CULTURAL HERITAGE REPORT:
EXISTING CONDITIONS AND PRELIMINARY IMPACT ASSESSMENT

NOBLETON WATER AND WASTEWATER SERVICING
MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT

TOWNSHIP OF KING
REGION OF YORK, ONTARIO

Prepared for:

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ASI File: 21CH-040

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EXECUTIVE SUMMARY

ASI was contracted by Black & Veatch, on behalf of the Region of York, to conduct a Cultural Heritage Report as part of the Nobleton Water and Wastewater Servicing Municipal Class Environmental Assessment (EA). The EA involves the identification of long-term water and wastewater servicing options for the Nobleton community. The project study area is generally bounded by a mixture of residential, commercial, and recreational properties within the community of Nobleton and agricultural properties surrounding the community of Nobleton.

The purpose of this Cultural Heritage Report is present an inventory of known and potential built heritage resources (BHRs) and cultural heritage landscapes (CHLs), 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 an urban land use history within the community of Nobleton and rural agricultural properties surrounding Nobleton dating back to the early nineteenth century. A review of federal, provincial, and municipal registers, inventories, and databases revealed that there are 22 previously identified features of cultural heritage value within the Nobleton Water and Wastewater Servicing study area. An additional eight potential BHRs and CHLs which were identified during background research and field review. Based on the type of resources, their physical location, architectural style and/or function, some of these individual resources were combined into a larger cultural heritage landscape, resulting in four BHRs and nine CHLs identified within the study area.

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 BHRs and CHLs. Avoidance measures may include, but are not limited to: erecting temporary fencing, establishing buffer zones, issuing instructions to construction crews to avoid identified cultural heritage resources, etc.

2. Indirect impacts to BHRs 1-3, and CHLs 1, 7, and 8 may occur as a result of vibrations related to construction activity taking place within 50 m of the properties. To ensure that the structures on the properties at 12855 Highway 27 (BHR 1), 12863 Highway 27 (BHR 2), 9 Ellis

Avenue (BHR 3), 12805 Highway 27 (CHL 1), 7305 King Road (CHL 7), and 12705 Concession Road 11 (CHL 8) are not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this vibration assessment determine that the structures or landscape features within the BHRs will be subject to adverse impacts due to vibration, 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.

3. 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 heritage resources.

4. The existing conditions and preliminary impact assessment report should be submitted to the Township of King and the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) 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 Township of King for their records.

PROJECT PERSONNEL

Senior Project Manager:	Lindsay Graves, MA, CAHP Senior Cultural Heritage Specialist |Assistant Manager - Cultural Heritage Division
Project Coordinator:	Katrina Thach, Hon. BA Associate Archaeologist | Project Coordinator - Environmental Assessment Division
Project Manager:	Johanna Kelly, MSc Cultural Heritage Analyst | Project Manager - Cultural Heritage Division
Field Review:	Kirstyn Allam, BA (Hon), Advanced Diploma in Applied Museum Studies Cultural Heritage Technician | Technical Writer and Researcher - Cultural Heritage Division
Report Production:	Kirstyn Allam
Graphics Production:	Robin Latour, BA, MPhil Archaeologist | Geomatics Specialist - Operations Division
	Carolyn Nettleton, BA Archaeologist | GIS Technician – Operations Division
	Peter Bikoulis, PhD Archaeologist | GIS Technician – Operations Division
Report Reviewer(s):	Lindsay Graves
	Johanna Kelly

QUALIFIED PERSONS INVOLVED IN THE PROJECT

Lindsay Graves, MA, CAHP
Senior Cultural Heritage Specialist |Assistant Manager - Cultural Heritage Division

The Senior Project Manager for this Cultural Heritage Report is **Lindsay Graves** (MA, Heritage Conservation), Senior Cultural Heritage Specialist and the Environmental Assessment Coordinator for the Cultural Heritage Division at ASI. 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 above ground cultural heritage resources. 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 fulfil Class EA processes and has served as Project Manager for over 100 heritage assessments during her time at ASI. Lindsay is a member of the Canadian Association of Heritage Professionals.

Johanna Kelly, MSc
Cultural Heritage Analyst | Project Manager - Cultural Heritage Division

The Project Manager for this Cultural Heritage Report is **Johanna Kelly** (MSc), who is a Cultural Heritage Analyst and Project Manager within the Cultural Heritage Division with ASI. She was responsible for the day-to-day management activities, including scoping of research activities and drafting of study findings and recommendations. With over ten years of experience in the field, Johanna has focused on the identification and evaluation of cultural heritage resources both above and below ground. With a background in archaeology, her current focus is the assessment, evaluation, and protection of above ground cultural heritage resources. Johanna has been involved in numerous large scale and high profile projects in various capacities, including built heritage and cultural heritage landscape assessments under the *Ontario Environmental Assessment Act* for Class Environmental Assessments and Individual Environmental Assessments, and as required for various planning studies throughout the Province of Ontario.

Kirstyn Allam, BA (Hon), Advanced Diploma in Applied Museum Studies
Cultural Heritage Technician | Technical Writer and Researcher - Cultural Heritage Division

The Cultural Heritage Technician for this project is **Kirstyn Allam** (BA [Hon]), Advanced Diploma in Applied Museum Studies), who is a Cultural Heritage Technician and Technical Writer and Researcher within the Cultural Heritage Division with ASI. 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.

GLOSSARY

Term	Definition
Adjacent	"contiguous properties as well as properties that are separated from a heritage property by narrow strip of land used as a public or private road, highway, street, lane, trail, right-of-way, walkway, green space, park, and/or easement or as otherwise defined in the municipal official plan" (Ministry of Tourism, Culture and Sport 2010).
Built Heritage Resource (BHR)	"…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" (Government of Ontario 2020a:41).
Cultural Heritage Landscape (CHL)	"…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" (Government of Ontario 2020a:42).
Cultural Heritage Resource	Includes above-ground resources such as built heritage resources and cultural heritage landscapes, and built or natural features below-ground including archaeological resources (Government of Ontario 2020a).
Known Cultural Heritage Resource	A known cultural heritage resource 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 UNESCO World Heritage Site (Ministry of Tourism, Culture and Sport 2016).
Impact	Includes negative and positive, direct and indirect effects to an identified cultural heritage resource. 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 and Culture 2006). Indirect impacts also include potential vibration impacts

	(See Section 2.5 for complete definition and discussion of potential impacts).
Mitigation	Mitigation is the process of lessening or negating anticipated adverse impacts to cultural heritage resources 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.
Potential Cultural Heritage Resource	A potential cultural heritage resource 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	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" (Government of Ontario 2020a:51).
Vibration Zone of Influence	Area within a 50 m buffer of construction-related activities in which there is potential to affect an identified cultural heritage resource. A 50 m buffer is applied in the absence of a project-specific defined vibration zone of influence based on existing secondary source literature and direction provided from the MHSTCI (Wiss 1981; Rainer 1982; Ellis 1987; Crispino and D'Apuzzo 2001; Carman et al. 2012). This buffer accommodates the additional threat from collisions with heavy machinery or subsidence (Randl 2001).

TABLE OF CONTENTS

List of Tables

List of Figures

List of Plates

ASI

1.0 INTRODUCTION

1.1 Report Purpose

ASI was contracted by Black & Veatch, on behalf of the Region of York, to conduct a Cultural Heritage Report as part of the Nobleton Water and Wastewater Servicing Municipal Class Environmental Assessment (EA). The purpose of this report is to present an inventory of known and potential built heritage resources (BHRs) and cultural heritage landscapes (CHLs), identify existing conditions of the project study area, provide a preliminary impact assessment, and propose appropriate mitigation measures.

1.2 Project Overview

The Nobleton Water and Wastewater Servicing Municipal Class Environmental Assessment involves the identification of long-term water and wastewater capacity servicing options for the Nobleton community. The project study area for the EA is bounded by 15th Sideroad to the north, 8th Concession to the east, 300 m north of King Vaughan Road to the south, and 10th Concession and 11th Concession to the west (Figure 1).

The project will involve the following water servicing upgrades:

- Well 2 – Upgrading/upsizing existing well and well facility within existing site/parcel
- Well 5/Site H – Adding new well and upgrading existing well facility within existing site/parcel

The project will involve the following wastewater servicing upgrades/expansions:

- Upgrade/expand Janet Avenue Sewage Pumping Station SPS
- Upgrade/expand existing Water Recourse Recovery Facility (WRRF) within existing parcel
- Twin/Upsize Forcemain within existing right-of-way/easement along King Road
- Upgrade outfall to MH113, located westward from Nobleton WRRF to 11th Concession and then south to the Humber River

1.3 Description of Study Area

Desktop data collection was conducted for the overall project study area and is documented in this Cultural Heritage Report. However, the Cultural Heritage Report study area (hereafter 'CH study area') is described as the project components identified in Section 1.2 with a 50 m buffer around these components (Figure 1). Section 3.0 includes the results of background historical research conducted for the overall project study area and the results of the desktop data collection are included in Appendix A. The CH study area was subject to field review, description of existing conditions (Section 4.0), and preliminary impact assessment (Section 5.0), and is defined as inclusive of those lands that may contain BHRs or CHLs 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 Township of King.

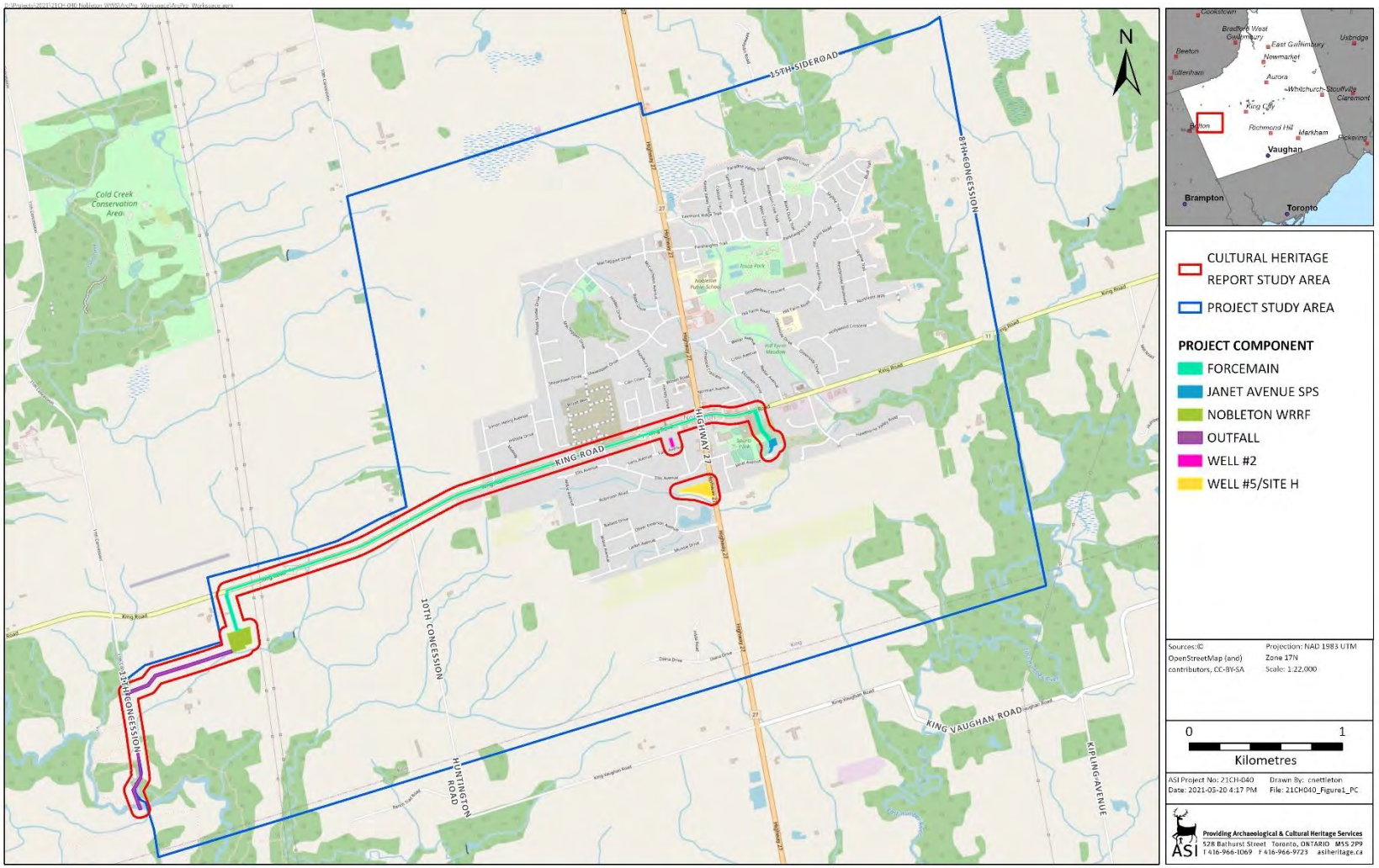


Figure 1: Location of the study area

Base Map: ©OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)

2.0 METHODOLOGY

2.1 Regulatory Requirements

The *Ontario Heritage Act* (OHA) (Ministry of Culture 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 support heritage conservation including:

- The *Planning Act* (Ministry of Municipal Affairs and Housing 1990), which states that "conservation of features of significant architectural, cultural, historical, archaeological or scientific interest" (cultural heritage resources) is a "matter of provincial interest". The Provincial Policy Statement (Government of Ontario 2020a), issued under the *Planning Act*, links heritage conservation to long-term economic prosperity and requires municipalities and the Crown to conserve significant cultural heritage resources.
- The *Environmental Assessment Act* (Ministry of the Environment 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 Heritage, Sport, Tourism and Culture Industries (MHSTCI) is charged under Section 2.0 of the OHA with the responsibility to determine policies, priorities, and programs for the conservation, protection, and preservation of the heritage of Ontario. The Ministry of Tourism, Culture and Sport (now administered by MHSTCI) published *Standards and Guidelines for Conservation of Provincial Heritage Properties* (Ministry of Tourism, Culture and Sport 2010) (hereinafter "Standards and Guidelines"). These Standards and Guidelines apply to properties the Government of Ontario owns or controls that have cultural heritage value or interest (CHVI). 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 BHRs and CHLs. 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 BHR or CHL, 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 Township of King, in the Region of York. Policies relating to cultural heritage resources were reviewed from the following sources:

- Township of King Official Plan *Our King* (WSP 2019)
- The Regional Municipality of York *Official Plan* (York Region 2019)
- *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* (Government of Ontario 2020b)

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 BHRs and CHLs, and to provide a preliminary understanding of known and potential BHRs and CHLs 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 BHRs and CHLs are subject to identification and inventory. Generally, when conducting an identification of BHRs and CHLs within a study area, three stages of research and data collection are undertaken to appropriately establish the potential for and existence of BHRs and CHLs 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 BHRs and CHLs. The field review is also used to identify potential BHRs or CHLs 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 BHR or CHL based on research, the MHSTCI screening tool, and professional expertise. In addition, use of a 40-year-old benchmark is a guiding principle when conducting a preliminary identification of BHRs and CHLs. 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 BHRs and CHLs within the CH study area, the following resources 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 BHRs and CHLs within the CH study area. These resources, reviewed on 16, 27, and 30 April, 2021, include:

- Township of King *Cultural Heritage Property Inventory* (Township of King Heritage Committee 2008);
- Heritage Properties (King Township 2021a);
- Places of Worship (King Township 2021b);
- Pioneer Cemeteries (King Township 2021c);
- King *Cultural Heritage Property Inventory Properties* shapefile (Township of King 2016);
- *King Township Heritage Map* (Township of King Heritage Committee 2006);
- *Canada 150 - Built to Last* interactive map (York Region n.d.);
- Historical maps (including historical atlases, topographic maps, and aerial photography);
- The *Ontario Heritage Act Register* (Ontario Heritage Trust n.d.);
- The *Places of Worship Inventory* (Ontario Heritage Trust n.d.);
- The inventory of Ontario Heritage Trust easements (Ontario Heritage Trust n.d.);
- 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.);
- 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.);
- 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 (UNESCO) World Heritage Sites (UNESCO World Heritage Centre n.d.).

2.4.2 Review of Previous Heritage Reporting

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

- *Cultural Heritage Assessment Report: Built Heritage Resources and Cultural Heritage Landscapes Existing Conditions – Assessment of Impacts – King Road Class Environmental Assessment Highway 27 to Highway 400 Regional Municipality of York, Ontario* (ASI 2013)

2.4.3 Stakeholder Data Collection

The following individuals, groups, and/or organizations were contacted to gather information on known and potential BHRs and CHLs, active and inactive cemeteries, and areas of identified Indigenous interest within the study area:

- Colin Pang, Planner II, Heritage Coordinator, Acting Secretary to the Committee of Adjustment, King Township (email communication 4 and 6 May 2021). Email sent to confirm the previously identified BHRs and CHLs along with research and/or listing reports for properties listed on the *Cultural Heritage Property Inventory* (Township of King Heritage Committee 2008).
- The MHSTCI (email communication 4 May 2021). Email correspondence confirmed that there are no additional previously identified heritage resources or concerns regarding the study area.
- The Ontario Heritage Trust (email communications 4 and 6 May 2021). A response indicated that there are no conservation easements or Trust-owned properties within the study area.

2.5 Preliminary Impact Assessment Methodology

To assess the potential impacts of the undertaking, identified BHRs and CHLs 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 and Culture 2006). 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 BHRs or CHLs 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 BHRs and CHLs where work is taking place within 50 m of features on the property. A 50 m buffer is applied in the absence of a project-specific defined vibration zone of influence based on existing secondary source literature and direction provided from the MHSTCI (Wiss 1981; Rainer 1982; Ellis 1987; Crispino and D'Apuzzo 2001; Carman et al. 2012). 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 BHRs and CHLs. These are outlined in a document set out by the Ministry of Culture and Communications (now MHSTCI) and the Ministry of the Environment entitled *Guideline for Preparing the Cultural Heritage Resource Component of Environmental Assessments* (1992) and include:

- 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 BHRs and CHLs and interventions should be managed in such a way that identified significant cultural heritage resources 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 BHRs and CHLs. Mitigation is the process of lessening or negating anticipated adverse impacts to cultural heritage resources and may include, but are not limited to, such actions as avoidance, monitoring, protection, relocation, remedial landscaping, and documentation of the BHR or CHL if to be demolished or relocated.

Various works associated with infrastructure improvements have the potential to affect BHRs and CHLs 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 South Slope physiographic region of southern Ontario. This region is the southern slope of the Oak Ridges Moraine. The South Slope meets the Moraine at heights of approximately 300 metres above sea level, and descends southward toward Lake Ontario, ending, in some areas, at elevations below 150 metres above sea level. Numerous streams descend the South Slope, having cut deep valleys in the till. In the vicinity of the study area, the South Slope is ground moraine of limited relief (Chapman and Putnam 1984).

Euro-Canadian settlement began in the South Slope in the late eighteenth-century with the second wave of largely British immigrants. The area contains a variety of soils, some of which have proved to be excellent through more than a century of agricultural use. A mixed, subsistence agriculture was used in the early settlements. As grain growing and exporting increased, so too did the prosperity of the area. Ports and the roads to them were improved and with the arrival of the railways in the mid-1850s development was encouraged further. Wheat growing did decline to be replaced with commercial mixed farming within the South Slope region (Chapman and Putnam 1984).

In the twentieth-century, the farming population of areas of the South Slope declined in number, however, the total population continued to rise. Continuous urban development in the later twentieth-century continued to influence settlement in the areas to the west, north, and east of Toronto, including the study area (Chapman and Putnam 1984).

3.1.1 Humber River

The study area is located along the Humber River watershed. The Humber River watershed drains an area of approximately 911 km² from its headwaters on the Niagara Escarpment and the Oak Ridges Moraine, flowing down to the Humber River and then into Lake Ontario (TRCA 2019).

3.2 Summary of Early Indigenous History in Southern Ontario

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-Indian period groups is very limited (Ellis and Deller 1990).

[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.

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

The Woodland period (c. 1,000 B.C.E. to 1650 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 (Ellis and Deller 1990; Williamson 1990; Dodd et al. 1990; Birch and Williamson 2013).

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 13. In 1787, representatives of the Crown met with members of the Mississaugas at the Bay of Quinte to negotiate the sale of lands along the shore of Lake Ontario near the settlement of York, the seat of the colonial government. Due to disputes over the boundaries, a new agreement was signed and the Toronto Purchase Treaty 13 was signed on August 1, 1805, in which the Mississaugas ceded to the Crown 250,830 acres of land. Both the 1787 Purchase and its 1805 Indenture are known as Treaty 13. The Mississaugas claimed that the Toronto Islands and other lands were not part of the purchase, and a land claim settlement was reached for these areas in 2010 (Mississaugas of the Credit First Nation 2017; Mississauga of the New Credit First Nation 2001).

