 metres from the structures within the C.H.L., no indirect adverse impacts due to construction related vibrations are anticipated.</p> <p>No additional indirect impacts, such as isolation of a heritage attribute, or obstruction of significant views to or from the property are anticipated.</p>	<p>Recommended Mitigation: Where feasible, the proposed alignment should be designed in a manner that avoids all impacts to C.H.L. 4.</p> <p>Where the proposed limits of disturbance cannot be revised to avoid impacts, the depth and extent of grading should be limited to reduce impacts to C.H.L. 4 to the extent practical while still ensuring safe public use of the trails.</p> <p>Removal of trees and vegetation within the riverine setting should also be limited to the extent feasible. Where tree removals are required, post-construction rehabilitation with sympathetic plantings should be implemented. Also, post-construction rehabilitation to areas that were graded should be implemented. Consideration should be given to the use of sympathetic native species for grasses, shrubs, and vegetation. Consultation should be undertaken with a qualified arborist and local Indigenous communities to determine the most appropriate species for re-planting.</p> <p>As Riverwood is designated under Part IV of the <i>Ontario Heritage Act</i> and there are indirect impacts anticipated due to construction, a resource-specific H.I.A. should be completed as per the City of Mississauga Official Plan clause 7.5.1.10. This H.I.A. should be completed by a qualified cultural heritage professional with recent and relevant experience as early in detailed design as possible. The proponent should consult with heritage planning staff to determine scope and requirement of the H.I.A. early in detail design.</p>

5.3 Summary of Potential Impacts

There is the potential for direct adverse impacts to the Erindale Dam within C.H.L. 1 and C.H.L. 3 as it is located within the Credit River within the limits of the disturbance.

Where feasible, the proposed limits of disturbance should be designed to avoid direct and indirect impacts to these C.H.L.s. To ensure the structures on these properties are not adversely impacted, construction and staging should be suitably planned to avoid all impacts to these properties. Suitable mitigation measures could include the establishment of no-go zones with fencing and issuing instructions to construction crews to avoid the heritage attributes of the C.H.L.s. Where the proposed limits of disturbance cannot be revised to avoid impacts, the depth and extent of grading should be limited to reduce impacts to C.H.L. 1 and C.H.L. 3 to the extent practical while still ensuring safe public use.

Removal of trees and vegetation within the riverine setting should also be limited to the extent feasible. Where tree removals are required, post-construction rehabilitation with sympathetic plantings should be implemented. Also, post-construction rehabilitation to areas that were graded should be implemented. Consideration should be given to the use of sympathetic native species for grasses, shrubs, and vegetation. Consultation should be undertaken with a qualified arborist and local Indigenous communities to determine the most appropriate species for re-planting.

For the Erindale Dam, construction should be planned at a distance as far from the dam as possible. Excavation, grading, and staging activities should be planned and executed to limit impacts to the dam. Suitable mitigation, including establishing no-go zones with fencing and issuing instructions to construction crews to avoid the dam, should be considered to mitigate any unintended impacts to the dam. To mitigate the potential for direct impacts during construction, workers should be provided with awareness training to ensure no accidental impacts occur to the dam during construction. If indirect or direct impacts are anticipated as part of the preliminary design, a resource-specific

heritage impact assessment (H.I.A.) should be completed to assess impacts and provide suitable mitigation measures.

As the Credit River Corridor C.H.L. and the Erindale Village and Erindale Park C.H.L. are recognized C.H.L.s by the City of Mississauga and there are properties within the Credit River Corridor C.H.L. and Erindale Village and Erindale Park C.H.L. that are listed or designated by the City of Mississauga, and there are direct impacts anticipated due to construction, resource-specific H.I.A.s should be completed as per the City of Mississauga Official Plan clauses 7.5.1.10 and 7.5.1.12 (City of Mississauga, 2022). A total of 66 individual properties and features within C.H.L. 1 would require an H.I.A. based on adjacency to the proposed construction activities, and are listed in Section 4.2.1.