3.3 Historical Euro-Canadian Township Survey and Settlement

Historically, the overall project study area is located in the Former Township of King, County of York in part of: Lots 1 – 10, Concession VIII; Lots 1 – 10, Concession IX; Lots 1 – 6, Concession X; and Lots 2 – 3, Concession XI. The CH study area is located in the Former Township of King, County of York in part of: Lots 4 - 6, Concession VIII; Lots 4 – 6, Concession IX; Lots 2 – 6, Concession X; and Lots 2 – 4, Concession XI.

3.3.1 King Township

The land within King Township was acquired by the British from the Mississaugas in 1784. The first township survey was undertaken in 1800, by John Stegman and the first legal settlers, a group of Quakers from the United States, occupied their land holdings in the same year, though patents had been granted as early as 1797. Additional surveys of the township were undertaken in 1836-8, 1852 and 1859. The township is separated into the Townships of North and South King, with Highway 9 serving as the dividing line. The early Quakers founded the settlement of Armitage, the first in the township. A number of settlements were established during the nineteenth century, including: Aurora, Schomberg, Lloydtown, Glenville, Kettleby, Pottageville, Linton, and Nobleton (ASI 2012; Mika and Mika 1981).

The township was likely named in honour of John King, who was British under-secretary of state for the Colonies during the 1790s and early 1800s. In 1805, Boulton noted that the township was inhabited by Quakers, who were "industrious and very desirable neighbours." This was "a circumstance strongly recommending the settlement." In addition to the Quakers, early settlers of the township included Loyalists and their children, and immigrants from the United States, England, Ireland and Scotland. By 1809 the population of the township was 190 but growth was halted temporarily during The War of 1812. With improvements to Yonge Street in the 1820's and the establishment of the Yonge stage in 1825 population began to rise again. In 1823 the population was 394, in 1842 it was 2,625, and by 1850 this number had doubled. Population rose steadily until 1871 when the census records 7,482 people living in the township. The population declined at this point, as with most other rural townships, until after World War II, when Toronto's suburbs began to expand (Armstrong 1985; Boulton 1805; Mika and Mika 1981; Smith 1846; Rayburn 1997a).

The first school was set up by the Quakers in 1806 and once population began to rise again in the 1820s many more were established. The first place of worship in the township was a Quaker meetinghouse. In 1844 a Wesleyan Methodist Church was erected and soon after in 1846 the Anglican Street Mary Magdalene parish church was opened in Lloydtown. The Eversley Presbyterian Church was established in 1848. Early industry was primarily driven by deforestation of the township. By the 1840s, the township was noted for its good land and fine farms, and in 1851 there were twenty-one sawmills operating. Deforestation has since taken its toll on the area, resulting in erosion and flooding. The railway arrived in the township 1853, stopping in Aurora. This resulted in rapid growth of the village in the second half of the nineteenth century. King Township remained largely rural into the twentieth century. In the 1960s growth and the expansion of Toronto saw more commuters settling in King, resulting in an increase of the development of subdivisions (Mika and Mika 1981).

The Township of King was first surveyed in 1800 by John Stegman; however, additional surveys of the township were undertaken in 1836-8, 1852 and 1859. The township is separated into the Townships of North and South King, with Highway 9 serving as the dividing line. A number of settlements were established during the nineteenth century, including: Aurora, Schomberg, Lloydtown, Glenville, Kettleby, Pottageville, Linton, and Nobleton (ASI 2012).

The land within King Township was acquired by the British from the Mississaugas in 1784. The first township survey was undertaken in 1800, and the first legal settlers occupied their land holdings in the same year. The township was probably named in honour of John King, who was British under-secretary of state for the Colonies during the 1790s and early 1800s. King Township was initially settled by the

United Empire Loyalists, Quakers, and by immigrants from the United States, England, Ireland and Scotland. By the 1840s, the township was noted for its good land and fine farms (Armstrong 1985; Boulton 1805; Rayburn 1997b; Smith 1846).

3.3.2 Nobleton

The Village of Nobleton developed at the crossroads of the 9th Concession (now Highway 27) and the 14th Sideroad (now King Road). It was named after Joseph Noble, the first tavern keeper in this halfway point between King City and Bolton. First settled around 1812, early family names included Noble, Snider, Pringle, Kaske, Hambly, Robb, and Robinson. The community quickly grew to feature general stores, taverns and hotels, a post office, two churches, a Masonic Lodge, and an Orange Hall. The Nobleton post office was opened in 1851 and the first postmaster was Thomas Noble, brother of Joseph. The first school was constructed in 1820 on Lot 2, Concession IX and featured a one-room log structure, and a two-room frame building was constructed in 1870 on Lot 5, Concession VIII (Gillham 1975). In 1885, a community hall was constructed on land donated by Martin Snider and was known as the Music Hall because it was home to the Nobleton Band. A new community hall was constructed in 1936 and in 1948 an arena was built nearby. In 1971, the former police village became part of King Township (Mika and Mika 1983).

3.4 Review of Historical Mapping

The 1860 *Map of the County of York* (Tremaine 1860), and the 1878 *Illustrated Historical Atlas of the County of York* (Miles & Co. 1878), were examined to determine the presence of historical features within the study area during the nineteenth century (Figure 2 and Figure 3). Historically, the overall project study area is located in part of: Lots 1 – 10, Concession VIII; Lots 1 – 10, Concession IX; Lots 1 – 6, Concession X; and Lots 2 – 3, Concession XI in the Township of King. The CH study area is located in part of: Lots 4 - 6, Concession VIII; Lots 4 – 6, Concession IX; Lots 2 – 6, Concession X; and Lots 2 – 4, Concession XI in the Township of King.

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.

Nineteenth-century mapping shows that King Road, Highway 27, Concession Road 10, and Concession Road 11 are all historically surveyed roadways (Figure 2 and Figure 3). The roads are illustrated roughly in their present alignment as early as 1860. The east-west roads do not feature the present-curve to meet at the intersections of the north-south roads. The Humber River is depicted as intersecting Lot 2, Concession X and Lots 2 – 3, Concession XI. The watercourse is illustrated as flowing in a northwest-

southeast orientation. The community of Nobleton is depicted at the present-day intersection of King Road and Highway 27. Nobleton in 1860 features a store and other buildings as indicated by the shading around the intersection. A residence is illustrated north of King Road in the eastern part of Lot VI, Concession IX on property owned by Rev. James Adams and near the middle of the same lot, a Wesleyan Methodist Church is depicted north of King Road on the property owned by Samuel Sheardown. The property of John Brooks, the eastern half of Lot 6, Concession X, is labeled as "West View". By 1878, a post office is labelled in Nobleton, along with a shop. The previously illustrated residence and church are still present. A residence is depicted southeast of the King Road and Concession Road 10 intersection. Several residences and orchards are illustrated along King Road, suggesting that the route along King Road was primarily agricultural in nature into the late-nineteenth-century. The nineteenth-century mapping also depicts the overall project study area in an agricultural context.

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 1914, 1954, 1965, and 1994 (Figure 4 to Figure 7).

The twentieth-century maps suggest that much of the overall project study area retained a rural agricultural context throughout the twentieth century. The community of Nobleton is the notable exception to this, expanding to include residential developments east and west of Highway 27 and north and south of King Road. The 1914 topographic map (Figure 4) demonstrates little development within the study area at the turn of the century. All of the roadways within the study area are illustrated as unmetalled roadways. Several brick or stone and wooden structures are depicted around the community of Nobleton. Brick or stone and wooden structures are also illustrated along King Road within the study area. The previous Wesleyan Methodist Church is no longer depicted; however, a cemetery is labelled in its place. Three bridges of unknown construction material are illustrated along King Road and two bridges, also of unknown material are illustrated along Concession Road 11. One of the bridges is depicted as carrying King Road over a tributary of the Humber River which previously was not illustrated, west of Concession Road 10. King Creek is depicted intersecting with the eastern portion of the study area.

Aerial photography from 1954 shows the agricultural context of the overall project study area, a patchwork of agricultural fields and tree lines are clearly visible (Figure 5). The Humber River is present at the southern end of the western portion of the study area. The river has visible vegetation alongside the watercourse. Wellington Street to Faris Avenue, Faris Avenue, and Kinsley Street are all now present in their present alignments. King Road at Concession Road 10 is aligned in a northeast and southwest orientation to the east and west of Concession Road 10. The 1965 topographic mapping illustrates little development in the study area west of Concession Road 10 (Figure 6). Residential development within Nobleton has expanded as well as a series of residential properties, south of King Road to the east of Concession Road 10. King Road and Highway 27 are depicted as two lane hard surface, all weather roads. Concession Road 10 is illustrated as a loose surface, all weather road of less than two lanes. Concession Road 11 is also depicted as a loose surface, all weather road of less than two lanes directly south of King Road, further south it changes to a loose surface, dry weather roadway. The 1994 topographic map (Figure 7) depicts Nobleton expanding westwards almost to Concession Road 10. The roads within the study area are now all depicted in their present alignments. A community centre and arena are illustrated southeast of the King Road and Highway 27 intersection. An auto wrecker is north

of King Road roughly equidistant from Highway 27 and Concession Road 10. The overall project study area remained agricultural in nature into the late-twentieth century.

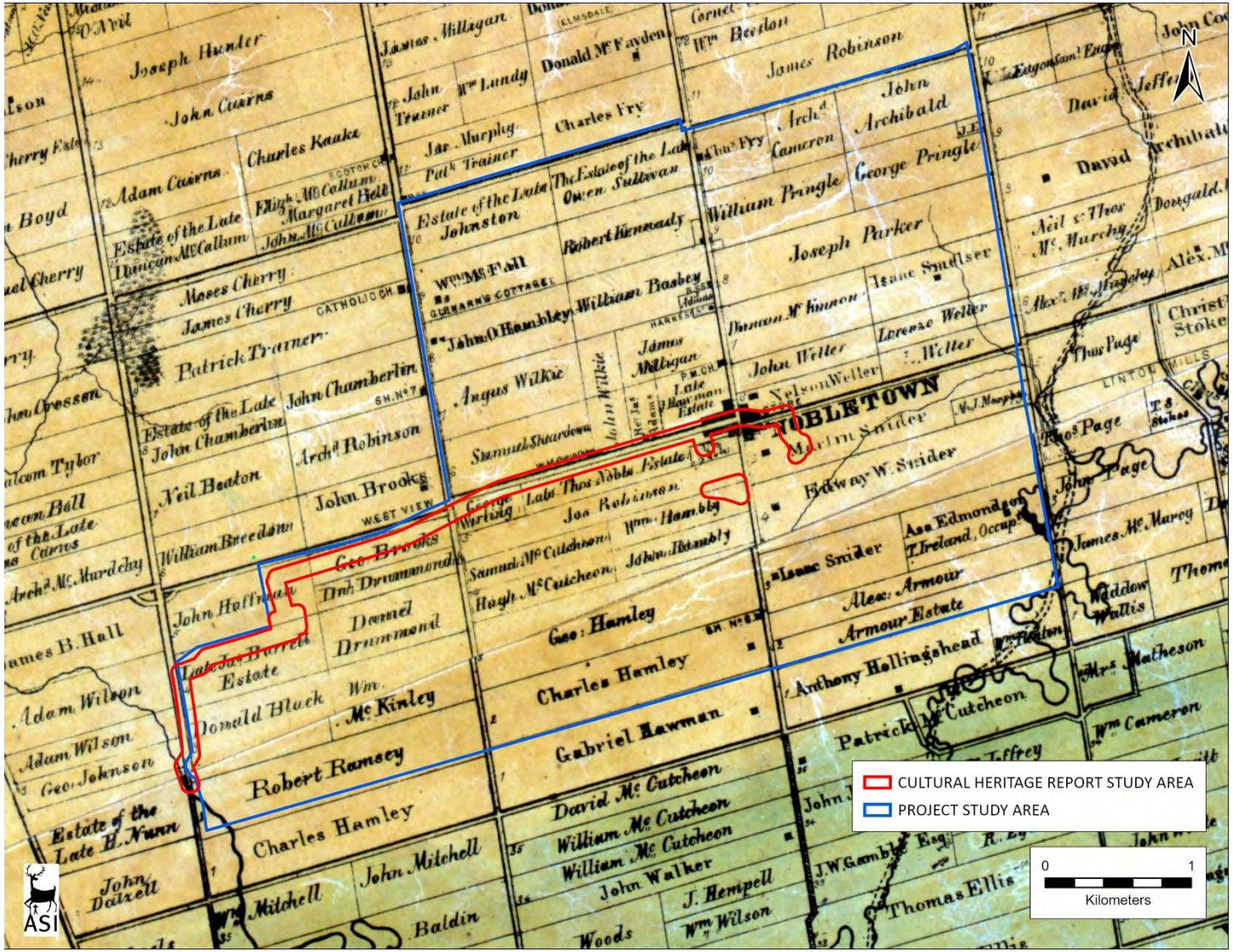


Figure 2: The study area overlaid on the 1860 Tremaine's Map of the County of York

Base Map: (Tremaine 1860)

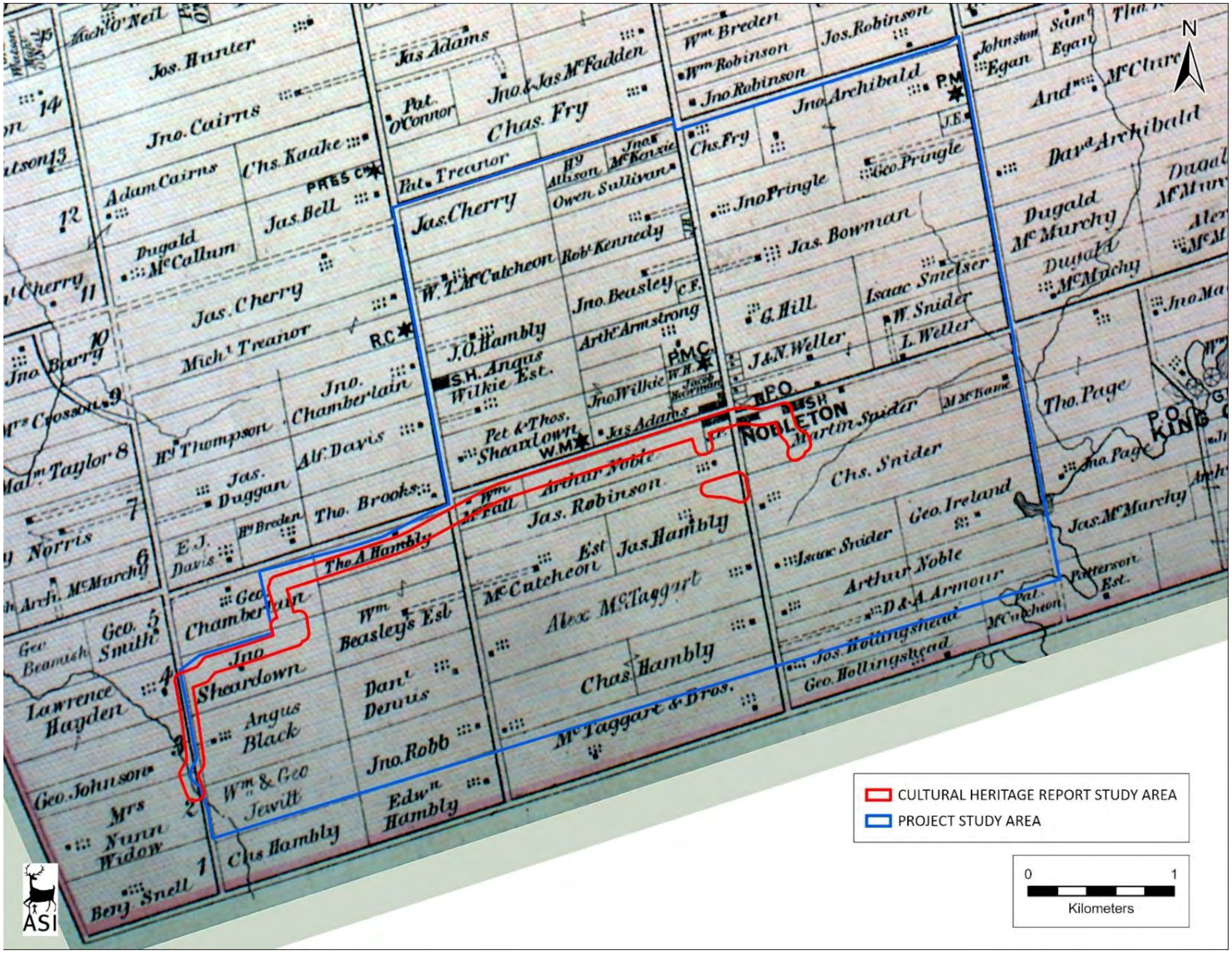


Figure 3: The study area overlaid on the 1878 Historical Atlas of the County of York

Base Map: (Miles & Co. 1878)

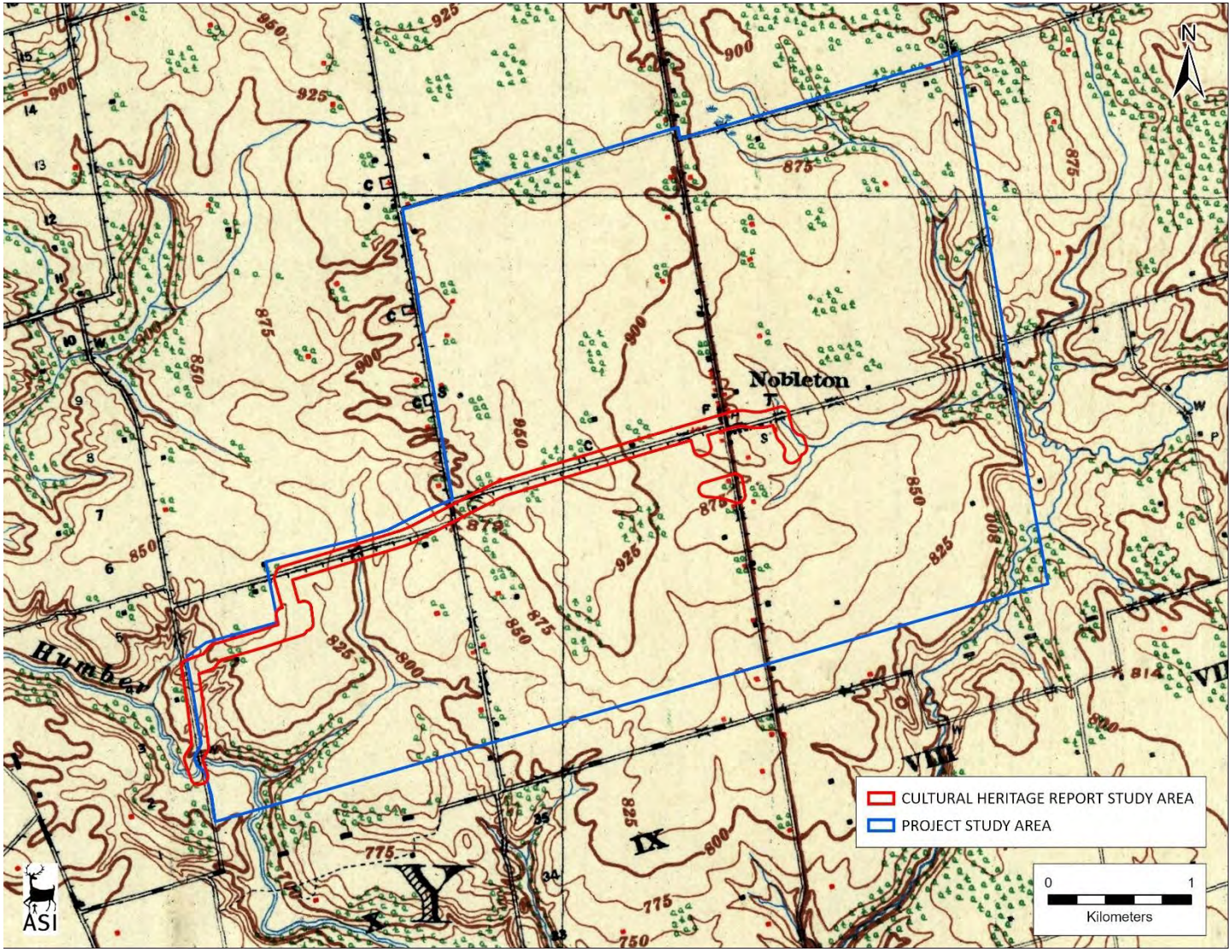


Figure 4: The study area overlaid on the 1914 topographic map of Bolton
Base Map: Bolton Sheet No. 59 (Department of Militia and Defence 1914)