For the properties located adjacent to the proposed work, it is recommended that the City of Mississauga consider waiving the requirement for a H.I.A. in these cases if suitable mitigation measures including post-construction rehabilitation with sympathetic planting can be implemented.

Thus, resource-specific H.I.A.s are recommended for:

- Erindale Dam – Listed on the *Heritage Register for Mississauga*;
- 1699 Dundas Street West – Listed on the *Heritage Register for Mississauga*; and
- The Credit River

These H.I.A.s should be completed by a qualified cultural heritage professional with recent and relevant experience as early in detailed design as possible.

As Riverwood is designated under Part IV of the *Ontario Heritage Act* and there are indirect impacts anticipated due to construction, a resource-specific H.I.A. should be completed as per the City of Mississauga Official Plan clause 7.5.1.10. This H.I.A. should be completed by a qualified cultural heritage professional with recent and relevant experience as early in detailed design as possible. The

proponent should consult with heritage planning staff to determine scope and requirement of the H.I.A. early in detail design.

Indirect impacts to the structures within C.H.L. 1 and C.H.L. 3 may occur as a result of their location adjacent to the proposed alignment. More specifically, the following properties within the C.H.L.s are within 50 metres of the proposed work:

- 3686 Burnbrae Drive (within C.H.L. 1),
- 3690 Burnbrae Drive (within C.H.L. 1),
- 3694 Burnbrae Drive (within C.H.L. 1),
- 1645 Dundas Street West (within C.H.L. 1 and C.H.L. 3), and
- 1699 Dundas Street West (within C.H.L. 1 and C.H.L. 3).

To ensure the structures on these properties are not adversely impacted during construction, a baseline vibration assessment should be undertaken during detailed design. Should this advance assessment conclude that any structures will be subject to vibrations, 1) a vibration monitoring plan should be prepared and implemented as part of the detailed design phase of the project to lessen vibration impacts related to construction; and where potential adverse vibration impacts cannot be avoided, and (2) a qualified engineer should include this property in the condition assessment of structures within the vibration zone of influence for this project.

6.0 Results and Mitigation Recommendations

The results of background historical research and a review of secondary source material, including historical mapping, indicate a study area with a rural land use history dating back to the early nineteenth century. A review of federal, provincial, and municipal registers, inventories, and databases revealed that there are 65 known built heritage resources (B.H.R.s), one potential B.H.R. and four known cultural heritage landscapes (C.H.L.s) in the Credit River Erosion Control study area. These previously identified B.H.R.s are all organized into C.H.L. 1.



6.1 Key Findings

A total of four C.H.L.s were identified within the study area with 65 known B.H.R.s, one potential B.H.R., and two plaques within them:

- Of the identified B.H.R.s and C.H.L.s, five properties are designated under Part IV of the *Ontario Heritage Act* (within C.H.L. 4), 61 properties are listed on the *Heritage Register for Mississauga*, one property is listed on the Ontario Heritage Trust Places of Worship, and three C.H.L.s are identified in the Conserving Heritage Landscapes: Cultural Heritage Landscape Project - Volume 1 to 3 (ASI, 2022a, 2022b, 2022c) (C.H.L. 1 – C.H.L. 3). There are also two Ontario Heritage Trust plaques.
- Identified B.H.R.s and C.H.L.s are historically, architecturally, and contextually associated with land use patterns in the City of Mississauga.

6.2 Results of Preliminary Impact Assessment

- There is the potential for direct impacts to the Erindale Dam within C.H.L. 1 and C.H.L. 3 as a result of the proposed work.
- Potential vibration impacts as a result of the proposed work are anticipated to result in indirect impacts to structures within two C.H.L.s (C.H.L. 1 and C.H.L. 3), specifically:
 - 3686 Burnbrae Drive (within C.H.L. 1),
 - 3690 Burnbrae Drive (within C.H.L. 1),
 - 3694 Burnbrae Drive (within C.H.L. 1),
 - 1645 Dundas Street West (within C.H.L. 1 and C.H.L. 3), and
 - 1699 Dundas Street West (within C.H.L. 1 and C.H.L. 3).

6.3 Recommendations

Based on the results of the assessment, the following recommendations have been developed:

1. Construction activities and staging should be suitably planned and undertaken to avoid unintended negative impacts to identified C.H.L.s. Avoidance measures may include, but are not limited to: erecting temporary fencing, establishing buffer zones, issuing instructions to construction crews to avoid identified features, etc.
2. Where the proposed limits of disturbance cannot be revised to avoid impacts, the depth and extent of grading should be limited to reduce impacts to C.H.L. 1 and C.H.L. 3 to the extent practical while still ensuring safe public use. Removal of trees and vegetation within the riverine setting should also be limited to the extent feasible. Where tree removals are required, post-construction rehabilitation with sympathetic plantings should be implemented. Also, post-construction rehabilitation to areas that were graded should be implemented. Consideration should be given to the use of sympathetic native species for grasses, shrubs, and vegetation. Consultation should be undertaken with a qualified arborist and local Indigenous communities to determine the most appropriate species for re-planting.
3. For the Erindale Dam, construction should be planned at a distance as far from the dam as possible. Excavation, grading, and staging activities should be planned and executed to limit impacts to the dam. Suitable mitigation, including establishing no-go zones with fencing and issuing instructions to construction crews to avoid the dam, should be considered to mitigate any unintended impacts to the dam. To mitigate the potential for direct impacts during construction, workers should be provided with awareness training to ensure no accidental impacts occur to the dam during construction. If indirect or direct impacts are anticipated as part of the preliminary design, a resource-specific heritage impact assessment (H.I.A.) should be completed to assess impacts and provide suitable mitigation measures.
4. The Credit River Corridor C.H.L. and the Erindale Village and Erindale Park C.H.L. are recognized C.H.L.s by the City of Mississauga and there



are properties within the Credit River Corridor C.H.L. and Erindale Village and Erindale Park C.H.L. that are listed or designated by the City of Mississauga. As there are direct impacts anticipated due to construction, resource-specific H.I.A.s should be completed as per the City of Mississauga Official Plan clauses 7.5.1.10 and 7.5.1.12 (City of Mississauga, 2022). These H.I.A.s should be completed by a qualified cultural heritage professional with recent and relevant experience as early in detailed design as possible. In this respect, H.I.A.s should be completed for the following properties and features:

- Erindale Dam – Listed on the *Heritage Register for Mississauga*;
- 1699 Dundas Street West – Listed on the *Heritage Register for Mississauga*; and
- The Credit River

5. Indirect impacts to structures within two C.H.L.s (C.H.L. 1 and C.H.L. 3) are possible as a result of their location adjacent to the proposed work. More specifically, the following properties within the C.H.L.s are within 50 metres of the proposed work:
- 3686 Burnbrae Drive (within C.H.L. 1),
 - 3690 Burnbrae Drive (within C.H.L. 1),
 - 3694 Burnbrae Drive (within C.H.L. 1),
 - 1645 Dundas Street West (within C.H.L. 1 and C.H.L. 3), and
 - 1699 Dundas Street West (within C.H.L. 1 and C.H.L. 3).

To ensure the structures on these properties are not adversely impacted during construction, a baseline vibration assessment should be undertaken during detailed design. Should this advance assessment conclude that any structures will be subject to vibrations, 1) a vibration monitoring plan should be prepared and implemented as part of the detailed design phase of the project to lessen vibration impacts related to construction; and where potential adverse vibration impacts cannot be avoided, and (2) a qualified engineer should include this property in the condition assessment of structures within the vibration zone of influence for this project.

6. Should future work require an expansion of the study area then a qualified heritage consultant should be contacted in order to confirm the impacts of the proposed work on potential B.H.R.s and C.H.L.s.
7. The report should be submitted to the City of Mississauga and the Ministry of Citizenship and Multiculturalism for review and comment, and any other local heritage stakeholders that may have an interest in this project. The final report should be submitted to the City of Mississauga for their records.



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