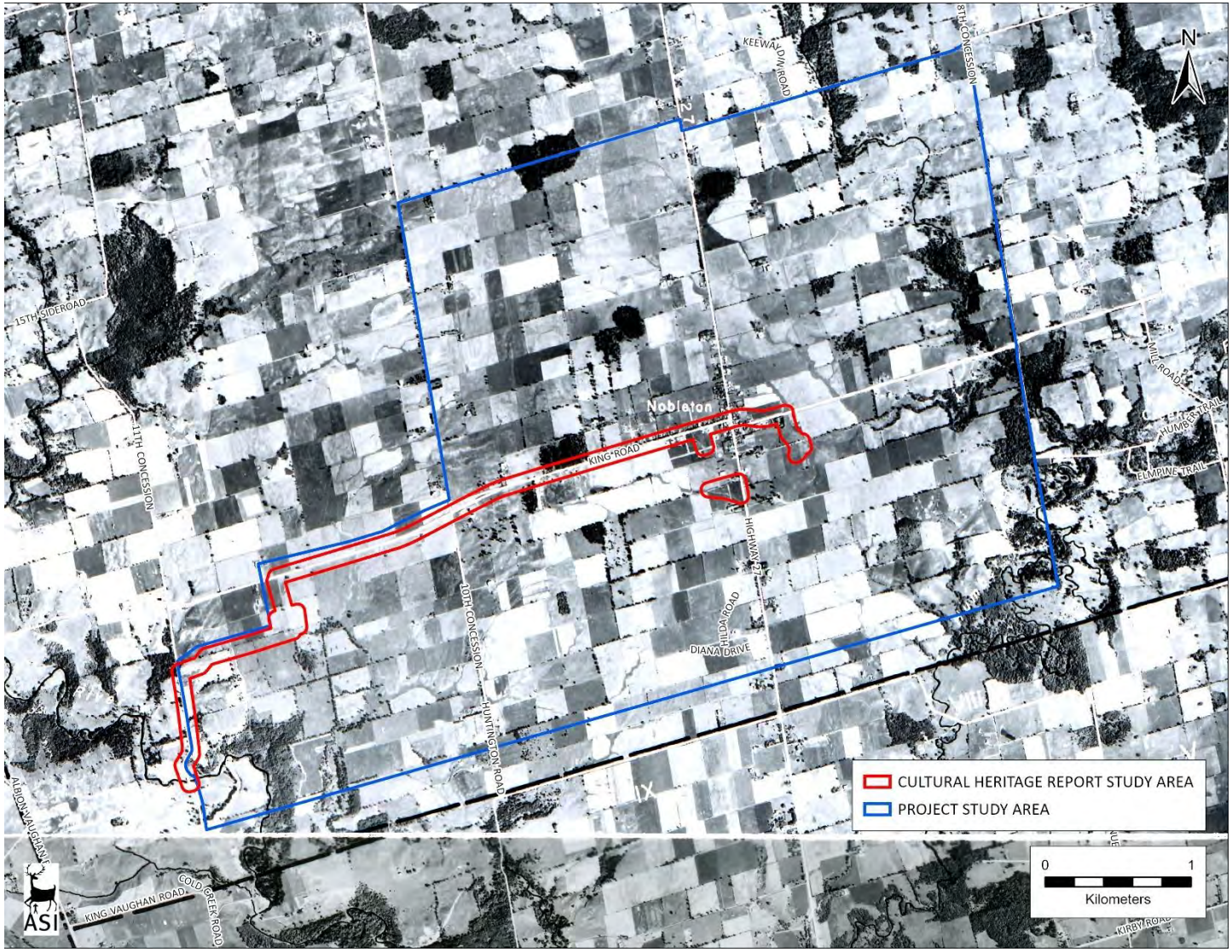


Figure 5: The study area overlaid on the 1954 aerial photograph of Nobleton

Base Map: Plate 438.793 (Hunting Survey Corporation Limited 1954)

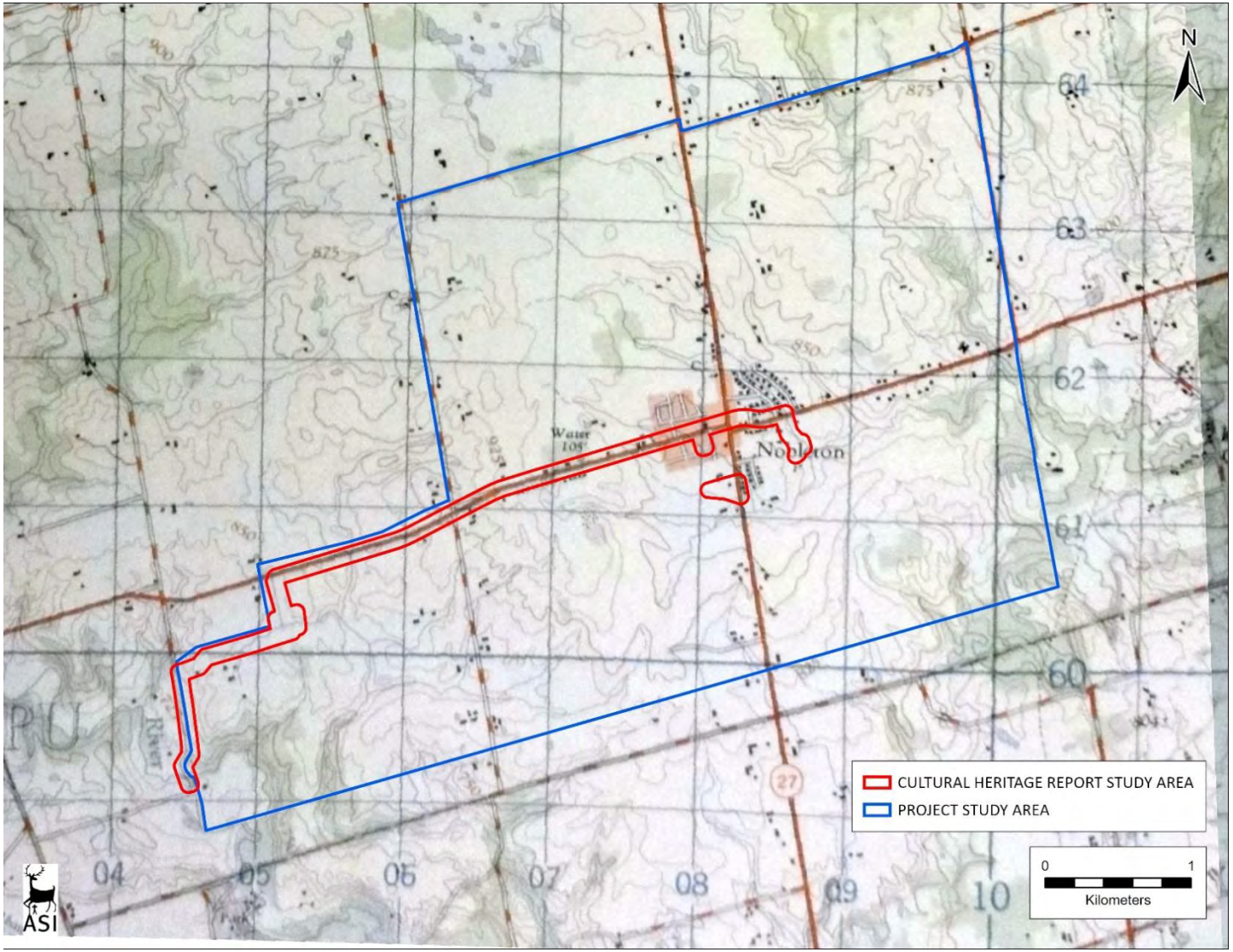


Figure 6: The study area overlaid on the 1965 topographic map of Bolton East
Base Map: Bolton East Sheet 30M/13E (Department of Mines and Technical Surveys 1965)

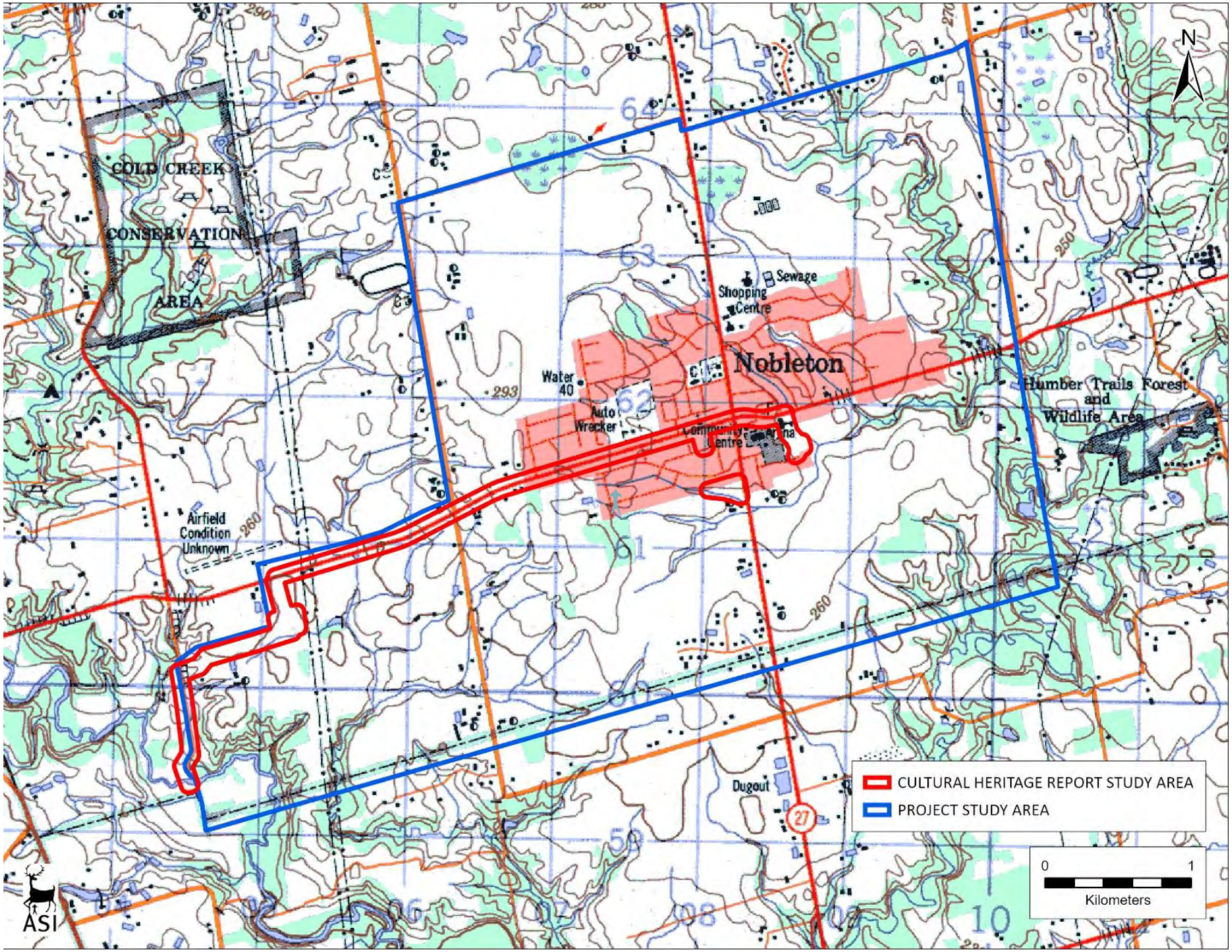


Figure 7: The study area overlaid on the 1994 NTS map of Bolton

Base Map: Bolton Sheet 30M/13 (Department of Energy, Mines and Resources 1994)

4.0 EXISTING CONDITIONS

4.1 Description of Field Review

A field review of the CH study area was undertaken by Kirstyn Allam of ASI, on 5 May 2021 to document the existing conditions of the study area from the existing rights-of-way. The existing conditions of the CH study area are described below and captured in Plate 1 to Plate 13.

The CH study area is in the community of Nobleton and is comprised of two areas. The first is the location of Well Site H, which is located at 12860 Highway 27. The second and larger study area consists of the remaining project components described in Section 1.2, and extends generally from the Janet Avenue SPS, located at 66 Janet Avenue, along King Road, to the Nobleton WRRF and Concession 11. The study area travels northwards from the Janet Avenue SPS to connect to King Road, travels west from Elizabeth Drive to approximately 709 m east of Concession Road 11, it then travels southwards before travelling westwards to Concession Road 11. At Concession Road 11, the study area then travels southwards to meet with the Humber River.

The Well Site H property at 12860 Highway 27 includes the pumphouse and treatment building (Plate 1 and Plate 2). The property is surrounded by residential properties and a farm to the southeast along with a naturalized area along a tributary of King Creek. The tributary of King Creek flows from the northwest to southeast through the study area.

The eastern portion of the study area begins at the Janet Avenue SPS, located at 66 Janet Avenue (Plate 3). The Janet Avenue SPS includes the pumping station building. The surrounding area is the residential neighbourhood along Janet Avenue and the Nobleton Community Centre recreational fields. The study area travels northwards to King Road. A tributary of King Creek flows in a north-northwest to south-southeast orientation through the eastern portion of the study area.

The study area along King Road begins at Elizabeth Drive and continues along King Road for approximately 3.76 km to approximately 709 m east of Concession Road 11. King Road is an arterial roadway oriented in a general northeast-southwest alignment. King Road is paved and features two lanes of eastbound and westbound vehicular traffic. King Road is lined with mainly residential properties on both the north and south sides from Elizabeth Drive to Nobleview Drive. West of Nobleview Drive, King Road is lined with agricultural properties. Some commercial and civic properties line King Road within the Nobleton urban centre. In this area, King Road features sidewalks and boulevards on both the north and south sides, and concrete curbs. The study area also includes a portion of Old King Road, Wellington Street, and Faris Avenue. These streets are also mainly residential properties with Old King Road featuring some commercial and recreational properties.

Other arterial road intersecting the study area include Highway 27 and Concession Road 10, which are similarly paved and oriented in a general north-south alignment. Smaller residential roads intersect the study area and are also paved.

The western portion of the study area includes the Nobleton WRRF property. This property features an administration building, a process building, and aeration tanks and clarifiers. From the south end of the Nobleton WRRF property, the study area extends westwards to Concession Road 11. From Concession

Road 11 the study area travels for approximately 811 m southwards to the Humber River. Concession Road 11 is a hard surface dirt road within the study area with narrow gravel shoulders. A gate is located at the terminus of Concession Road 11. The study area extends down a trail to the Humber River.

Plate 1: View northwest towards the pumphouse and treatment building and the naturalized area around the property.

Plate 2: View west-northwest towards the pumphouse and treatment building.

Plate 3: View northeast to the Janet Avenue SPS.

Plate 4: Looking west along King Road at the eastern end of the study area.

Plate 5: Looking west-southwest along Old King Road.

Plate 6: View of the King Road and Highway 27 intersection, looking south-southwest.

Plate 7: Faris Avenue, looking west.

Plate 8: Looking northeast along King Road.


Plate 9: View west-southwest along King Road at Nobleview Drive.

Plate 10: View of the agricultural properties along King Road, looking southwest.

Plate 11: View of the Nobleton WRRF, looking south.

Plate 12: Looking south along Concession Road 11.

Plate 13: View of the trail south of the terminus of Concession Road 11, looking south.

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

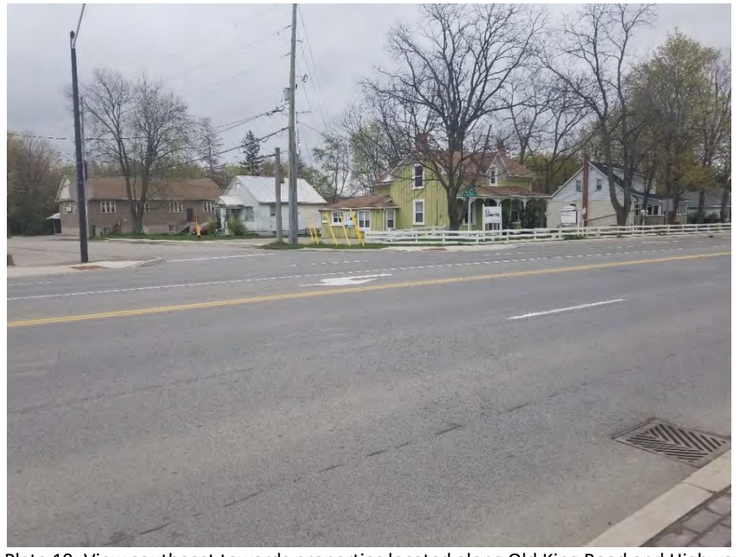
Based on the review of available municipal, provincial, and federal data, and the results of public consultation, there are 22 previously identified BHRs and CHLs within the CH study area. These resources include: three properties designated under Part IV of the OHA, 18 properties listed on the *Cultural Heritage Property Inventory* (Township of King Heritage Committee 2008), and one Canadian Heritage River System. There are eight potential BHRs and CHLs identified during background research and field review. Based on the type of resources, their physical location, architectural style and/or function, some of these individual resources were combined into a larger CHL, resulting in four BHRs and nine CHLs identified within the CH study area. A detailed inventory of known and potential BHRs and CHLs within the study area is presented in Table 1. See Figure 8 - Figure 11 for mapping showing the location of identified BHRs and CHLs within the study area. See Appendix A for the results of the desktop assessment conducted for the overall project study area.

The properties at 12800 Highway 27, 13046 Highway 27, 5885 King Road, 6260 King Road, and 6610 King Road are listed on the *Cultural Heritage Property Inventory* (Township of King Heritage Committee 2008), however, field survey confirmed that these structures are no longer extant and therefore the properties are not included in this assessment. The *Cultural Heritage Property Inventory* indicates that Wesleyan Methodist Cemetery is located at 6260 King Road, background research and fieldwork revealed that this to be an error and in fact is the cemetery identified at 6400 King Road. Municipal staff were contacted regarding these properties; however, a response was outstanding at the time of report production.

Table 1: Inventory of Known and Potential Built Heritage Resources and Cultural Heritage Landscapes within the Study Area

Feature ID	Type of Property	Address or Location	Heritage Status and Recognition	Description of Property and Known or Potential CHVI	Photographs/ Digital Image
BHR 1	Residence	12855 Highway 27	Potential BHR – Identified during background research and field review	The residence is located east of Highway 27 and south of Parkview Avenue. The potential heritage attributes include the one-and-half storey Arts and Crafts red brick residence. The house features an asymmetrical front (western) elevation and L-shaped footprint. The 1954 aerial photography (Figure 5) depicts a residence in the location of the extant house. This property has the potential to retain historical, design, and contextual value as a twentieth-century residence within the community of Nobleton in the Township of King.	 Plate 14: View east towards the residence at 12855 Highway 27.
BHR 2	Residence	12863 Highway 27	Potential BHR – Identified during background research and field review	The residence is located east of Highway 27 and south of Parkview Avenue. The potential heritage attributes include single-storey red brick bungalow. The house features a symmetrical front (western) elevation with a central door and large windows on either side and a hipped roof with small gable end above the front door. The 1954 aerial photography (Figure 5) depicts a residence in the location of the extant house. This property has the potential to retain historical, design, and contextual value as a twentieth-century residence within the community of Nobleton in the Township of King.	 Plate 15: View northeast towards the residence at 12863 Highway 27.

Feature ID	Type of Property	Address or Location	Heritage Status and Recognition	Description of Property and Known or Potential CHVI	Photographs/ Digital Image
BHR 3	Residence	9 Ellis Avenue	Known BHR – Listed on the *Cultural Heritage Property Inventory*	The residence is located southwest of the Ellis Avenue and Highway 27 intersection. The known heritage attributes include the one-and-a-half storey residence with a gable roof and centre gable along the eastern elevation. The residence also features a western addition. The residence was obscured from the right-of-way by fencing and vegetation. The 1914 topographic map (Figure 4) depicts a brick or stone residence in the vicinity of the extant house. This property is listed on the *Cultural Heritage Property Inventory* for its potential to retain cultural heritage value but has not been formally evaluated against the criteria outlined in *Ontario Regulation 9/06*. The property has potential to meet design and historical value as a late-nineteenth century residence within the community of Nobleton in the Township of King.	 Plate 16:. View west towards the residence at 9 Ellis Avenue.
BHR 4	Residence	29 Faris Avenue	Potential BHR – Identified during background research and field review	The residence is located south of Faris Avenue, roughly equidistant from Wellington Street and Kinsley Street. The potential heritage attributes include the two-storey residence with gable roof, centre gable, and two smaller gables to the east and west. The 1954 aerial photography (Figure 5) depicts a residence in the location of the extant house. This property has the potential to historical, design, and contextual value as a twentieth-century residence within the community of Nobleton in the Township of King.	 Plate 17: View southwest towards the residence at 29 Faris Avenue.

Feature ID	Type of Property	Address or Location	Heritage Status and Recognition	Description of Property and Known or Potential CHVI	Photographs/ Digital Image
CHL 1	Farmscape	12805 Highway 27	Known CHL – Listed on the *Cultural Heritage Property Inventory*	The farmscape is located east of the Highway 27 and Oliver Emerson Avenue intersection. The known heritage attributes include the one-and-a-half storey red brick residence with a gable roof, and T-shaped footprint. The property also features barns, outbuildings, long tree-line driveway, a pond, and agricultural fields. The 1860 map (Figure 2) depicts a residence in the location of the extant house. This farmscape is listed on the *Cultural Heritage Property Inventory* for its potential to retain cultural heritage value but has not been formally evaluated against the criteria outlined in *Ontario Regulation 9/06*. The property has potential to meet historical and contextual value as a late-nineteenth century farmscape in the Township of King.	 Plate 18: View southeast towards the farmscape at 12805 Highway 27.
CHL 2	Settlement Centre	Nobleton Settlement Centre	Potential CHL – Identified during background research and field review	This landscape is located in the historic downtown Nobleton and is generally focused around the King Road and Highway 27 intersection. The landscape extends westward to the west of Wellington Street, and includes many of the properties along Old King Road. The potential heritage attributes include the variety of nineteenth-century architectural styles, the mixture of residential and commercial, and the early- to mid-twentieth century recreational properties. The 1860 map (Figure 2) depicts the historic core of Nobleton. This settlement centre has the potential to retain historical and contextual value as a nineteenth-century settlement centre in the Township of King and the community of Nobleton. Within this CHL are the following properties, protected under the OHA: - 7 Old King Road, listed on the *Cultural Heritage Property Inventory* - 12 Old King Road, listed on the *Cultural Heritage Property Inventory* - 15-19 Old King Road, designated under Part IV of the OHA (By-law # 2007-60). This property is directly adjacent to the Janet Avenue SPS and contains a recreational complex. The Nobleton Community Hall is a Depression era institutional building and is located at 19 Old King Road, approximately 350 northwest of the Janet Avenue SPS parcel. For additional information, please see the by-law available at:	 Plate 19: View southeast towards properties located along Old King Road and Highway 27 in the Nobleton Settlement centre.

Feature ID	Type of Property	Address or Location	Heritage Status and Recognition	Description of Property and Known or Potential CHVI	Photographs/ Digital Image
				https://www.heritagetrust.on.ca/en/oha/details?id=3954&backlinkslug=search-results&fields%5Blocation%5D=51%2C196 - 24 Old King Road, listed on the *Cultural Heritage Property Inventory* - 31 Old King Road, listed on the *Cultural Heritage Property Inventory* - 37 Old King Road, listed on the *Cultural Heritage Property Inventory* - 12972 Highway 27, listed on the *Cultural Heritage Property Inventory* - 12978 Highway 27, listed on the *Cultural Heritage Property Inventory* - 13046 Highway 27, listed on the *Cultural Heritage Property Inventory* - 13053 Highway 27, listed on the *Cultural Heritage Property Inventory* - 6012 King Road, designated under Part IV of the OHA (By-law # 82-144). For additional information, please see the by-law available at: https://www.heritagetrust.on.ca/en/oha/details?id=3937&backlinkslug=search-results&fields%5Blocation%5D=51%2C196 - 6029 King Road, listed on the *Cultural Heritage Property Inventory* - 6050 King Road, listed on the *Cultural Heritage Property Inventory* - 6064 King Road, listed on the *Cultural Heritage Property Inventory* - 6076 King Road, listed on the *Cultural Heritage Property Inventory*	
CHL 3	Cemetery	6400 King Road	Known CHL – Designated Part IV (By-law # 2009-109)	The cemetery is located north of King Road and east of Nobleview Drive. The known heritage attributes include the variety of styles of the original grave markers and monuments, the placement of the markers and monuments, the grassy landscape, and the mature trees (Township of King 2009). The 1914 map (Figure 4) depicts a cemetery in the location of the extant cemetery. The property has historical and contextual value as a mid- to late-nineteenth-century cemetery through its connection to many early families of the village of Nobleton, and its influence on the continued rural character of the immediate landscape. For additional information, please see the by-law available at: https://www.heritagetrust.on.ca/en/oha/details?id=3991&backlinkslug=search-results&fields%5Blocation%5D=51%2C196	 Plate 20: View north towards the cemetery at 6400 King Road.

Feature ID	Type of Property	Address or Location	Heritage Status and Recognition	Description of Property and Known or Potential CHVI	Photographs/ Digital Image
CHL 4	Farmscape	6770 King Road	Known CHL – Listed on the *Cultural Heritage Property Inventory*	The farmscape is located at the northwest corner of King Road and Concession Road 10. The known heritage attributes include the residence which was obscured from the public right-of-way by vegetation, the barns and outbuildings, and agricultural fields. The 1914 map (Figure 4) depicts a brick or stone structure in the vicinity of the extant house. This farmscape is listed on the *Cultural Heritage Property Inventory* for its potential to retain cultural heritage value but has not been formally evaluated against the criteria outlined in *Ontario Regulation 9/06*. The property has potential to meet historical and contextual value as a late-nineteenth century farmscape in the Township of King.	 Plate 21: Aerial view of the farmscape at 6770 King Road (Google Earth 2018).
CHL 5	Former Farmscape	6845 King Road	Potential CHL – Identified during background research and field review	The former farmscape is located south of King Road west of Concession Road 10. The potential heritage attributes include the one-and-a-half storey residence with a gable roof and dormer window on the western elevation, the driveway, and mature trees. The agricultural fields surrounding the property may have been formerly associated with the property. The 1914 map (Figure 4) depicts a wooden structure in the location of the extant house. This property has the potential to retain historical and contextual value as a twentieth-century farmscape in the Township of King.	 Plate 22: View southeast towards the residence at 6845 King Road.

Feature ID	Type of Property	Address or Location	Heritage Status and Recognition	Description of Property and Known or Potential CHVI	Photographs/ Digital Image
CHL 6	Farmscape	7300 King Road	Known CHL – Listed on the *Cultural Heritage Property Inventory*	The farmscape is located at the northeast corner of the intersection of King Road and Concession Road 11. The known heritage attributes include the one-and-a-half storey red brick house with a gable roof and centre gable, and T-shaped footprint. The property also features barns, long driveway, and agricultural fields. The 1878 map (Figure 3) depicts a structure in the vicinity of the extant house. This farmscape is listed on the *Cultural Heritage Property Inventory* for its potential to retain cultural heritage value but has not been formally evaluated against the criteria outlined in *Ontario Regulation 9/06*. The property has potential to meet historical, design, and contextual value as a late-nineteenth century farmscape in the Township of King.	 Plate 23: View northwest towards the farmscape at 7300 King Road.
CHL 7	Farmscape	7305 King Road	Known CHL – Listed on the *Cultural Heritage Property Inventory*	The farmscape is located south of King Road and east of Concession Road 11. The known heritage attributes include the one-and-a-half storey frame residence, barns, outbuildings, mature trees, and agricultural fields. The 1878 map (Figure 3) depicts a structure in the vicinity of the extant house. This farmscape is listed on the *Cultural Heritage Property Inventory* for its potential to retain cultural heritage value but has not been formally evaluated against the criteria outlined in *Ontario Regulation 9/06*. The property has potential to meet historical, design, and contextual value as a late-nineteenth century farmscape in the Township of King.	 Plate 24: View west-southwest towards the farmscape at 7305 King Road.

Feature ID	Type of Property	Address or Location	Heritage Status and Recognition	Description of Property and Known or Potential CHVI	Photographs/ Digital Image
CHL 8	Farmscape	12705 Concession Road 11	Potential CHL – Identified during background research and field review	The farmscape is located east of Concession Road 11 south of King Road. The potential heritage attributes include the one-and-a-half storey frame residence, barns, outbuildings, mature trees, agricultural fields, and the Humber River and its environs. The 1954 aerial photography (Figure 5) depicts a residence in the location of the extant house. This property has the potential to retain historical and contextual value as a twentieth-century farmscape in the Township of King.	 Plate 25: View southeast towards the farmscape at 12705 Concession Road 11.
CHL 9	Waterway	Humber River	Known CHL – Canadian Heritage River System	The Humber River is located south of Concession Road 11 in a general east-west orientation. The known heritage attributes include its historical and contextual value as a significant waterway. Information on the designation of the Humber River as a Canadian Heritage River System, including its cultural and recreational values, is outlined on the Canadian Heritage Rivers System website. The 1860 map (Figure 2) depicts the Humber River in a more north-south orientation. By the 1914 map (Figure 4) the orientation is more closely aligned with its present orientation. The Humber River is a Canadian Heritage River System with known cultural heritage value due to its historical and contextual value as a significant waterway, but the river has not been formally evaluated against the criteria outlined in *Ontario Regulation 9/06*. The Humber River has potential to meet historical and contextual value as a significant waterway in Ontario.	 Plate 26: Aerial view of the Humber River (Google Earth 2018).

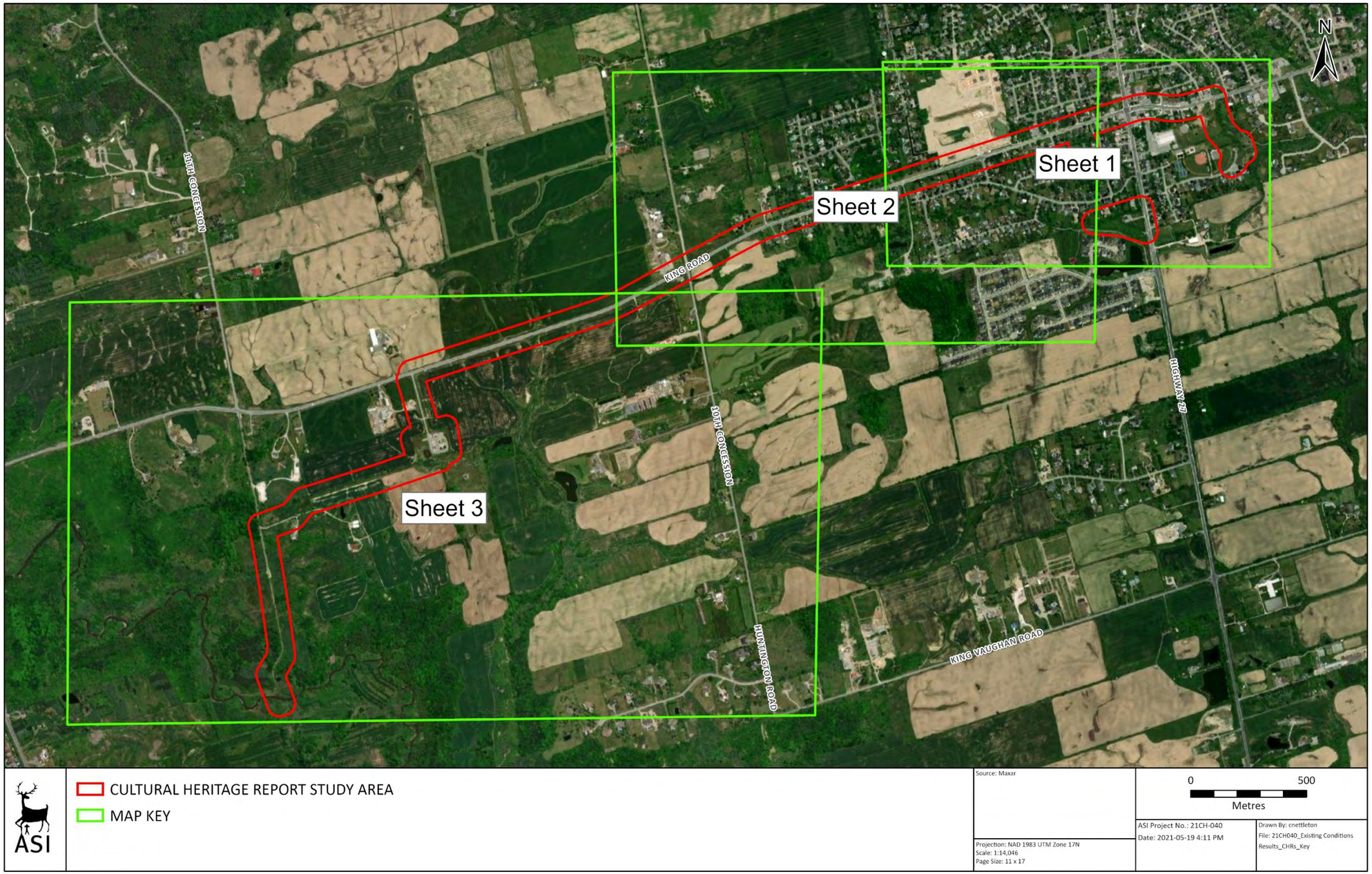


Figure 8: Location of Identified Built Heritage Resources and Cultural Heritage Landscapes in the Study Area (Key Plan)

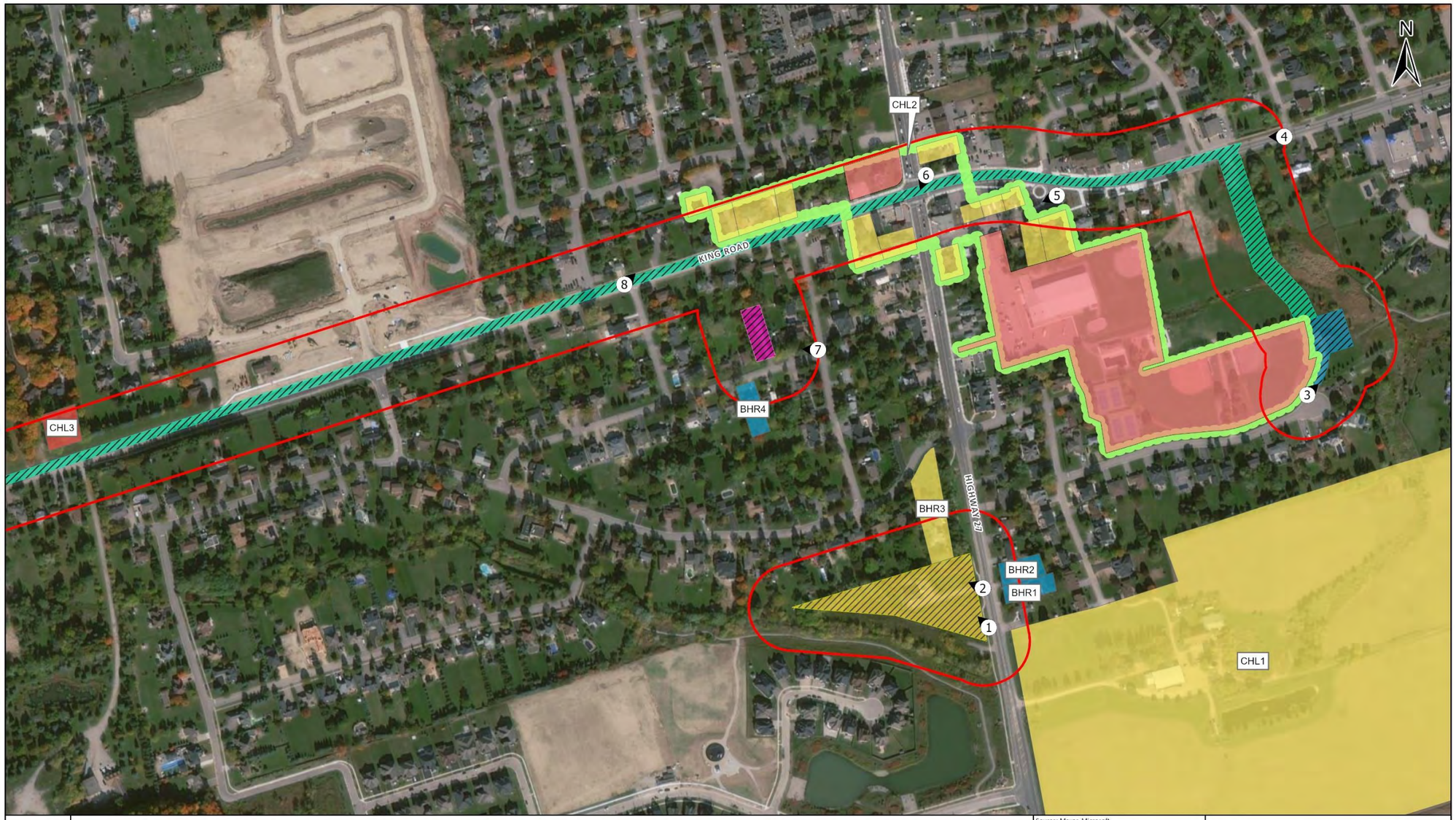


Figure 9: Location of Identified Built Heritage Resources and Cultural Heritage Landscapes in the Study Area (Sheet 1)

Figure 10: Location of Identified Built Heritage Resources and Cultural Heritage Landscapes in the Study Area (Sheet 2)

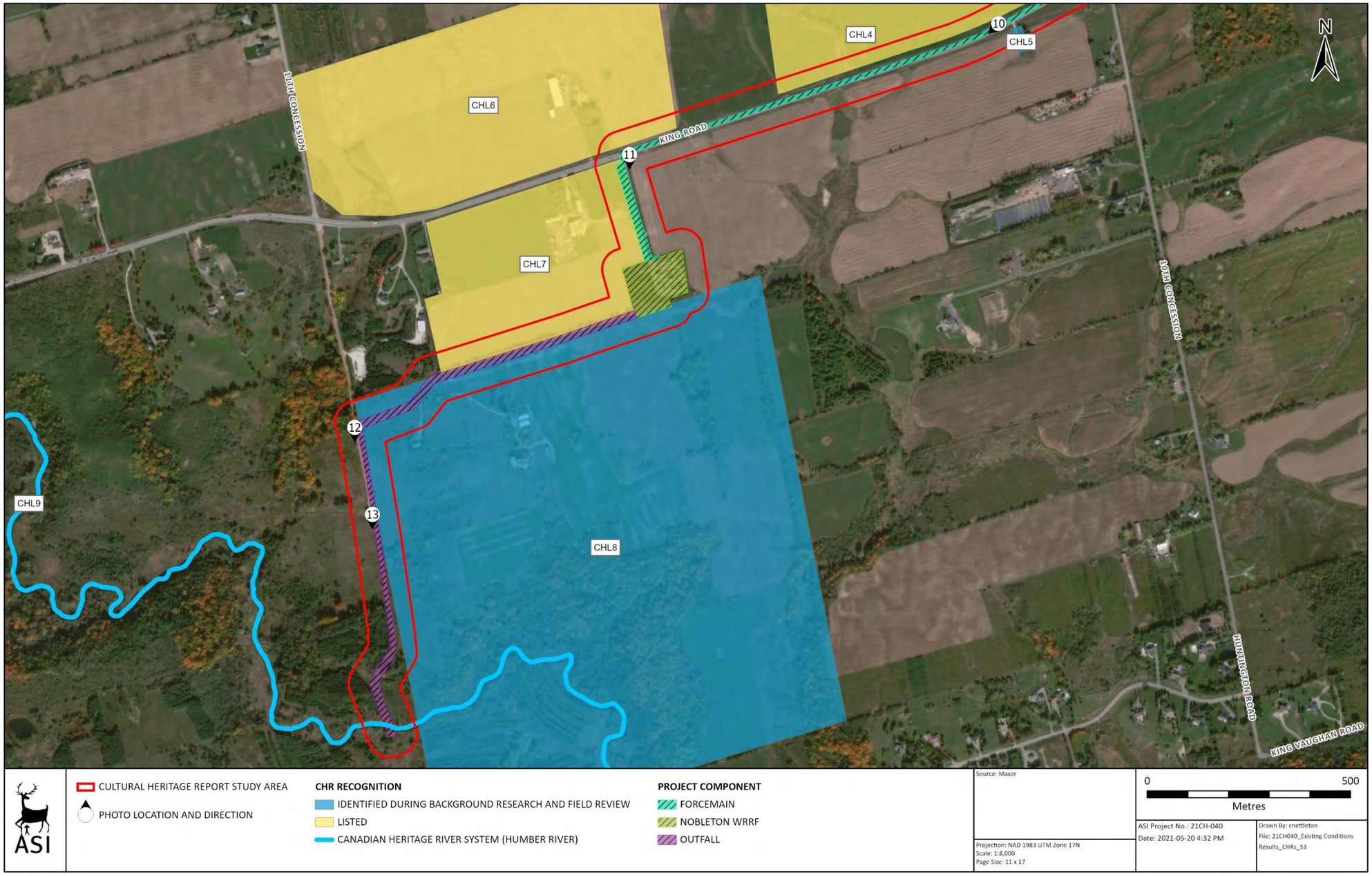


Figure 11: Location of Identified Built Heritage Resources and Cultural Heritage Landscapes in the Study Area (Sheet 3)

5.0 PRELIMINARY IMPACT ASSESSMENT

5.1 Description of Proposed Undertaking

The proposed undertaking for the Nobleton Water and Wastewater Servicing Municipal Class EA study area consists of increasing the capacity of current water and wastewater system to meet the requirements to support growth in the community of Nobleton. According to the Phase 3 Alternative Design Concepts Technical Memo No. 3, the proposed upgrades will serve to "supplement increased water supply to offset storage deficit, and increase capacity of existing Well No. 2 in combination with new production well at Site H; and expand and upgrade the existing Janet Avenue Pumping Station and Nobleton Water Resource Recovery Facility" (Black & Veatch 2021:1–1).

The following preferred solutions for water and wastewater servicing were identified and documented (Black & Veatch 2021).

Water service upgrades:

- Well 2: The recommended solution is to do nothing because the existing infrastructure is suitable for the needed capacity issues.
- Well 5/Site H: the addition of a new well and second treatment drain within the existing site/parcel.[2]

Wastewater servicing upgrades/expansions (Figure 12 and Figure 13):

- Construction of an offline storage tank, requiring excavation of a footprint measuring approximately 15.5 m x 12 m x11 m deep, at the Janet Avenue SPS, within the existing site/parcel;
- Expansion of the process building at the Nobleton WRRF to allow for additional sludge thickening, tertiary filters, and upgrades to the existing UV system at the existing WRRF within the existing parcel. Expansion of the road around the Nobleton WRRF process building will be required but will be confined to the existing parcel.
- Twinning of the existing forcemain and effluent outfall is not required.

[2] Drawing showing the location of the proposed work within the Well 5/Site H parcel were requested but not available at the time of report writing. The as-built drawings for Well 5/Site H are included in Appendix B.

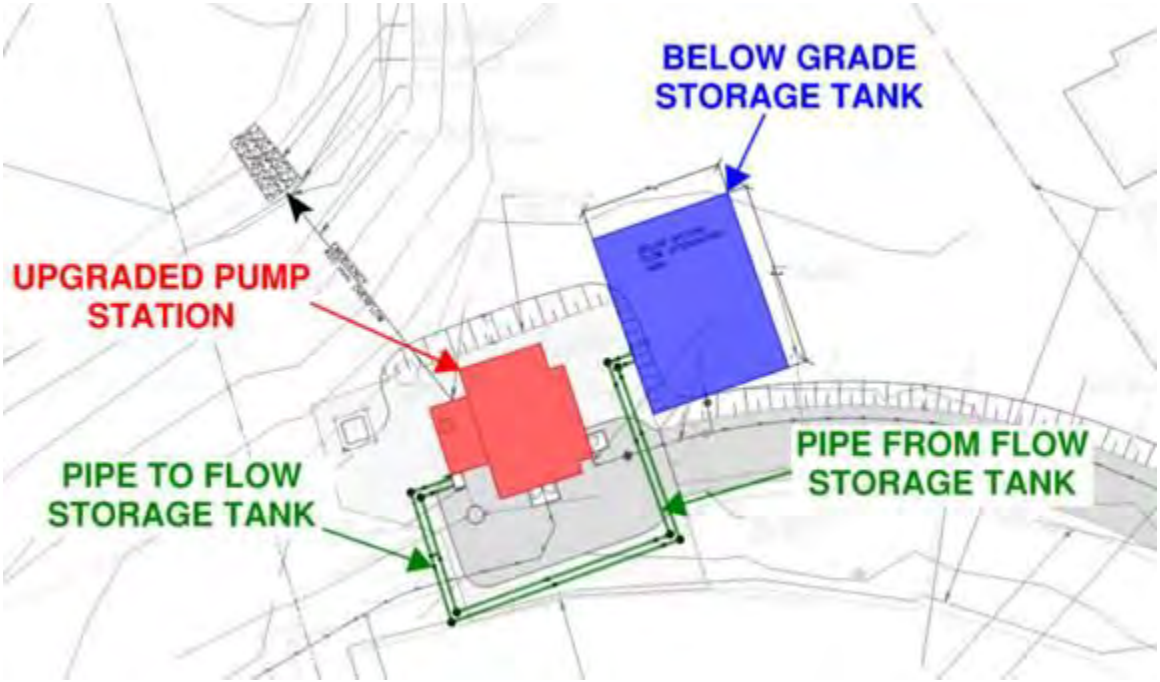


Figure 12: Proposed upgrades at the Janet Avenue SPS

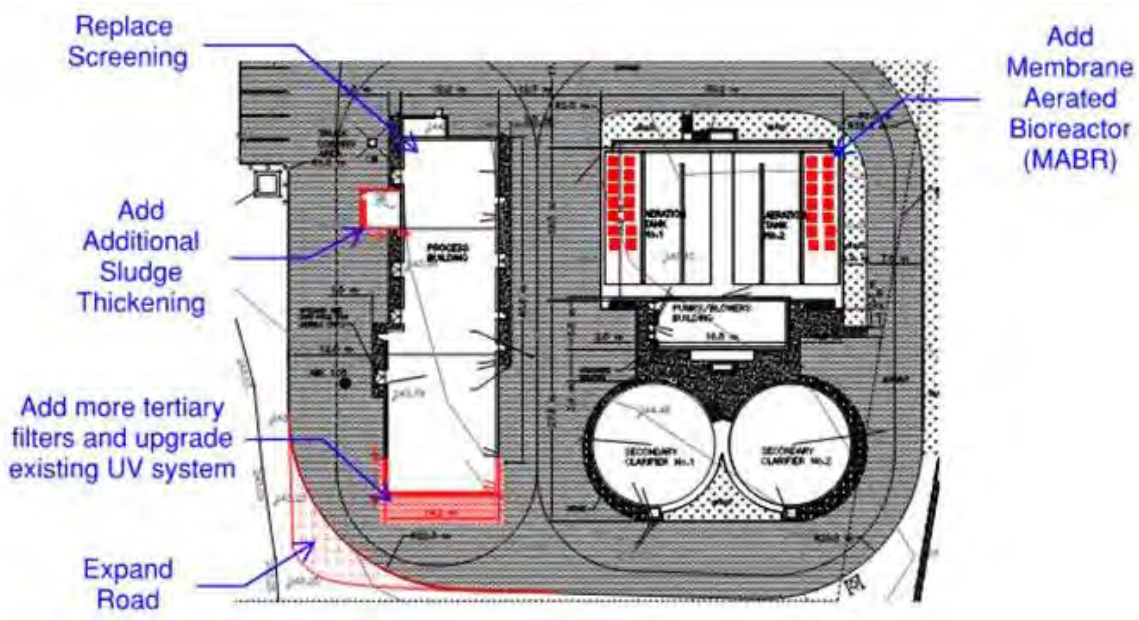


Figure 13: Proposed upgrades at the Nobleton WRRF

5.2 Analysis of Potential Impacts

Table 2 outlines the potential direct and indirect impacts on all identified BHRs and CHLs within the CH study area.

Table 2: Preliminary Impact Assessment and Recommended Mitigation Measures

Feature ID	Location/Name	Project Component	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
BHR 1	12855 Highway 27	Well 5/Site H	No direct impacts are anticipated as the proposed work will not be taking place on the property at 12855 Highway 27. Indirect adverse impacts due to construction related vibration are possible as the structure sits within 50 m from the proposed work. These impacts are expected to be limited and temporary. No other indirect impacts are anticipated.	To ensure this property is not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this advance monitoring assessment conclude that any structures or landscape features on this property will be subject to vibrations, prepare and implement a vibration monitoring plan as part of the detailed design phase of the project to lessen vibration impacts related to construction.
BHR 2	12863 Highway 27	Well 5/Site H	No direct impacts are anticipated as the proposed work will not be taking place on the property at 12863 Highway 27. Indirect adverse impacts due to construction related vibration are possible as the structure sits within 50 m from the proposed work. These impacts are expected to be limited and temporary. No other indirect impacts are anticipated.	To ensure this property is not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this advance monitoring assessment conclude that any structures or landscape features on this property will be subject to vibrations, prepare and implement a vibration monitoring plan as part of the detailed design phase of the project to lessen vibration impacts related to construction.

Feature ID	Location/Name	Project Component	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
BHR 3	9 Ellis Avenue	Well 5/Site H	No direct impacts are anticipated as the proposed work will not be taking place on the property at 9 Ellis Avenue. Indirect adverse impacts due to construction related vibration are possible as the structure sits within 50 m from the proposed work. These impacts are expected to be limited and temporary. No other indirect impacts are anticipated.	To ensure this property is not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this advance monitoring assessment conclude that any structures or landscape features on this property will be subject to vibrations, prepare and implement a vibration monitoring plan as part of the detailed design phase of the project to lessen vibration impacts related to construction.
BHR 4	29 Faris Avenue	Well 2	As the recommended solution is to do nothing, no direct or indirect impacts are anticipated to the property at 29 Faris Avenue.	No further work required.
CHL 1	12805 Highway 27	Well 5/Site H	No direct impacts are anticipated as the proposed work will not be taking place on the property at 12805 Highway 27. Indirect adverse impacts due to construction related vibration are possible as the structure sits within 50 m from the proposed work. These impacts are expected to be limited and temporary. No other indirect impacts are anticipated.	To ensure this property is not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this advance monitoring assessment conclude that any structures or landscape features on this property will be subject to vibrations, prepare and implement a vibration monitoring plan as part of the detailed design phase of the project to lessen vibration impacts related to construction.

Feature ID	Location/Name	Project Component	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
CHL 2	Nobleton Settlement Centre	Janet Ave SPS Forcemain	No direct impacts are anticipated as the proposed work will not be taking place on the properties within this CHL. Within this CHL, the property at 19 Old King Road (Designated under Part IV of the *Ontario Heritage Act*) is the only property adjacent to work taking place within the Janet Ave SPS property. The property at 19 Old King Road is a large parcel containing a community centre and associated park/recreational land. The heritage structure on this property is located at the opposite end to the Janet Ave SPS, approximately 350 m to the northwest. Therefore, no indirect adverse impacts are anticipated as the heritage structures and attributes associated with the properties within this CHL are located at a distance greater than 50 m from the proposed work. The work will not result in any indirect visual impacts to the setting as an SPS facility already exists on the property.	No further work required.
CHL 3	6400 King Road	Forcemain	As the recommended solution does not require twinning of the forcemain and outfall, no direct or indirect impacts are anticipated to the property at 6400 King Road.	No further work required.
CHL 4	6770 King Road	Forcemain	As the recommended solution does not require twinning of the forcemain and outfall, no direct or indirect impacts are anticipated to the property at 6770 King Road.	No further work required.

Feature ID	Location/Name	Project Component	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
CHL 5	6845 King Road	Forcemain	As the recommended solution does not require twinning of the forcemain and outfall, no direct or indirect impacts are anticipated to the property at 6845 King Road.	No further work required.
CHL 6	7300 King Road	Forcemain	As the recommended solution does not require twinning of the forcemain and outfall, no direct or indirect impacts are anticipated to the property at 7300 King Road.	No further work required.
CHL 7	7305 King Road	Nobleton WRRF	No direct impacts are anticipated as the proposed work will not be taking place on the properties within the property at 7305 King Road. Indirect adverse impacts due to construction related vibration are possible as the structure sits within 50 m from the proposed work. These impacts are expected to be limited and temporary. No other indirect impacts are anticipated.	To ensure this property is not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this advance monitoring assessment conclude that any structures or landscape features on this property will be subject to vibrations, prepare and implement a vibration monitoring plan as part of the detailed design phase of the project to lessen vibration impacts related to construction.
CHL 8	12705 Concession Road 11	Nobleton WRRF	No direct impacts are anticipated as the proposed work will not be taking place on the properties within the property at 12705 Concession Road 11. Indirect adverse impacts due to construction related vibration are possible as the structure sits within 50 m from the proposed work. These impacts are expected to be limited and temporary. No other indirect impacts are anticipated.	To ensure this property is not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this advance monitoring assessment conclude that any structures or landscape features on this property will be subject to vibrations, prepare and implement a vibration monitoring plan as part of the detailed design phase of the project to lessen vibration impacts related to construction.

Feature ID	Location/Name	Project Component	Type and Description of Potential/Anticipated Impact	Mitigation Strategies
CHL 9	Humber River	Outfall	As the recommended solution does not require twinning of the forcemain and outfall, no direct or indirect impacts are anticipated to Humber River.	No further work required.

No direct impacts to identified cultural heritage resources are anticipated as a result of the proposed water and wastewater servicing upgrades/expansions.

Indirect impacts to BHRs 1-3, and CHLs 1, 7, and 8 may occur as a result of vibrations related to construction activity taking place within 50 m of the properties. To ensure that the structures on the properties at 12855 Highway 27 (BHR 1), 12863 Highway 27 (BHR 2), 9 Ellis Avenue (BHR 3), 12805 Highway 27 (CHL 1), 7305 King Road (CHL 7), and 12705 Concession Road 11 (CHL 8) are not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this monitoring assessment determine that the structures or landscape features within the BHRs and CHLs will be subject to adverse impacts due to vibration, 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.

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 an urban land use history within the community of Nobleton and a rural land use history west of the community dating back to the early nineteenth century. A review of federal, provincial, and municipal registers, inventories, and databases revealed that there are 22 previously identified features of cultural heritage value within the Nobleton Water and Wastewater Servicing study area. An additional eight potential BHRs and CHLs which were identified during background research and field review. Based on the type of resources, their physical location, architectural style and/or function, some of these individual resources were combined into a larger cultural heritage landscape, resulting in four BHRs and nine CHLs identified within the study area.

6.1 Key Findings

- A total of 49 previously identified BHRs and CHLs were identified within the overall study area (see Appendix A).
- A total of one known BHR and six CHLs were identified within the CH study area. An additional three potential BHRs and three potential CHLs were identified within the CH study area.
- Of the BHRs and CHLs identified within the CH study area there are: one property designated under Part IV of the OHA (CHL 3), five properties listed on the *Cultural Heritage Property Inventory* (BHR 3, CHL 1, CHL 4, CHL 6 -7), and one river is identified as a Canadian Heritage River System (CHL 9). Six resources were identified during background research and field review (BHR 1-2, BHR 4, CHL 2, CHL 5, CHL 8).
- Identified cultural heritage resources are historically, architecturally, and contextually associated with land use patterns in the community of Nobleton and surround areas and more specifically representative of the early settlement of small communities along King Road, a nineteenth-century rural roadway.

Results of Preliminary Impact Assessment

- No direct impacts to any known or potential BHRs or CHLs are anticipated as a result of the proposed design concept.

- The proposed design concept is anticipated to result in indirect impacts to three built heritage resources and three cultural heritage landscapes: 12855 Highway 27 (BHR 1), 12863 Highway 27 (BHR 2), 9 Ellis Avenue (BHR 3), 12805 Highway 27 (CHL 1), 7305 King Road (CHL 7), and 12705 Concession Road 11 (CHL 8). No impacts to one built heritage resource and six cultural heritage landscapes: 29 Faris Avenue (BHR 4), Nobleton Settlement Centre (CHL 2), 6400 King Road (CHL 3), 6770 King Road (CHL 4), 6845 King Road (CHL 5), 7300 King Road (CHL 6), and Humber River (CHL 9).

6.2 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 BHRs and CHLs. Avoidance measures may include, but are not limited to: erecting temporary fencing, establishing buffer zones, issuing instructions to construction crews to avoid identified cultural heritage resources, etc.

2. Indirect impacts to BHRs 1-3, and CHLs 1, 7, and 8 may occur as a result of vibrations related to construction activity taking place within 50 m of the properties. To ensure that the structures on the properties at 12855 Highway 27 (BHR 1), 12863 Highway 27 (BHR 2), 9 Ellis Avenue (BHR 3), 12805 Highway 27 (CHL 1), 7305 King Road (CHL 7), and 12705 Concession Road 11 (CHL 8) are not adversely impacted during construction, baseline vibration monitoring should be undertaken during detailed design. Should this vibration assessment determine that the structures or landscape features within the BHRs will be subject to adverse impacts due to vibration, 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.

3. 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 heritage resources.

4. The existing conditions and preliminary impact assessment report should be submitted to the Township of King and the MHSTCI 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 Township of King for their records.

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Appendix A: Desktop Collection Results for Project Study Area

Based on the review of available municipal, provincial, and federal data, and the results of public consultation, there are 49 previously identified BHRs and CHLs within the overall project study area. These resources include properties designated under Part IV of the OHA (Designated Part IV), listed on the *Cultural Heritage Property Inventory* (Listed) (Township of King Heritage Committee 2008), rivers identified as a Canadian Heritage River System, and properties identified by the Ontario Heritage Trust (OHT) as Places of Worship. These properties are listed below and their locations are mapped in Figure 14 to Figure 21:

CHR 1 - 12525 Highway 27, Listed;
CHR 2 - 12585 Highway 27, Listed;
CHR 3 - 12805 Highway 27, Listed;
CHR 4 - 5588 King Road, Listed;
CHR 5- 5750 King Road, OHT – Places of Worship;
CHR 6 - 13735 Highway 27, Listed;
CHR 7 - 15-19 Old King Road, Designated under Part IV of the OHA (By-law # 2007-60);
CHR 8 - 37 Old King Road, Listed;
CHR 9 - 31 Old King Road, Listed;
CHR 10 - 22 Parkview Drive, Listed;
CHR 11 - 24 Old King Road, Listed;
CHR 12 - 18 Old King Road, Listed;
CHR 13 – 12645 Highway 27, Listed;
CHR 14 – 12 Old King Road, Listed;
CHR 15 – 13075 Highway 27, Listed;
CHR 16 – 13053 Highway 27, Listed;
CHR 17 – 13105 Highway 27, Listed;
CHR 18 – 7 Old King Road, Listed;
CHR 19 – 12510 Highway 27, Listed;
CHR 20 – 12650 Highway 27, Listed;
CHR 21 – 9 Ellis Avenue, Listed;
CHR 22 – 12950 Highway 27, Listed;
CHR 23 –12958 Highway 27, Listed;
CHR 24 - 12972 Highway 27, Listed;
CHR 25 - 12978 Highway 27, Listed; CHR 26 – 6012 King Road, Designated under Part IV of the OHA (By-law # 82-144);
CHR 27 – 13080 Highway 27, Listed;
CHR 28 – 13092 Highway 27, Listed;
CHR 29 – 15 Wilsen Road, Listed;
CHR 30 – 13162 Highway 27, Listed;
CHR 31 – 13164 Highway 27, Listed;
CHR 32 – 13214 Highway 27, Listed;
CHR 33 – 13300 Highway 27, Listed;
CHR 34 – 13582 Highway 27, Listed;
CHR 35 – 6029 King Road, Listed;
CHR 36 – 6050 King Road, Listed;
CHR 37 – 6064 King Road, Listed;
CHR 38 – 6076 King Road, Listed;
CHR 39 – 6400 King Road, Designated Part IV of the OHA (By-law # 2009-109);
CHR 40 – 12485 Concession Road 10, Listed;
CHR 41 – 12805 Concession Road 10, Listed;
CHR 42 – 13305 Concession Road 10, Listed;
CHR 43 – 6675 15th Sideroad, Listed;
CHR 44 – 12450 Concession Road 10, Listed;
CHR 45 – 12640 Concession Road 10,
CHR 46 – 6770 King Road, Listed;
CHR 47 – 7305 King Road, Listed;
CHR 48 – 7300 King Road, Listed; and,
CHR 49 - Humber River, Canadian Heritage River System.

There are also properties listed on the *Cultural Heritage Property Inventory* (Township of King Heritage Committee 2008) that are noted as being demolished. Field survey was not conducted for most of these properties. A review of recent aerial imagery and Google Streetview allowed for confirmation of this information. For this reason, these properties are not included in this assessment. These properties are listed below:

- 13535 Highway 27;
- 13425 Highway 27;
- 13104 Highway 27;
- 13085 Highway 27;
- 13066 Highway 27;
- 13062 Highway 27;
- 13056 Highway 27;
- 13046 Highway 27;
- 12800 Highway 27;
- 6770 King Road[3];
- 6610 King Road;
- 6260 King Road; and,
- 5885 King Road.

[3] This property was noted as demolished, however, as the residence on the property is obscured by vegetation, it could not be confirmed if the historic house is extant or not. The farmscape does remain.

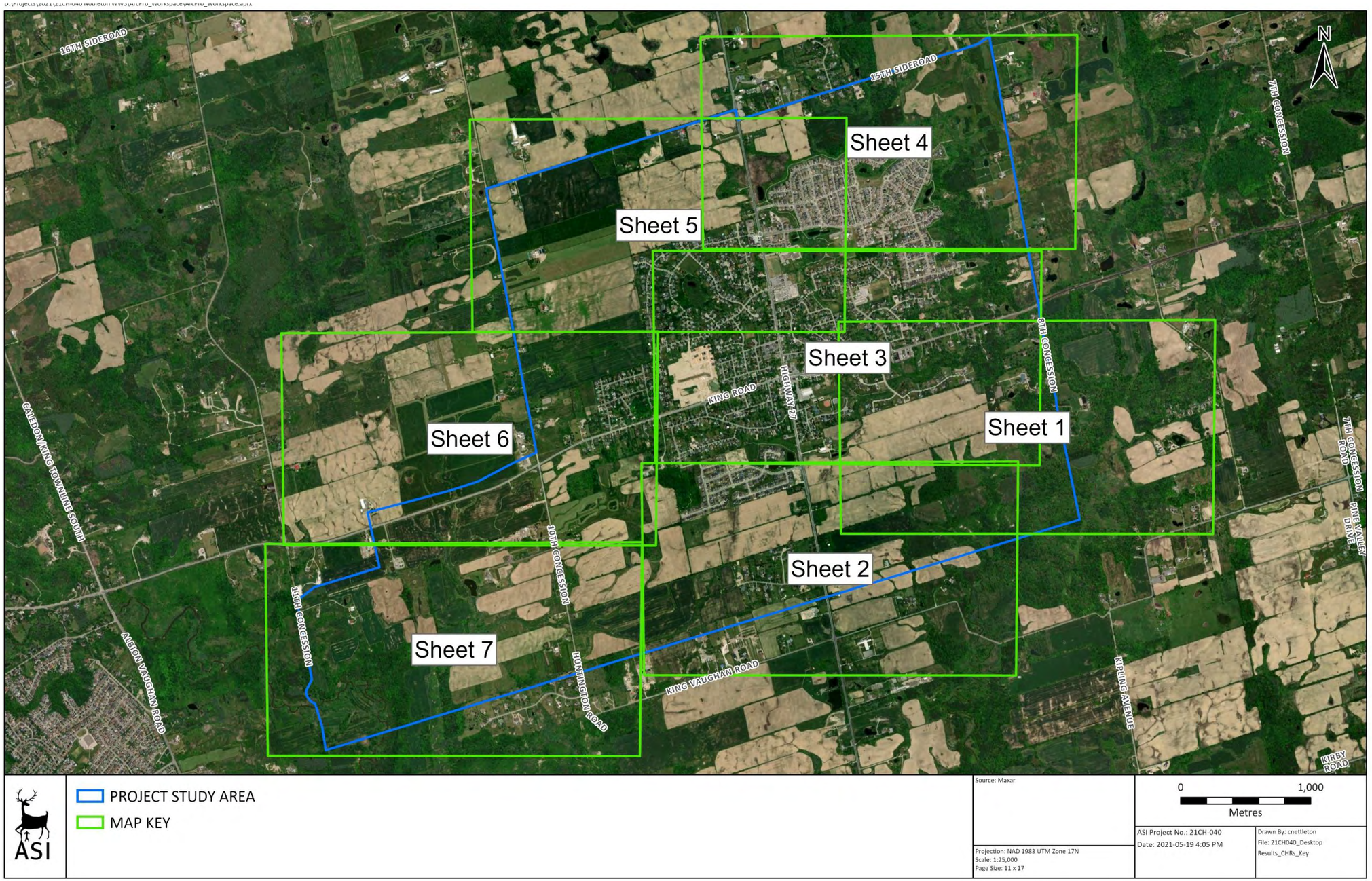


Figure 14: Location of Known Built Heritage Resources and Cultural Heritage Landscapes in the Overall Project Study Area (Key Plan)

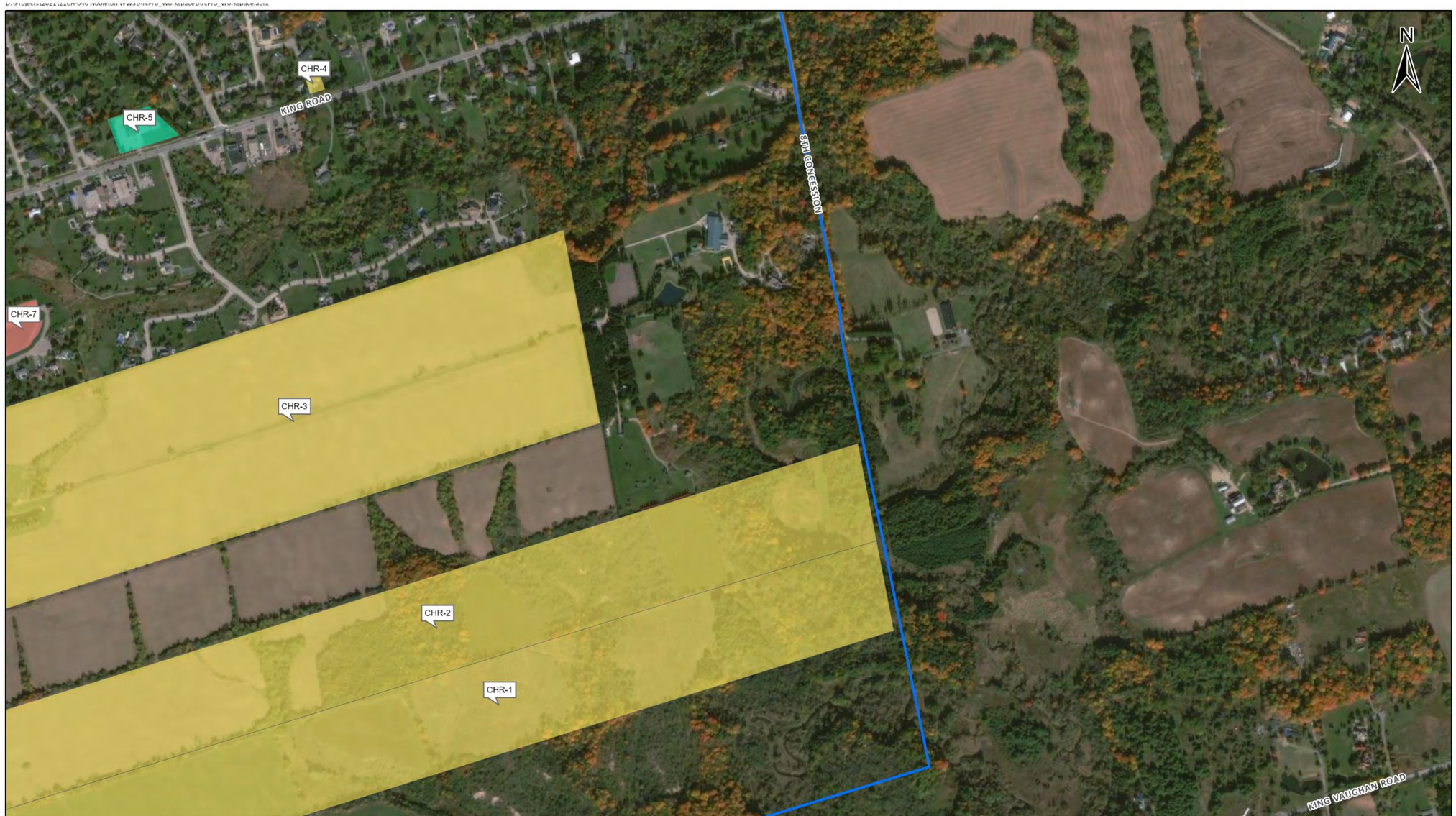


Figure 15: Location of Known Built Heritage Resources and Cultural Heritage Landscapes in the Overall Project Study Area (Sheet 1)

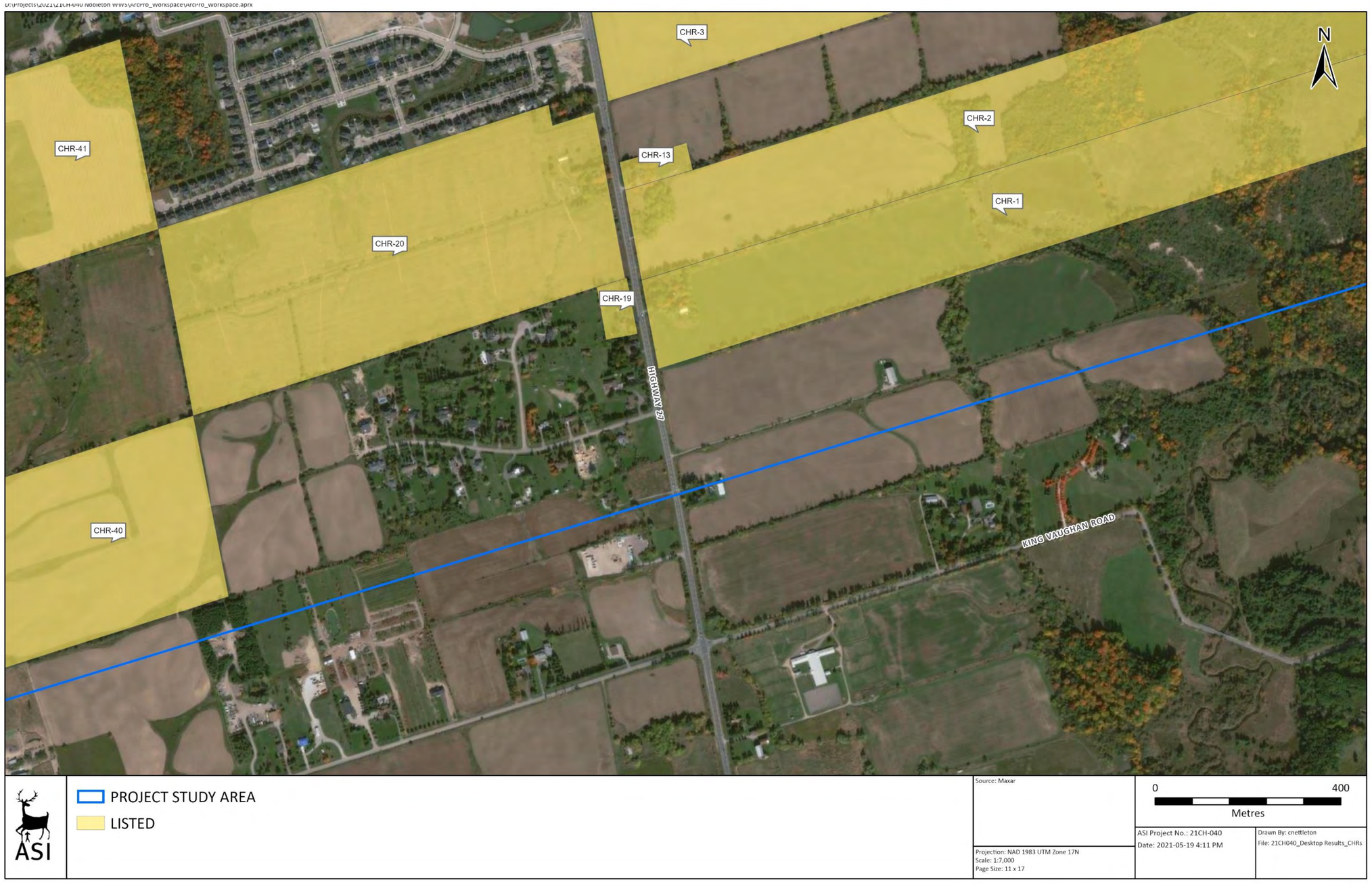


Figure 16: Location of Known Built Heritage Resources and Cultural Heritage Landscapes in the Overall Project Study Area (Sheet 2)

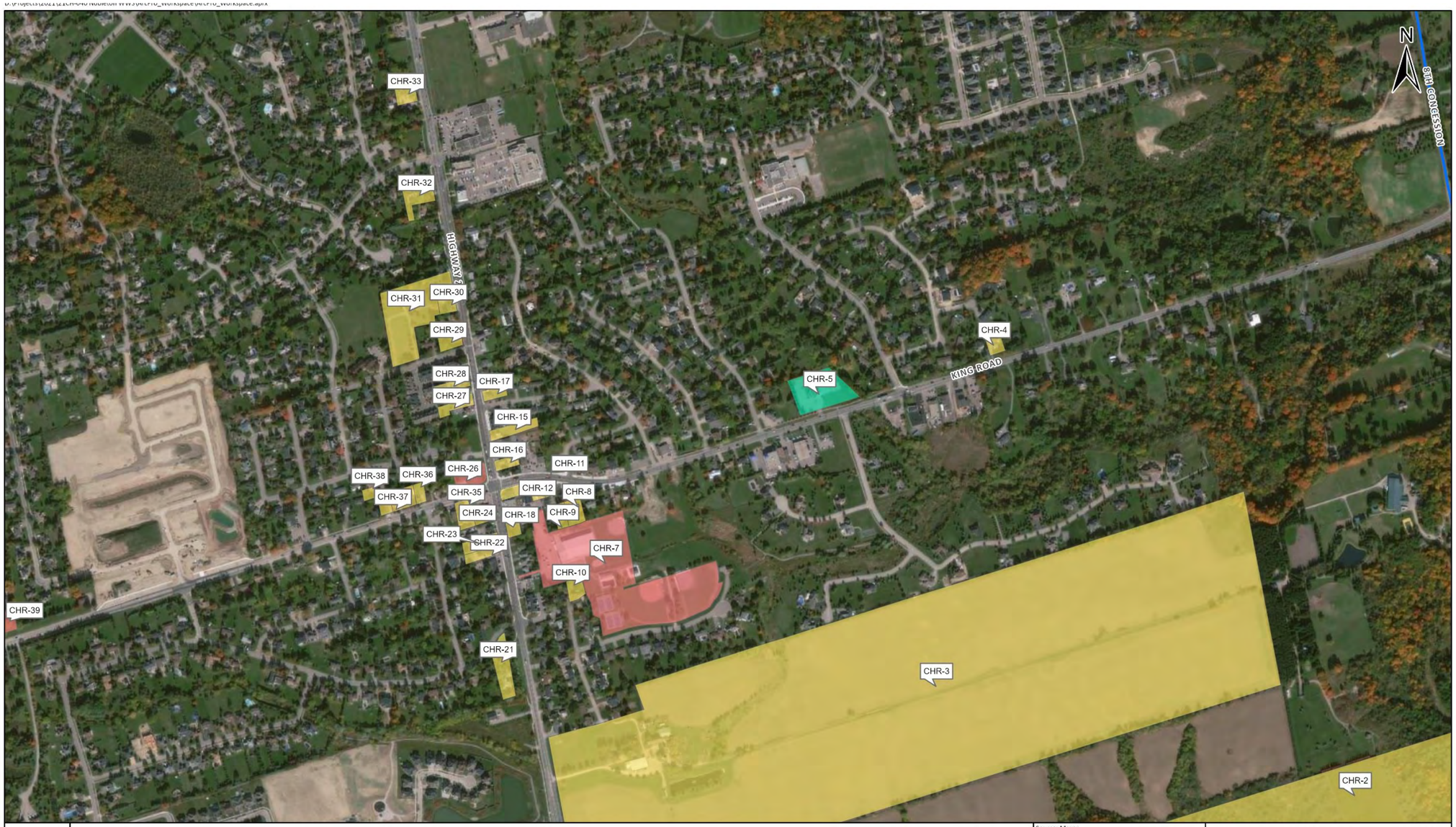


Figure 17: Location of Known Built Heritage Resources and Cultural Heritage Landscapes in the Overall Project Study Area (Sheet 3)

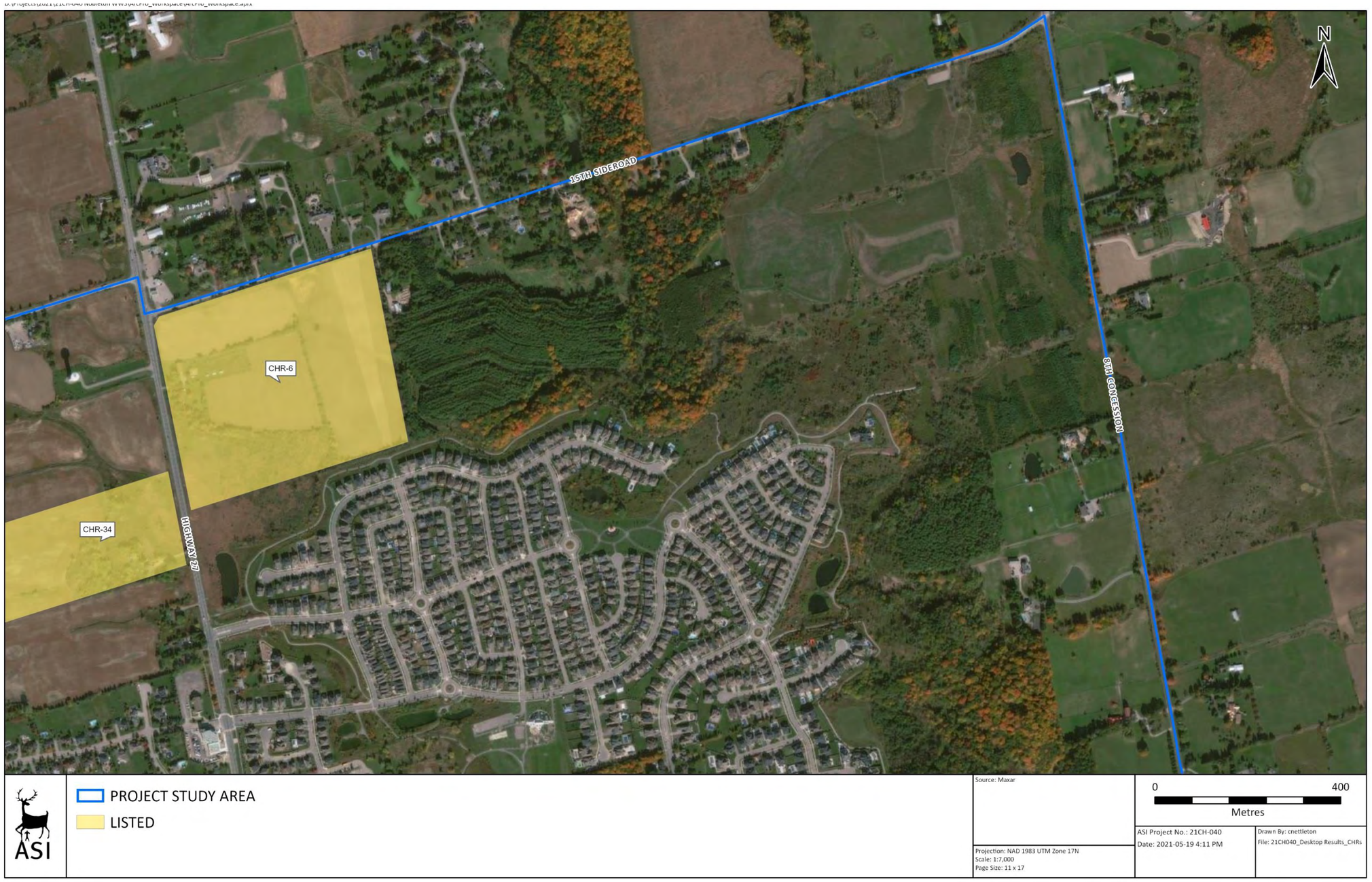


Figure 18: Location of Known Built Heritage Resources and Cultural Heritage Landscapes in the Overall Project Study Area (Sheet 4)

Figure 19: Location of Known Built Heritage Resources and Cultural Heritage Landscapes in the Overall Project Study Area (Sheet 5)

Figure 20: Location of Known Built Heritage Resources and Cultural Heritage Landscapes in the Overall Project Study Area (Sheet 6)

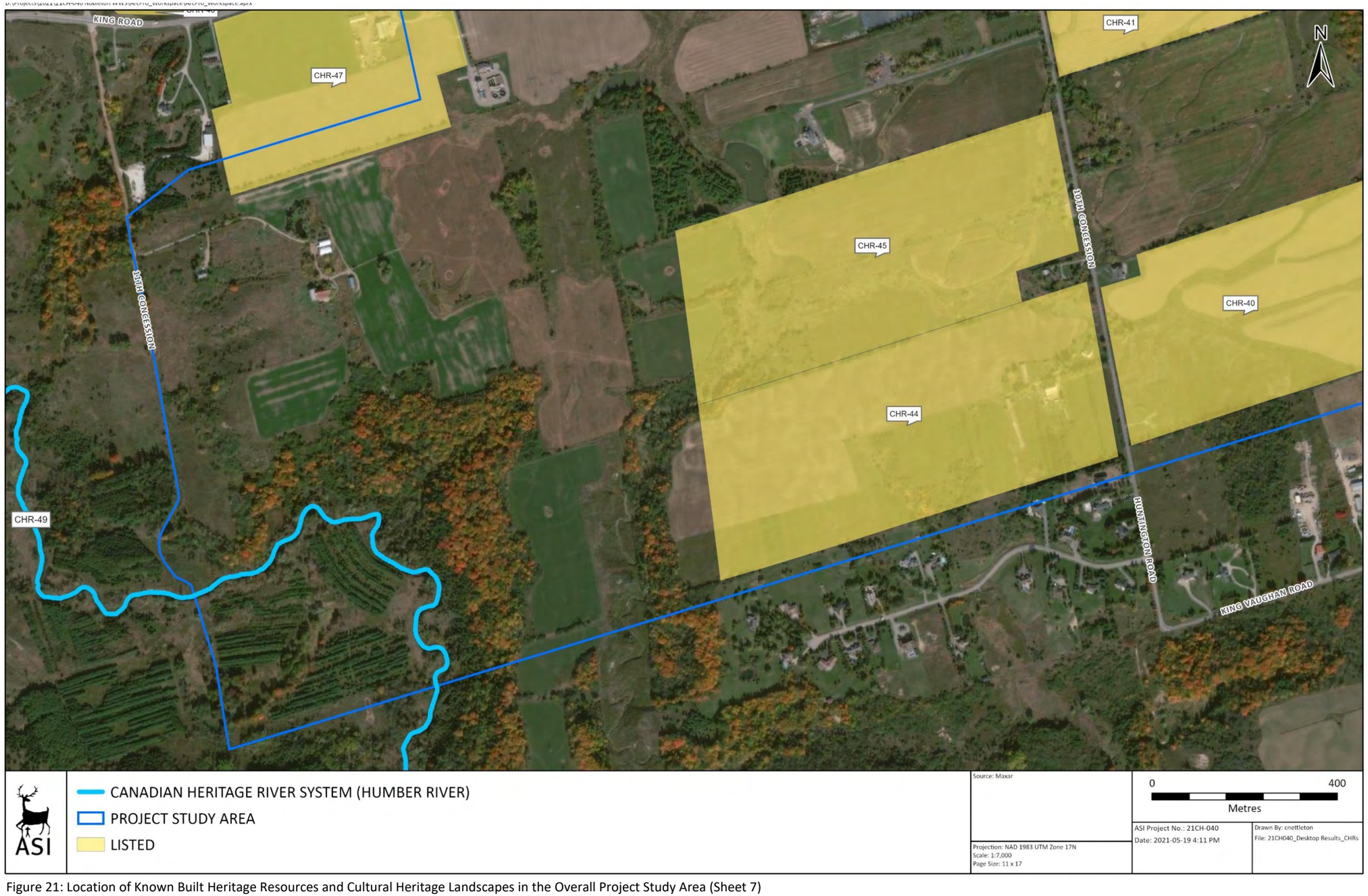
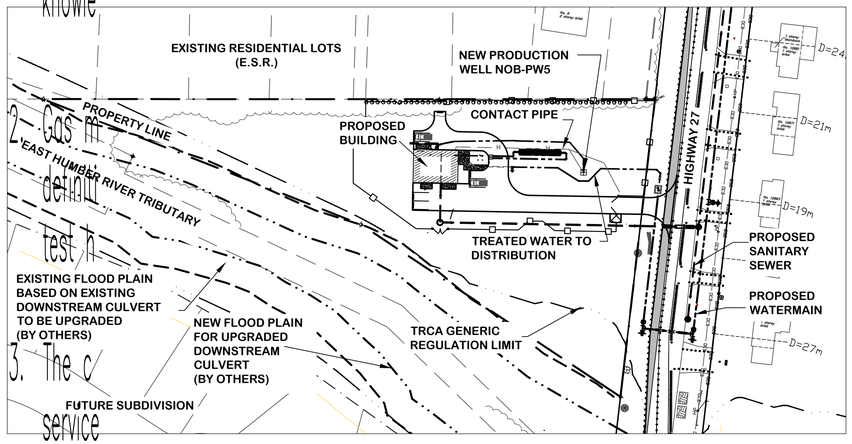


Figure 21: Location of Known Built Heritage Resources and Cultural Heritage Landscapes in the Overall Project Study Area (Sheet 7)

Appendix B: As Built Drawings



1 SITE AREA
1:1000

SP DRAWINGS – LEGEND

- PROPOSED WATERMAIN
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT
- PROPOSED VALVE & BOX
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY SERVICE
- PROPOSED BELL TELEPHONE
- PROPOSED HYDRO LINE
- PROPOSED FENCE
- PROPOSED CLEARING LIMIT
- BORE HOLE
- PROPOSED BOLLARD
- PROPOSED FINISHED GRADE
- PROPOSED SLOPE
- PROPOSED SUB DRAIN
- PROPOSED CULVERT
- PROPOSED DITCH CENTERLINE
- PROPOSED FLOW DIRECTION
- DOUBLE SILT FENCE
- DOUBLE DITCH CHEXX
- PROPOSED ROCK FLOW CHECK DAM
- GENERIC REGULATION LIMIT (TRCA)
- FLOODPLAIN BUFFER
- REGIONAL STORM FLOODLINE
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING HYDRO
- EXISTING HYDRO POLE
- EXISTING BURIED BELL TELEPHONE
- EXISTING BELL BOX
- EXISTING BURIED CABLE
- EXISTING OVERHEAD CABLE
- EXISTING GAS LINE
- EXISTING EDGE OF PAVEMENT
- EXISTING TREE LINE
- EXISTING FENCE
- EXISTING CULVERT
- EXISTING DITCH CENTERLINE
- EXISTING GRADE
- EXISTING CONTOUR & ELEVATION
- STANDARD IRON BAR (FOUND)
- IRON BAR (FOUND)
- MTO MONUMENT
- PROPERTY LINE

LEGEND

- PROPERTY LINE
- EXISTING ELEVATED WATER STORAGE
- EXISTING PUMP HOUSE
- PROPOSED ELEVATED WATER STORAGE
- PROPOSED PUMP HOUSE
- SCOPE OF WORK

knowle

2. Gas m
detail
test in

3. The c
service

4. All dri

General approv

1. The locations or positions of poles, lines, conduits, watermains, sewers and other underground utilities and structures are not necessarily shown on these drawings. When shown, the accuracy of the location of such utilities and structures are not guaranteed. Before starting any work, the contractor shall become fully dgeable of the locations of all such utilities and structures and shall assume all liability for damage to them.

   ains are to be field located. Contact Ontario One call at 1-800-400-2255 at least 5 working days in advance. See "Third Party requirements" booklets for ons, requirements & contact information. Test holes are required to determine actual depth where infrastructure crosses gas plant. Depth of gas plant in ole is not indicative of gas plant depth at all locations. 0.300m vert. & 0.600 horz. clearance required at all crossings

5. Any dr

   contractor shall notify the project engineer as soon as possible if there are any discrepancies between the plan location and the actual location of existing utilities and underground piping prior to construction.

   iveways, roads and culverts are to remain open and operational at all times. If any closures are necessary, the contractor must submit a request and receive al from the engineer and the municipality. The contractor must notify all the affected property owners.

   iveways, sidewalks, boulevards, culverts, hydro-poles, roadways, utilities, services, drains, trees, fences, guardrails, mailboxes, etc. and any iron bars, legal survey monument, areas disturbed or damaged by construction of this project shall be restored to equal or better condition by the contractor at their expense.

6. All cleared material is to be placed in an area set out by the region. No on site stock piling.

7. Geotechnical investigations performed by AMEC Earth & Environmental Ltd., 104 Crockford Blvd., Scarborough, Ontario, M1R 3C3. Nobleton Water Supply Project, Water System Upgrades, Nobleton, Ontario, Canada. project reference no. TT83016, Dated 11 June, 2008. And by Peto MacCallum Ltd. 165 Cartwright Avenue, Toronto, Ontario, M6A 1V5. Geotechnical Investigation Nobleton Pumphouse 5 Nobleton, Ontario. Ref No. 12TF017, Dated June 13, 2012.

8. All dimensions are in metres unless otherwise noted.

9. All connections on fittings requiring restraints and thrust blocks must be mechanically restrained to the approval of the engineer.

10. All buried, ferrous or metal appurtenances, fittings, mechanical joints, etc. installed under this project shall have epoxy coating with denso system (spec 02555) and have adequate corrosion protection, to the satisfaction of the engineer. Approved anodizing is required. Anodes and protecto caps required.

11. All buried PVC joints shall be mechanically restrained and include Denso System/Cathodic Protection.

12. Copperhead tracer wire must be installed with all watermain and services. Warning mesh must be installed above all watermain and sanitary pipe as per York Region Standards. Install Plyage Hz (blue) for open cut watermain installations, green for sanitary sewer. For trenchless installation supply 2 tracers wires complete with cathodic protection for tracer wire.

13. Minimum soil cover on proposed watermains and water services is to be 2.0m. Any water main or service not designated to be pre-insulated with less than minimum cover shall, upon approval of engineer, be adequately insulated with blue sm board insulation. Special attention is required to ensure adequate cover or insulation is maintained where watermains or services are located under ditches and culverts.

14. The watermain is only to have high points at the air release locations indicated on these drawings. If there are any other high points in the water main the contractor must supply and install a manual air release valve and valve chambers at the high point at their cost.

15. No tree shall be removed, pruned or damaged in any way without the written permission of the municipality.

16. All disturbed boulevards are to be restored with a minimum of 100mm of topsoil & terraseeded on West side of Hwy 27 and sodded on the East side of Hwy 27. Restoration of ditches & slopes requires a minimum of 100mm of topsoil and Coirmat 90 erosion control matting. See project notes on Planting Plan for seed mix.

17. All disturbed areas within resident's yards are to be restored with a minimum of 100mm of topsoil and sod.

18. Locate existing buried valves and adjust frame and cover to the finished surface.

19. A minimum of 7 days notice and prior approval must be given before any construction can begin where the water main crosses a road. Traffic must be maintained throughout the crossings. The backfill material is to be natural, non organic excavated material, as per the geotechnical report. The roadway must be restored to equal or better condition to the approval of the engineer.

20. All sediment and erosion control measures shall be installed prior to the commencement of construction and shall remain in place until all disturbed areas have been stabilized. Sediment and Erosion Control measures that are designed to control runoff from specific areas must be installed prior to any disturbance on that part of the site.

21. The contractor and their employees shall follow all provincial and federal workers safety policies on this project. (ie: Ontario Occupational Health and Safety Act, The Safety Act and The Ministry of Labour Canada Guidelines)

22. Machinery is not permitted to enter the 30m Buffer area for the East Humber River Tributary.

LICENSED PROFESSIONAL ENGINEER S. K. REDDIN Dec 21, 2015 PROVINCE OF ONTARIO

FIRST NATIONS ENGINEERING SERVICES LTD.
CHIEFSWOOD RD., P.O. BOX 280, OHSWEKEN, ONTARIO N0A 1M0 (519) 445-0040

No.	DATE	REVISIONS	BY
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2	MAY16/13	ISSUED FOR CONSTRUCTION	SR
3	MAY08/15	AS CONSTRUCTED	SR
4	DEC21/15	AS CONSTRUCTED REISSUE	SR
5	--	--	--
6	--	--	--

York Region Environmental Services

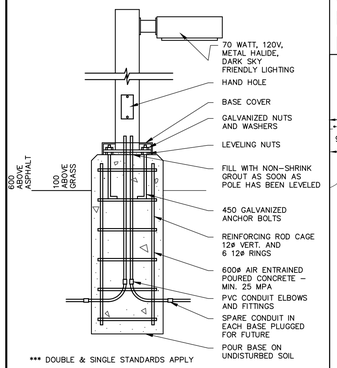
DESIGN SR	NOBLETON WELL NO. 5 AND TOWNSHIP OF KING SANITARY SEWER AND WATERMAIN	SCALE N/A
DRAWN JM		CONT. NO. T-12-58
CHECKED CAB	OVERVIEW & KEY PLAN	SHEET NO. SP1

(A) VALVE CHAMBER # 1
3.0m X 2.4 m PRE-CAST VALVE CHAMBER
SEE DWG SP6 FOR DETAILS

(B) VALVE CHAMBER # 2
1.8m X 2.4 m PRE-CAST VALVE
CHAMBER SEE DWG SP6 FOR DETAILS

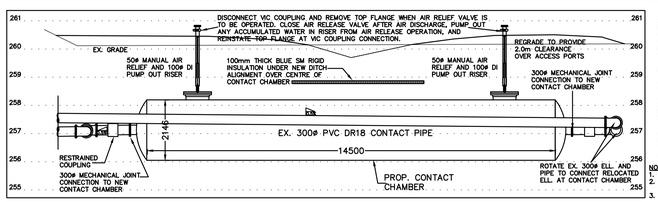
(C) PROP.SAN. MH903B
1800ø SAN.MH
N.INV. 258.63
E.INV. 258.23

TRCA does not require a timing window for the works shown on this sheet.



*** DOUBLE & SINGLE STANDARDS APPLY

LIGHT FIXTURE POLE BASE (E-15)

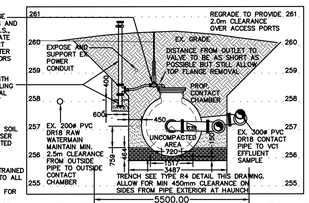


CONTACT CHAMBER SECTION 1 (CCS1)

50ø MANUAL AIR RELIEF C\W CAMBRIDGE BRASS CORP STOP WITH COMP FITTINGS AND CAMPAK RESTRAINERS, INCLUDE 304L S.S., 6mm THICK, 100mm WIDE SUPPORT PLATE FASTENED TO FLANGE BOLT TO SUPPORT VALVE AND SERVICE BOX. USE CPS WATER TUBING AND MIPxCOMP CAMPAK ADAPTORS FOR CONNECTIONS TO BLIND FLANGES.

100ø DUCTILE IRON PUMP OUT RISER WITH VIC STYLE 78 QUICK DISCONNECT COUPLING AT TOP AND BLIND FLANGE, FOR MANUAL AIR VALVE DISCHARGE OF WATER. INLET BLIND FLANGE ON TEE TO HAVE 50ø MIPxCOMP CAMPAK ADAPTER FOR CPS TUBING. INSTALL CONCRETE ANCHOR (400x600x600) ON UNDISTURBED INSITU SOIL FOR BLIND FLANGE BASE. PUMP OUT RISER TO BE PRESSURE TESTED AND DISINFECTED AS POTABLE WATERMAIN.

NOTES
1. ALL JOINTS TO BE MECHANICALLY RESTRAINED
2. DENSO WRAP SYSTEM TO BE APPLIED TO ALL BURIED METAL.
3. NSF 61 CERTIFIED PRODUCTS REQUIRED FOR ALL WATER CONTACTING MATERIALS
4. 300ø PIPE BEDDING TO REGION STANDARD DETAIL 02315A (SEE DWG SP12).
5. FLUSH, PRESSURE TEST & DISINFECT



CONTACT CHAMBER SECTION 2 (CCS2)

EXISTING RESIDENTIAL LOTS (E.R.L.)

E.R.L. 34 — N72°51'30"E — 122.62 meas. — 96.72 meas.
E.R.L. 33 — 25.30 meas.
E.R.L. 32 — N72°37'10"E — 53.48 meas.
E.R.L. 31 — 76.78 meas. — 15.83 meas. — 3.07 meas.

FND. SIB

NORTH PROPERTY LINE NEW 2.1m HIGH CEDAR FENCE — 4.60 meas.

ALL BURIED METAL COMPONENTS RELATED TO THIS CHANGE TO INCLUDE DENSO WRAP SYSTEM

SUPPLY AND INSTALL AN AWWA C301/C304 PRESTRESSED CONCRETE PIPE WITH EMBEDDED CYLINDER CONTACT CHAMBER. INSIDE DIAMETER IS 1.83m(72"). OUTSIDE DIAMETER (Bc): 2.146m (84.5"). ALL PRODUCTS IN CONTACT WITH WATER TO BE NSF 61 CERTIFIED. CHAMBER INCLUDES DIFFUSERS ON INLET AND OUTLET, TWO BAFFLE PLATES WITH CENTRE ACCESS PANELS, TWO 750ø TOP ACCESS PORTS ON CHAMBER, ONE 50ø CORP STOP ON EACH ACCESS PORT FOR MANUAL AIR RELIEF. TEST PRESSURE 1035 kPA, OPERATING PRESSURE 690 kPA. AUTHORIZED SUPPLIER AND PRODUCT: HANSON PRESSURE PIPE MODEL E-301. CONTACT: BILL AW (905)640-5151, EX.534

REMOVE 51.7m OF EX. 101m 300ø PVC DR 18 CHLORINE CONTACT PIPE SHOWN WITH THICK LINE. REUSE THREE OF THE RESTRAINED 300ø ELLS AND 300ø PIPE FOR CONNECTIONS TO EX. 300ø CONTACT PIPE. INCLUDE TWO NEW NSF 61 EBAA RESTRAINED SERIES 3800 MEGA-COUPLINGS SIZED FOR DR18 PVC WATERMAIN CONTACT PIPE. GRADE PIPE AT 0.5%. INSTALL CHAMBER USING A TYPE R4 BEDDING AS PER MANUAL M9, AND MANUFACTURER'S RECOMMENDATIONS.

54m-200ø PVC DR 18 RAW WATERMAIN 0.5% GRADE TO 1.5m FROM BUILDING. DI PIPE FROM 1.5m OUTSIDE BUILDING TO INSIDE BUILDING.

PRECAST CONCRETE PARKING BARRIER

MW-NB1D

14m-200ø SCH.80 PVC, PRE-INSULATED HEAT TRACED WELL WASTING PIPE

TW-NB1

MW-NB1S

DECOMMISSIONED WELL NOB PW4 (NB4-PW) NAD 83: UTM ZONE 17: 608189 m E., 4861429 m N

MW-NB1I

RADIO TOWER REF. YRSD 13520A THRU. 13520F ON SHEET E4

150ø WEEPING TILE / SUB-DRAIN OUTLET INV. 259.40 C/W RODENT SCREEN

NOBLETON WELL 5 PUMPHOUSE

38ø WATER SERVICE & 3 ANALYSIS LINES IN 100ø PVC CONDUIT

CONCRETE ACCESS

VALVE CHAMBER 1

CONNECT TO EXISTING

MAINTAIN MINIMUM 2.5m CLEARANCE

RESTRAINED COUPLING

CONNECT TO EXISTING

73.4m OF 200ø PVC DR 18 FROM VC1 TO VC2 REFER TO PLAN & PROFILE ON DRAWING SP4

EXISTING MONITORING WELL

SUBDRAIN OUTLET

HYDRANT ASSEMBLY

NEW WELL NOB-PW5

LIGHT STANDARD REFER TO ELECTRICAL DRAWINGS SEE FOUNDATION DETAIL THIS DRAWING

VALVE CHAMBER 2

BH 1 — BH 2 — BH 3 — BH 119

PRECAST CONCRETE PARKING BARRIER (2)

CONCRETE SIDEWALK OPSD 310.010

CONCRETE ACCESS

PRECAST CONCRETE PARKING BARRIER (2)

13.0m-200ø PVC SDR 26 SANITARY SEWER

0+000 0+010 0+020 0+030 0+040 0+050 0+060 0+070 0+080 0+100 0+120 0+140 0+160

DOUBLE GATE

UNDERGROUND HYDRO CONDUITS

UNDERGROUND TELEPHONE CABLE

SINGLE MAN GATE

NEW HYDRO POLE & POLE MOUNTED TRANSFORMER

PROPOSED OVERHEAD HYDRO LINE TO NEW HYDRO POLE & TRANSFORMER

300ø SAN

200ø PVC WATERMAIN

11m NESTABLE CSP LINER FOR SANITARY SEWER

SAN. MH 903A

SAN. MH 904A

11m NESTABLE CSP LINER FOR WATERMAIN OPEN CUT CROSSING OF HIGHWAY 27

REGIONAL ROAD NO. 27

PROP. MH 903B

300ø PVC SDR 26 SANITARY SEWER 90.9m @ 3.12% TO SAN. MH903A, 73m TO LINER, 11m FOR OPEN CUT CROSSING TO SAN. MH903A

174.3m - 1.8m CHAIN LINK FENCE WITH TWO DOUBLE DOOR ACCESS GATES, ONE MAN GATE AND FIVE GROUNDING RODS

DOUBLE GATE

SUBDRAIN OUTLET

BLOCK 210

30m BUFFER

PROPERTY LINE N85°40'20"W 121.08

BLOCK B

LOCK N

COLD WATER STREAM NOT ON TRCA MAPPING 38m FROM PROP. LINE

LOT DIMENSIONS AND BEARINGS ARE ACCORDING TO LEGAL PLAN 65R-23779, DATED 17 JUNE, 2009.

No. 12881 1 storey brick
No. 12871 1 storey brick
No. 12863 1 storey brick
No. 12855 1 storey brick
No. 12833 1 storey brick

CURRENT FLOODLINE

FUTURE FLOODLINE BUFFER

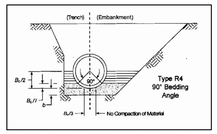
FUTURE FLOODLINE AFTER DOWNSTREAM CULVERT UPGRADE

N10°35'50"W 106.44

N73°37'40"W 110.62

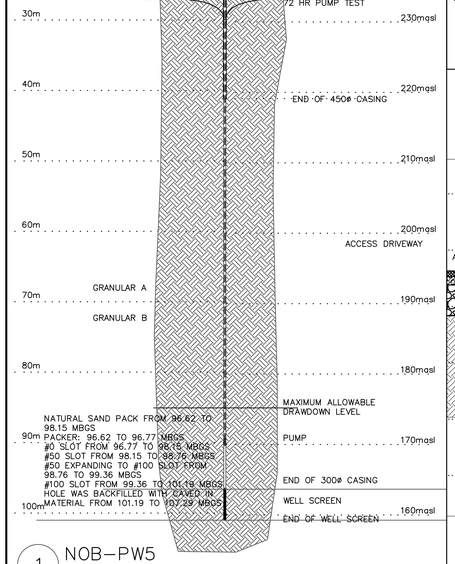
5.00

75m OF 450ø CSP USED FOR CONVEYING DITCH WATER DURING CONSTRUCTION THROUGH THE CONSTRUCTION ZONE. CUT CSP TO MATCH ACCESS DRIVEWAY SLOPES AND INCLUDE ARMTEC PRO-ECO-LITE HEADWALLS AT INLET AND OUTLET. (NOT USED)

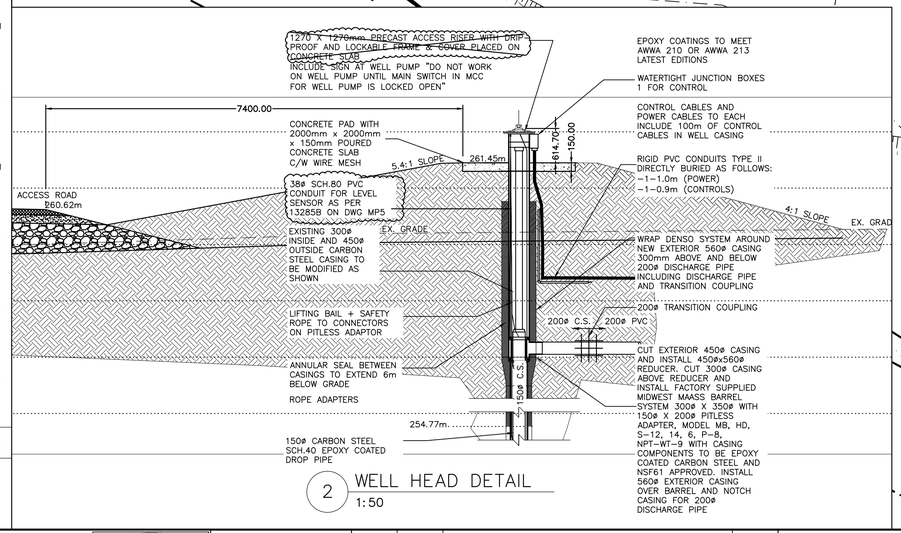


TYPE R4 BEDDING DETAIL

Bc=2.146m, b=150mm, BEDDING MATERIAL TO BE 19mm CRUSHER RUN LIMESTONE - COMPACTED WHERE SHOWN TO 98% BACKFILL WITH SAND MATERIAL FROM HAUNCH TO SPRINGLINE AND COMPACT TO 98% BACKFILL WITH NATIVE MATERIAL TO SURFACE IN 300mm COMPACTED LIFTS TO 95%. ALL MATERIAL TO BE FREE OF LARGE CLUMPS, ROCKS ETC. FROZEN MATERIAL FOR BACKFILL SHALL NOT BE USED



1 NOB-PW5
1:400



2 WELL HEAD DETAIL
1:50

SITE & BLDG INFORMATION		
1.	TOTAL AREA OF SITE	10,056.8 m2
2.	AREA OF SITE COVERED BY BLDGS.	183 m2
3.	PERCENTAGE OF AREA COVERED BY BLDGS.	1.8 %
4.	TOTAL GROSS FLOOR AREA OF BLDGS.	164 m2
5.	NUMBER OF PARKING SPACES	5

UNITS IN "m"

LICENSED PROFESSIONAL ENGINEER S. K. REDDIN DEC 21, 2015 PROVINCE OF ONTARIO

FIRST NATIONS ENGINEERING SERVICES LTD.
CHIEFSWOOD RD., P.O. BOX 280, OHSWEKEN, ONTARIO N0A 1M0 (519) 445-0040

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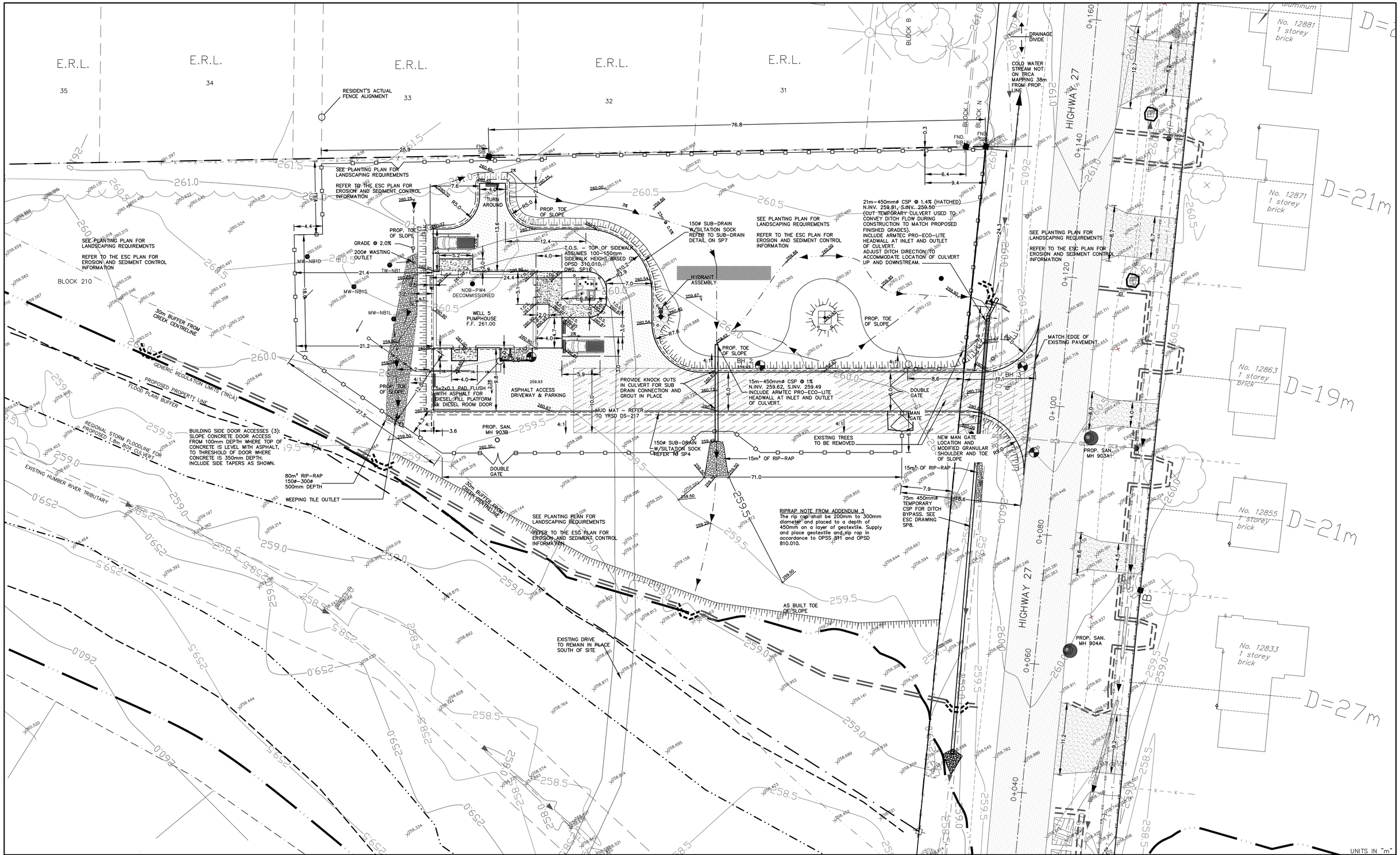
4	DEC21/15	AS CONSTRUCTED REISSUE	SR
5	--	--	--
6	--	--	--

York Region Environmental Services

DESIGN SR	NOBLETON WELL NO. 5 AND TOWNSHIP OF KING SANITARY SEWER AND WATERMAIN	SCALE 1:250
DRAWN JIM		CONT. NO. T-12-58
CHECKED CB	SITE PLAN	SHEET NO. SP2



BENCHMARK: 68-200
CONCRETE BOX CULVERT (1983) CARRYING KING ROAD (Y.R. 11) OVER SMALL CREEK, 800 METRES EAST OF HIGHWAY #27 IN THE VILLAGE OF NOBLETON. TABLET SET VERTICALLY IN TOP OF CONCRETE HEADWALL AT NORTHWEST CORNER OF STRUCTURE, 38 cm SOUTH OF NORTH FACE, 11.60 METRES NORTH OF EXISTING CENTRELINE OF KING ROAD.
ELEV. 255.29

LICENSED PROFESSIONAL ENGINEER
S. K. REDDIN
DEC 21, 2015
PROVINCE OF ONTARIO

FIRST NATIONS ENGINEERING SERVICES LTD.
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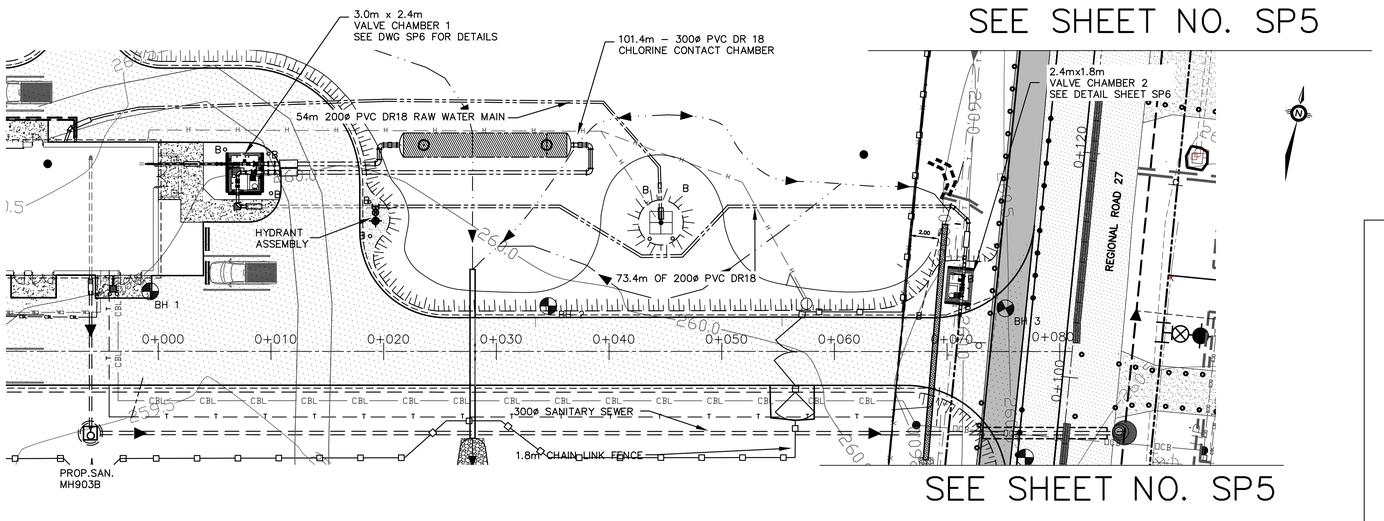
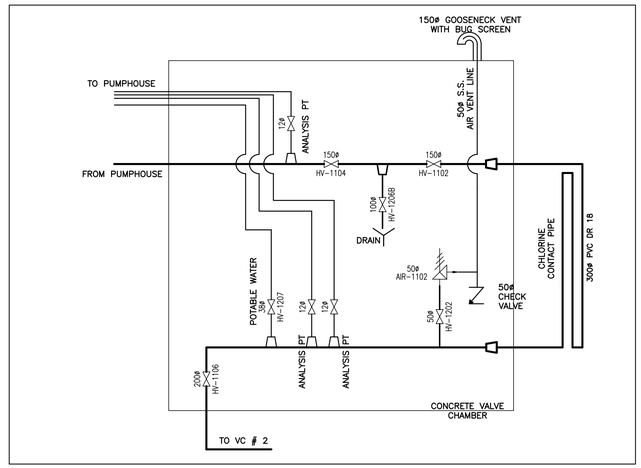
5	--	--	--
6	--	--	--

York Region Environmental Services

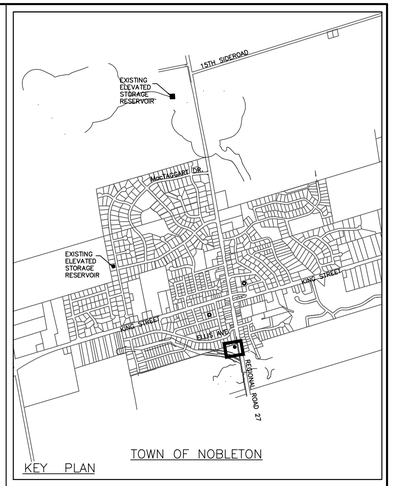
DESIGN SR	NOBLETON WELL NO. 5 AND TOWNSHIP OF KING SANITARY SEWER AND WATERMAIN	SCALE 1:250	
DRAWN JIM		CONT. NO. T-12-58	
CHECKED CB	GRADING PLAN	SHEET NO. SP3	

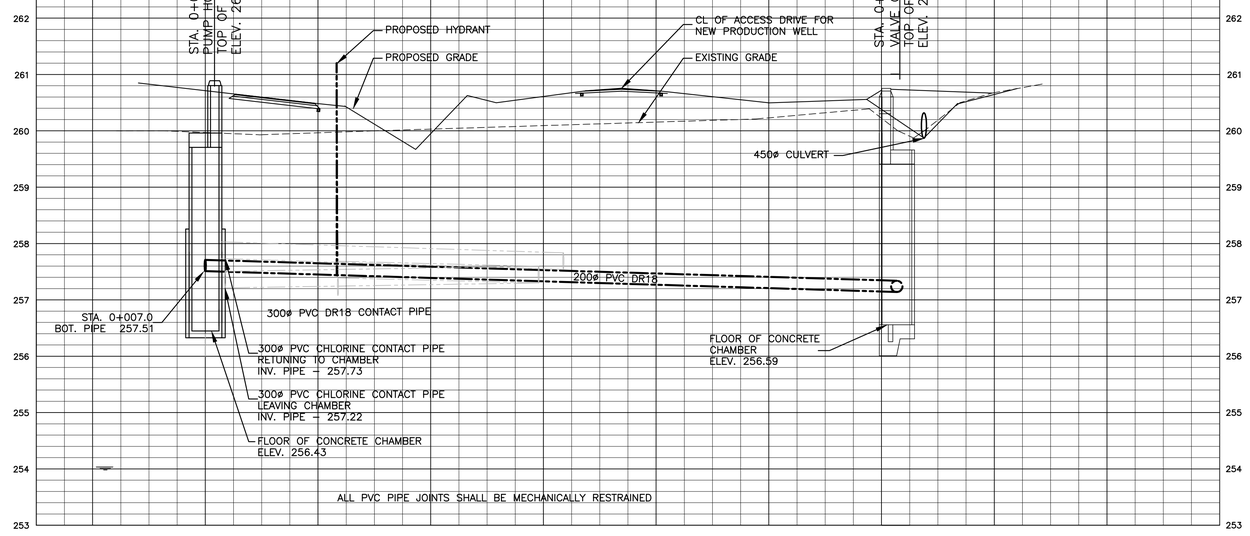
UNITS IN "m"

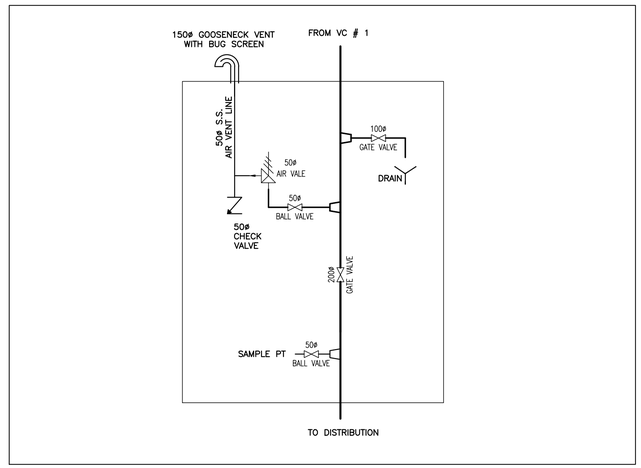




PRECAST VALVE CHAMBER #1
SINGLE LINE DIAGRAM







PRECAST VALVE CHAMBER #2
SINGLE LINE DIAGRAM

BENCHMARK: 68-200
CONCRETE BOX CULVERT (1983) CARRYING KING ROAD (Y.R. 11) OVER SMALL CREEK, 800 METRES EAST OF HIGHWAY #27 IN THE VILLAGE OF NOBLETON. TABLET SET VERTICALLY IN TOP OF CONCRETE HEADWALL AT NORTHWEST CORNER OF STRUCTURE, 38 cm SOUTH OF NORTH FACE, 11.60 METRES NORTH OF EXISTING CENTRELINE OF KING ROAD.
ELEV. 255.29

LICENSED PROFESSIONAL ENGINEER
S. K. REDDIN
DEC 21, 2015
PROVINCE OF ONTARIO

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No.	DATE	REVISIONS	BY
1	MAR19/13	ISSUED FOR TENDER	SR
2	MAY16/13	ISSUED FOR CONSTRUCTION	SR
3	MAY08/15	AS CONSTRUCTED	SR
4	DEC21/15	AS CONSTRUCTED REISSUE	SR
5	--	--	--
6	--	--	--

York Region Environmental Services

DESIGN SR	NOBLETON WELL NO. 5 AND TOWNSHIP OF KING SANITARY SEWER AND WATERMAIN	SCALE HORIZ. 1:250 VERT. 1:50
DRAWN JIM		CONT. NO. T-12-58
CHECKED CB	SITE WATERMAIN P&P, VC SCHEMATICS	SHEET NO. SP4